

Grades K - 2



DIABETES EDUCATION
IN TRIBAL SCHOOLS

HEALTH IS LIFE IN BALANCE: GRADES K-2

Department of
Health & Human Services
USA



NIDDK | NATIONAL INSTITUTE OF
DIABETES AND DIGESTIVE
AND KIDNEY DISEASES



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Diabetes Education in Tribal Schools

Dear Teacher,

Thank you for your interest in teaching the Diabetes Education in Tribal Schools (DETS) curriculum in your classroom.

Diabetes was rare among American Indian and Alaska Native peoples until about 50 years ago. Since then, diabetes has become one of the most common and serious illnesses in the Tribal Nations of North America. In 2003, almost 100,000 American Indian and Alaska Native adults, or nearly 13 percent of those receiving care from the Indian Health Service (IHS), were estimated to have diabetes. Prevalence rates vary by Tribal Nations, rising to 26 percent among the Plains Tribes (Centers for Disease Control [CDC], 2005). In a new and alarming turn of events, type 2 diabetes, typically considered an adult disorder, is now emerging in all populations of youth in the United States, including American Indian and Alaska Native populations. The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has determined that effective programs should be initiated to decrease the rising incidence and prevalence and the severe complications of diabetes in the American Indian and Alaska Native communities.

In response to these findings, NIDDK, the Centers for Disease Control and Prevention (CDC), Indian Health Service (IHS), Tribal Colleges and Universities (TCU), and the Tribal Leaders Diabetes Committee collaborated to develop this curriculum. The lessons are designed to enhance the understanding and appreciation of the problems of diabetes in American Indian and Alaska Native communities, to empower students to make healthy lifestyle choices, and to stimulate general student interest in diabetes-based science careers.

The DETS curriculum includes K–12, multidisciplinary units that are sequenced and interrelated to give a continuum of involvement with diabetes-based education. The curriculum is based on national education standards for the respective subject area, along with Native American cultural content. Teachers can assist in this critical prevention education effort while addressing the national content standards of their subject area. Culturally relevant activities are incorporated in the learning to increase the effectiveness of the diabetes prevention effort and to enhance students' cultural awareness.

The initial versions of the curriculum were tested in select K–12 schools to assess teacher acceptance and student reception of the message. Appropriate revisions followed before publication and distribution to schools serving American Indian and Alaska Native students.

The lessons are based on the BSCS 5E Instructional Model and feature multisubject integration. Each lesson includes learning activities that also serve as assessment tools. Activities promote active and collaborative learning, and are inquiry-based to help students develop problem-solving and critical-thinking skills.

The curriculum comes with a complete set of materials for both teachers and students, including printed materials and extensive background and resource information. It is distributed by the Indian Health Services at no cost to teachers. All materials may be copied for classroom use, but may not be sold.

Sincerely,

The DETS Team





Health Is Life in Balance

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Health Is Life in Balance

Overview of the Diabetes Education in Tribal Schools Project

The Diabetes Education in Tribal Schools (DETS) project is part of a national effort to decrease the incidence of type 2 diabetes among American Indians and Alaska Natives, and also to improve the care of those who have type 2 diabetes. The DETS project is a K–12 curriculum that has a multidisciplinary approach and consists of units that incorporate national education standards, inquiry learning, and American Indian and Alaska Native cultural and community knowledge.

Background

The Tribal Leaders Diabetes Committee formed a partnership with the Indian Health Service (IHS) in 1998 as a result of the Special Diabetes Program for Indians. The Tribal Leaders Diabetes Committee challenged the National Institutes of Health (NIH) to develop a curriculum to teach diabetes science in tribal schools. This challenge brought together multiple funding partners.

In 2001, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), along with the Native Diabetes Wellness Program of the Centers for Disease Control and Prevention (CDC), and the Division of Diabetes Treatment and Prevention of the Indian Health Services (IHS), initiated a multiyear, national, K–12 curriculum project—Diabetes Education in Tribal Schools. This effort is a direct response to the recognition that type 2 diabetes is an epidemic in American Indian and Alaska Native communities.

Eight Tribal Colleges and Universities (TCU) were involved in this endeavor: Cankdeska Cikana Community College (Fort Totten, North Dakota); Fort Peck Community College (Poplar, Montana); Haskell Indian Nations University (Lawrence, Kansas); Keweenaw Bay Ojibwa Community College (Baraga, Michigan); Leech Lake Tribal College (Cass Lake, Minnesota); Northwest Indian College (Bellingham, Washington); Southwestern Indian Polytechnic Institute (Albuquerque, New Mexico); and Stone Child College (Box Elder, Montana).

Purpose

The purpose of the DETS project is to develop and implement a school-based diabetes curriculum that supports the integration of American Indian and Alaska Native cultural and community knowledge with diabetes-related scientific knowledge.



Goals of the DETS Project

The goals for the DETS project include the following:

- 1.** Increase the understanding of health, diabetes, and maintaining life in balance among American Indian and Alaska Native students.
 - a. Positive health is a continual process of maintaining life in balance.
 - b. Diabetes is an imbalance of health at many levels.
 - c. Some risk factors and imbalances contribute to the likelihood of diabetes.
 - d. Individuals, families, and communities can maintain health and balance and prevent type 2 diabetes risk.
- 2.** Increase American Indian and Alaska Native students' understanding and application of scientific and community knowledge about health, diabetes, and maintaining balance, and their understanding of the processes of the development of that knowledge.
 - a. Health, preventing and treating diabetes, and maintaining balance and enhancing health require both scientific and community knowledge.
 - b. Individuals, families, and communities can effectively apply scientific and community knowledge to maintain health and prevent type 2 diabetes.
 - c. Both scientific and community knowledge develop over time.
- 3.** Increase interest in science and health professions among American Indian and Alaska Native youth.
 - a. Science and health professionals can work with people and communities to prevent and care for type 2 diabetes.
 - b. American Indian and Alaska Native students can and do have future careers in science and health.

Health Is Life in Balance

INTRODUCTORY INFORMATION





An Overview of Diabetes

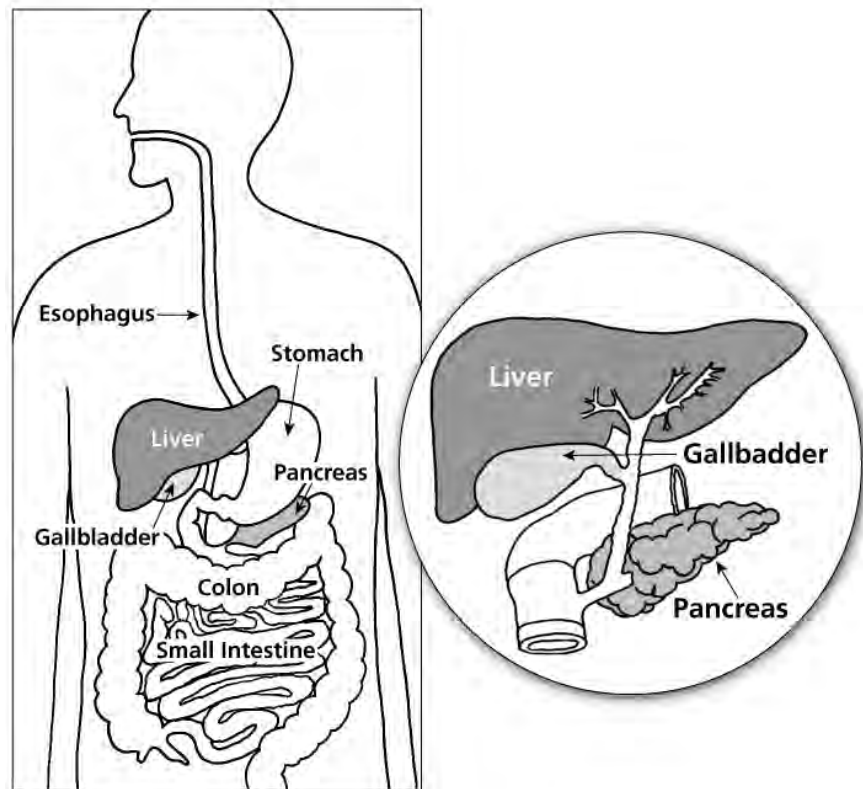
Almost everyone knows someone who has diabetes. An estimated 20.8 million people in the United States—7.0 percent of the population—have diabetes, a serious, lifelong condition. Of those, 14.6 million have been diagnosed, and 6.2 million have not yet been diagnosed. In 2005, about 1.5 million people aged 20 or older were diagnosed with diabetes.

What Is Diabetes?

Diabetes is a disorder of metabolism—the way our bodies use digested food for growth and energy. Most of the food we eat is broken down into glucose, which is the form of sugar in the blood. Glucose is the main source of fuel for the body.

After digestion, glucose passes into the bloodstream, where it is used by cells for growth and energy. For glucose to get into most cells, insulin must be present. Insulin is a hormone produced by the pancreas, a large gland behind the stomach (figure I1).

Figure I1:
Digestive tract and pancreas.



For most people, when we eat, the pancreas automatically produces the right amount of insulin to move glucose from the blood into our cells. In people with diabetes, however, the pancreas either produces too little or no insulin, or the cells do not respond appropriately to the insulin that is produced. Glucose builds up in the blood, overflows into the urine, and passes out of the body in the urine. As a result, the body loses its main source of fuel even though the blood contains large amounts of glucose.

What Are the Types of Diabetes?

The three main types of diabetes are

- type 1 diabetes,
- type 2 diabetes, and
- gestational diabetes.

Type 1 Diabetes

Type 1 diabetes is an autoimmune disease. An autoimmune disease results when the body's system for fighting infection (the immune system) turns against a part of the body. In diabetes, the immune system attacks and destroys the insulin-producing beta cells in the pancreas. The pancreas then produces little or no insulin. A person who has type 1 diabetes must take insulin daily to live.

At present, scientists do not know exactly what causes the body's immune system to attack the beta cells, but they believe that autoimmune, genetic, and environmental factors, possibly viruses, are involved. Type 1 diabetes accounts for about 5–10 percent of diagnosed diabetes cases in the United States. It develops most often in children and young adults but can appear at any age.

Type 2 Diabetes

The most common form of diabetes is type 2 diabetes. About 90–95 percent of people with diabetes have type 2. This form of diabetes most often occurs in adults and in people who are obese, have a family history of diabetes, have a previous history of gestational diabetes, are physically inactive, and are of certain ethnicities. About 80 percent of people with type 2 diabetes are overweight. Type 2 diabetes is increasingly being diagnosed in children and adolescents.

When type 2 diabetes is diagnosed, the pancreas is usually producing some insulin, but for unknown reasons the body cannot use the insulin effectively, a condition called insulin resistance. After several years, insulin production decreases. The result of this condition is the same as for type 1 diabetes—glucose builds up in the blood and the body cannot make efficient use of its main source of fuel.

The symptoms of type 2 diabetes develop gradually. Symptoms may include fatigue, frequent urination, increased thirst and hunger, weight loss, blurred vision, and slow healing of wounds or sores. It is also important to realize that some people have no symptoms.

Gestational Diabetes

Some women develop gestational diabetes late in pregnancy (figure I2). Although this form of diabetes usually disappears after the birth of the baby, women who have had gestational diabetes have a 20–50 percent chance of developing type 2 diabetes within five



Figure 12:
Checking for
gestational diabetes.

(Source: National Institute of Diabetes
and Digestive and Kidney Diseases,
National Institutes of Health)



to 10 years. Maintaining a reasonable body weight and being physically active may help prevent the development of type 2 diabetes.

How Is Diabetes Diagnosed?

The fasting blood glucose test is the usual test for diagnosing diabetes in children and nonpregnant adults. It is most reliable when performed in the morning. However, a diagnosis of diabetes can be made based on certain test results, which are confirmed by retesting on a different day.

What Is Pre-diabetes?

People with pre-diabetes have blood glucose levels that are higher than normal, but not high enough for a diagnosis of diabetes. This condition raises the risk of developing type 2 diabetes, heart disease, and stroke.

What Are the Scope and Impact of Diabetes?

Diabetes is widely recognized as one of the leading causes of death and disability in the United States. In 2005, it was the sixth-leading cause of death. However, diabetes is likely to be underreported as the underlying cause of death on death certificates. About 65 percent of deaths among those with diabetes are attributed to heart disease and stroke.

The high blood glucose levels of diabetes are associated with long-term complications that affect almost every part of the body. The disease may lead to blindness, heart and blood vessel disease, stroke, kidney failure, amputations, and nerve damage. Uncontrolled

diabetes can complicate pregnancy, and birth defects are more common in babies born to women with diabetes. Diabetes also carries emotional, spiritual, and financial burdens for the individual, family, and community.

Who Gets Diabetes?

Diabetes is not contagious. People cannot “catch” it from each other. Certain factors can increase the risk of developing diabetes.

Type 1 diabetes occurs equally among males and females but is more common in whites than in non-whites. Data from the World Health Organization’s Multinational Project for Childhood Diabetes indicate that type 1 diabetes is rare in most African, American Indian, and Asian populations.

Type 2 diabetes is more common in adults, especially in people who are overweight. It occurs more often in African Americans, American Indians, some Asian Americans, Native Hawaiians and other Pacific Islander Americans, and Hispanic/Latino Americans. On average, non-Hispanic African Americans are 1.8 times as likely to have diabetes as non-Hispanic whites of the same age. Mexican Americans are 1.7 times as likely to have diabetes as non-Hispanic whites of similar age. (Data are not available for estimating diabetes rates in other Hispanic/Latino American groups.)

American Indians have one of the highest rates of diabetes in the world. On average, American Indians and Alaska Natives are 2.2 times as likely to have diabetes as non-Hispanic whites of similar age (figure I3). Although prevalence data for diabetes among Asian Americans and Pacific Islanders are limited, some groups, such as Native Hawaiians, Asians, and other Pacific Islanders residing in Hawaii (aged 20 or older) are more than twice as likely to have diabetes as white residents of Hawaii of similar age.

How Is Diabetes Managed?

Before the discovery of insulin in 1921, everyone with type 1 diabetes died within a few years after diagnosis. Although insulin is not considered a cure, its discovery was the first major breakthrough in diabetes treatment.

Figure I3:
Prevalence data.

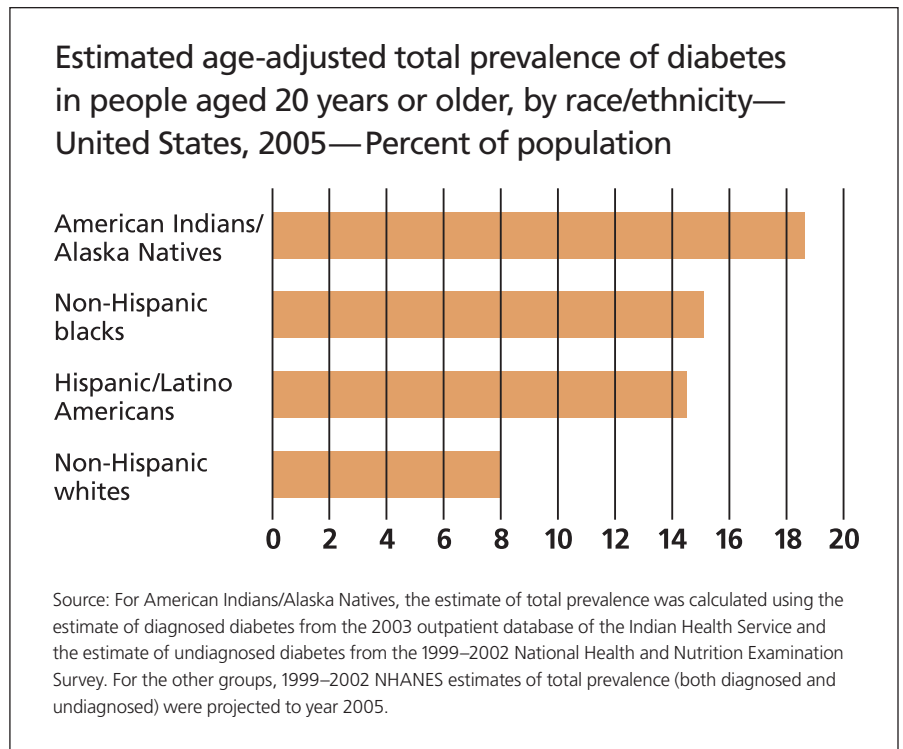




Figure I4:
Keeping track of glucose levels.

Source: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health.



Today, healthy eating, physical activity, and taking insulin are the basic therapies for type 1 diabetes. The amount of insulin must be balanced with food intake and daily activities. Blood glucose levels must be closely monitored through frequent blood glucose checking (figure I4).

Healthy eating, physical activity, and blood glucose testing are the basic management tools for type 2 diabetes. In addition, many people with type 2 diabetes require oral medication, insulin, or both to control their blood glucose levels.

People with diabetes must take responsibility for their day-to-day care. Much of the daily care involves keeping blood glucose levels from going too low or too high. When blood glucose levels drop too low—a condition known as hypoglycemia—a person can become nervous, shaky, and confused. Judgment can be impaired, and if blood glucose falls too low, fainting can occur. A person can also become ill if blood glucose levels rise too high, a condition known as hyperglycemia. The goal of diabetes management is to keep levels of blood glucose, blood pressure, and cholesterol as close to the normal range as safely possible.

How Can People Lower Their Risk of Diabetes?

People can do a lot to lower their risk. Some ways to do that include the following:

- Reach and maintain a reasonable body weight
- Make wise food choices most of the time
- Be physically active every day (figure I5)

Doing these things can reduce the risk of developing type 2 diabetes.

Figure I5:
It's important to exercise every day.

Source: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health.



Solutions through Research

In 1996, NIDDK launched its Diabetes Prevention Program (DPP). The goal of this research effort was to learn how to prevent or delay type 2 diabetes in people with pre-diabetes, a strong risk factor for type 2 diabetes. The findings of the DPP, released in August 2001, showed that people at high risk for type 2 diabetes could sharply lower their chances of developing the disorder through diet and exercise. In addition, results of the oral diabetes drug metformin had a smaller reduction of diabetes risk.

In other research before the DPP, with the help and participation of many Akimel O'odham (Pima) Indians over the years, scientists at the National Institutes of Health identified several ways people with diabetes can improve their health. Scientists found that keeping blood glucose, blood pressure, and blood cholesterol under control is very important. Pregnant women with diabetes need to keep their blood glucose under control so that their babies will be healthy and have a lower risk of getting diabetes. Breastfeeding, even for a few weeks, helps protect babies from becoming overweight and developing diabetes.

Many people who might otherwise develop type 2 diabetes can prevent it by exercising regularly, lowering the amount of fat and number of calories they eat, and losing weight if they are overweight. Researchers are also studying the genetic and environmental factors that can lead to pre-diabetes and diabetes. About 100 tribes are evaluating demonstration programs to reduce the risk of developing type 2 diabetes or of developing heart disease, a complication of high blood glucose of diabetes that is not well controlled.

Adapted with permission from the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health.



Life in Balance

Though belief systems vary with every tribe, striving for harmony and balance in life seems central to many American Indians. Harmony and balance is the American Indian belief in interrelatedness and connectedness with all that is natural. The concept not only explains the interdependence of humans with other animates and inanimates in the world, but it also recognizes the need for individual wellness—of the interdependence of physical, emotional, psychological, and spiritual well-being.

Individuals are considered whole when their physical, mental, spiritual, and emotional selves exist in harmony. If there is something negative going on with one part of the self, it affects the other parts and causes an imbalance in the whole self.
(Cleary & Peacock, 1998)

Overview

The Diabetes Education in Tribal Schools (DETS) curriculum is part of a national effort to decrease the incidence of type 2 diabetes among American Indians and Alaska Natives and to improve the care of people in these populations who already have the disease. The overarching goal of the multidisciplinary curriculum is to increase the understanding of health, diabetes, and maintaining life in balance. The curriculum recognizes that students bring to the classroom cultural values, and prior knowledge and experience in connection with health and diabetes.

American Indian and Alaska Native cultures embody many generations of oral traditions and stories that encompass values and sense of place. Among many other contributions, American Indians and Alaska Native peoples developed diverse belief systems and social structures; sophisticated and imaginative forms of art; agriculture; architecture; and earth sciences. The challenge of incorporating into teaching American Indian and Alaska Native cultures demands sensitivity to the unique features represented in the diverse array of over 560 federally recognized American Indian and Alaska Native tribes, and many other state and federally nonrecognized tribes. The DETS curriculum incorporates dance, oral history, storytelling, and the circle of balance to reflect American Indian and Alaska Native cultural teaching of prior and new knowledge.

The Round Dance and Powwows

The Round Dance goes by many names for different tribes: *Kahomni*, 2-Step, Owl Dance, or Rabbit Dance. It is a social dance that is often a part of American Indian gatherings, including community social dances, ceremonies, and powwows.

A powwow is a celebration where people gather to sing, dance, see family and friends, conduct honor ceremonies, and compete in singing and dancing. Powwows take place all

over the United States and Canada. During the summer months, there is usually a powwow every weekend in different areas of the United States.

Oral History and Storytelling

American Indian and Alaska Native cultures are filled with tradition. These cultures have sustained their traditions through oral history or storytelling. Oral history is a significant method in Native cultures where wisdom is passed down through tribal elders and leaders and through members of the extended family, such as grandparents and great-grandparents. The practice of storytelling developed over many centuries to teach life lessons and traditional Native values as well as to preserve tribal history.

Families pass their culture on to their children by socializing them to become participating members in that culture through the oral tradition—the spoken word. Within American Indian and Alaska Native communities, knowledge is transmitted through the stories, legends, and prayers. Native people’s sense of self is embedded in their languages and the stories that hold the promises for a good life.

The written stories in the DETS curriculum are narratives that are culturally based. They are recitations of an individual’s way to a balanced life, and they are written with concern for the well-being of the next generation. These stories are meant to help others understand that they can live a balanced, healthy life, and that living a healthy life is a positive journey.

Circle of Balance

In recognizing and honoring cultural diversity, there are common themes: unity and balance in life, a profound sense of place, and strong values of family and community. The framing and relationship of place and balance interlock and are embedded within a spiritual and ecological-wisdom orientation—they are inseparable for Native peoples. Stewardship and the connectedness of self, community, and all that Mother Earth nurtures portray an integrated approach intrinsic to Native peoples. The premise of the circle of balance is that it is the foundation and the energy for all things.

The Circle of Balance is integrated multiple times within the curriculum. This interconnected approach for *self* is a metaphoric template that allows for the systematic discovery of balance within self and with the surrounding world. For Native people, the Circle of Balance is illustrated by four quadrants: spiritual, physical, emotional, and mental. This conceptual division helps frame the complexity of self in manageable ways, opening the way for reflection on how each quadrant interacts with the others that make up the circle. These four quadrants are always evolving throughout an individual’s life span.



The DETS curriculum uses an integrated theme in illustrating the contextual content of Native culture throughout the units. Threading Native cultural themes and concepts throughout the K–12 curriculum provides a meaningful approach for students of all cultural backgrounds to understand their self-identity and expand it in ever-widening circles to include others. As students become engaged with their own cultural backgrounds, beliefs, attitudes, and ways of life, their engagement allows for connectedness and an understanding that *health is life in balance*.

Science as Inquiry

When teachers talk about inquiry in the science classroom, many images come to mind. We like to see students doing science. But inquiry is much more than conducting investigations. We want students to be able to ask scientifically testable questions, design appropriate investigations to answer those questions, and develop explanations based on the evidence they collect. We also want them to be able to consider alternative explanations and use math and technology to help them answer questions when appropriate.

In addition to being able to practice science, we want students to understand the nature of science. We want them to realize that science advances through logical skepticism, that different areas in science lead to different types of questions, and that people from different backgrounds and different ways of life have contributed to the scientific knowledge we have today.

When we think about what inquiry looks like in the science classroom, it is helpful to consider the work of the National Research Council. Following the release of the *National Science Education Standards* (National Research Council [NRC], 1996), the council also developed several addenda to further explore some fundamental ideas inherent in the standards. In one of the addenda, the National Research Council (2000, pp. 24–27) outlines five essential features of inquiry that define inquiry in the classroom across all grade levels. We provide this useful discussion here:

Essential Feature 1: Learners are engaged by scientifically oriented questions.

Scientifically oriented questions center on objects, organisms, and events in the natural world; they connect to the science concepts described in the content standards. They are questions that lend themselves to empirical investigation and lead to gathering and using data to develop explanations for scientific phenomena. Scientists recognize two primary kinds of scientific questions. Existence questions probe origins and include many “why” questions. Why do objects fall toward the earth? Why do some rocks contain crystals? Why do humans have chambered hearts? Many “why” questions cannot be addressed by science. There are also causal/functional questions, which probe mechanisms and include most of the “how” questions. How does sunlight help plants to grow? How are crystals formed?

Students often ask “why” questions. In the context of school science, many of these questions can be changed into “how” questions and thus lend themselves to scientific inquiry. Such change narrows and sharpens the inquiry and contributes to its being scientific.



In the classroom, a question robust and fruitful enough to drive an inquiry generates a “need to know” in students, stimulating additional questions of “how” and “why” a phenomenon occurs. The initial question may originate from the learner, the teacher, the instructional materials, the Web, some other source, or some combination. The teacher plays a critical role in guiding the identification of questions, particularly when they come from students. Fruitful inquiries evolve from questions that are meaningful and relevant to students, but they also must be able to be answered by students’ observations and scientific knowledge they obtain from reliable sources. The knowledge and procedures students use to answer the questions must be accessible and manageable, as well as appropriate to the students’ developmental level. Skillful teachers help students focus their questions so that they can experience both interesting and productive investigations.

Essential Feature 2: Learners give priority to *evidence*, which allows them to develop and evaluate explanations that address scientifically oriented questions.

As the *Standards* note, science distinguishes itself from other ways of knowing through use of empirical evidence as the basis for explanations about how the natural world works. Scientists concentrate on getting accurate data from observations of phenomena. They obtain evidence from observations and measurements taken in natural settings such as oceans, or in contrived settings such as laboratories. They use their senses, instruments such as telescopes to enhance their senses, or instruments that measure characteristics that humans cannot sense, such as magnetic fields. In some instances, scientists can control conditions to obtain their evidence; in other instances, they cannot control the conditions or control would distort the phenomena, so they gather data over a wide range of naturally occurring conditions and over a long enough period of time so that they can infer what the influence of different factors might be. The accuracy of the evidence gathered is verified by checking measurements, repeating the observations, or gathering different kinds of data related to the same phenomenon. The evidence is subject to questioning and further investigation.

The above paragraph explains what counts as evidence in science. In their classroom inquiries, students use evidence to develop explanations for scientific phenomena. They observe plants, animals, and rocks, and carefully describe their characteristics. They take measurements of temperature, distances, and time, and carefully record them. They observe chemical reactions and moon phases and chart their progress. Or they obtain evidence from their teacher, instructional materials,

the Web, or elsewhere, to “fuel” their inquiries. As the *Standards* note, “explanations of how the natural world changes based on myths, personal beliefs, religious values, mystical inspiration, superstition, or authority may be personally useful and socially relevant, but they are not scientific.”

Essential Feature 3: Learners formulate explanations from evidence to address scientifically oriented questions.

Although similar to the previous feature, this aspect of inquiry emphasizes the path from evidence to explanation rather than the criteria for and characteristics of the evidence. Scientific explanations are based on reason. They provide causes for effects and establish relationships based on evidence and logical argument. They must be consistent with experimental and observational evidence about nature. They respect rules of evidence, are open to criticism, and require the use of various cognitive processes generally associated with science—for example, classification, analysis, inference, and prediction, and general processes such as critical reasoning and logic.

Explanations are ways to learn about what is unfamiliar by relating what is observed to what is already known. So, explanations go beyond current knowledge and propose some new understanding. For science, this means building upon the existing knowledge base. For students, this means building new ideas upon their current understandings. In both cases, the result is proposed new knowledge. For example, students may use observational and other evidence to propose an explanation for the phases of the moon; for why plants die under certain conditions and thrive in others; and for the relationship of diet to health.

Essential Feature 4: Learners evaluate their explanations in light of alternative explanations, particularly those reflecting scientific understanding.

Evaluation, and possible elimination or revision of explanations, is one feature that distinguishes scientific from other forms of inquiry and subsequent explanations. One can ask questions such as: Does the evidence support the proposed explanation? Does the explanation adequately answer the questions? Are there any apparent biases or flaws in the reasoning connecting evidence and explanation? Can other reasonable explanations be derived from the evidence?

Alternative explanations may be reviewed as students engage in dialogues, compare results, or check their results with those proposed by the teacher or instructional materials. An essential component of this characteristic is ensuring that students make the connection between their results and scientific knowledge



appropriate in their level of development. That is, student explanations should ultimately be consistent with currently accepted scientific knowledge.

Essential Feature 5: Learners communicate and justify their proposed explanations.

Scientists communicate their explanations in such a way that their results can be reproduced. This requires clear articulation of the question, procedures, evidence, proposed explanation, and review of alternative explanations. It provides for further skeptical review and the opportunity for other scientists to use the explanation in work on new questions.

Having students share their explanations provides others the opportunity to ask questions, examine evidence, identify faulty reasoning, point out statements that go beyond the evidence, and suggest alternative explanations for the same observations. Sharing explanations can bring into question or fortify the connections students have made among the evidence, existing scientific knowledge, and their proposed explanations. As a result, students can resolve contradictions and solidify an empirically based argument.

Essential Features of Classroom Inquiry and Their Variations


	Less More				More Less
Feature					
1. Learner engages in scientifically oriented questions	A. Learner engages in question provided by teacher, materials, or other source	B. Learner sharpens or clarifies question provided by teacher, materials, or other source	C. Learner selects among questions, poses new questions	D. Learner poses a question	
2. Learner gives priority to evidence in responding to questions	A. Learner given evidence (data) and told how to analyze	B. Learner given evidence (data) and guided in how to analyze it	C. Learner directed to collect certain evidence and asked to analyze	D. Learner determines what constitutes evidence, how to collect it, and how to analyze it	
3. Learner formulates explanations from evidence	A. Learner provided with evidence and explanation	B. Learner given possible ways to use evidence to formulate an explanation	C. Learner guided in process of formulating explanations from evidence	D. Learner formulates explanation after summarizing evidence	
4. Learner connects explanations to scientific knowledge	A. Learner given all connections between explanations and existing scientific knowledge	B. Learner given possible connections between explanations and existing scientific knowledge	C. Learner directed toward areas and sources of scientific knowledge in order to make connections to explanations	D. Learner independently examines other resources and forms connections to explanations	
5. Learner communicates and justifies explanations	A. Learner given steps and procedures to justify and communicate explanations	B. Learner provided guidelines to justify and communicate explanations	C. Learner coached to form reasonable and logical arguments to justify and communicate explanations	D. Learner forms reasonable and logical arguments to justify and communicate explanations	

Figure 16:
Essential features of classroom inquiry and their variations.
(NRC, 2000)



BSCS 5E Instructional Model

The instruction of major concepts is organized around an instructional model that is based on the constructivist philosophy of learning. This philosophy of learning maintains that learners build or construct new ideas on top of their old ideas.

We call the instructional model the “5Es” because each unit is organized around five phases of learning that can best be described by using five words that begin with *E*: Engage, Explore, Explain, Elaborate, and Evaluate. This instructional model allows students to use and build on prior knowledge and experience, to experience common activities, to construct meaning, and to assess their understanding of a concept continually:

- **Engage:** This phase of the instructional model initiates the learning. The activity should (1) activate prior knowledge and help students make connections between past and present learning experiences and (2) anticipate activities and focus students’ thinking on the learning outcomes of upcoming activities. The learner should become mentally engaged in the concept, process, or skill to be explored.
- **Explore:** This phase of the instructional model provides students with a common set of experiences within which they identify and develop current concepts, processes, and skills. During this phase, students actively explore their environment or manipulate materials.
- **Explain:** This phase of the instructional model focuses learners on developing an explanation for the concepts they have been exploring. As a result, they have opportunities to verbalize their conceptual understanding or to demonstrate their skills or behaviors. This phase also provides opportunities for teachers to introduce formal labels, definitions, and explanations for concepts, processes, skills, or behaviors.
- **Elaborate:** This phase of the instructional model challenges and extends students’ conceptual understanding, and it allows further opportunity for students to practice desired skills and behaviors. Through new experiences, the learners develop deeper and broader understanding of major concepts, obtain more information about areas of interest, and refine their scientific skills.
- **Evaluate:** This phase of the instructional model encourages learners to assess their understanding and abilities and provides opportunities for teachers to evaluate students’ understanding of key concepts and development of essential skills.

Stage of the Instructional Model	The BSCS 5E Instructional Model: What the Teacher Does	
	That Is Consistent with This Model	That Is Inconsistent with This Model
Engage	<ul style="list-style-type: none"> ■ Creates interest ■ Generates curiosity ■ Raises questions ■ Elicits responses that uncover what the students know or think about the concept or topic 	<ul style="list-style-type: none"> ■ Explains concepts ■ Provides definitions and answers ■ States conclusions ■ Provides closure ■ Lectures
Explore	<ul style="list-style-type: none"> ■ Encourages the students to work together without direct instruction from the teacher ■ Observes and listens to the students as they interact ■ Asks probing questions to redirect the students' investigations when necessary ■ Provides time for the students to puzzle through problems ■ Acts as a consultant for students 	<ul style="list-style-type: none"> ■ Provides answers ■ Tells or explains how to work through the problem ■ Provides closure ■ Tells the students that they are wrong ■ Gives information or facts that solve the problem ■ Leads the students step-by-step to a solution
Explain	<ul style="list-style-type: none"> ■ Encourages the students to explain concepts and definitions in their own words ■ Asks for justification (evidence) and clarification from students ■ Formally provides definitions, explanations, and new labels ■ Uses students' previous experiences as the basis for explaining concepts 	<ul style="list-style-type: none"> ■ Accepts explanations that have no justification ■ Neglects to solicit the students' explanations ■ Introduces unrelated concepts or skills
Elaborate	<ul style="list-style-type: none"> ■ Expects the students to use formal labels, definitions, and explanations provided previously ■ Encourages the students to apply or extend the concepts and skills in new situations ■ Reminds the students of alternative explanations ■ Refers the students to existing data and evidence and asks, "What do you already know?" "Why do you think ...?" (Strategies from Explore apply here also.) 	<ul style="list-style-type: none"> ■ Provides definitive answers ■ Tells the students that they are wrong ■ Lectures ■ Leads students step-by-step to a solution ■ Explains how to work through the problem
Evaluate	<ul style="list-style-type: none"> ■ Observes the students as they apply new concepts and skills ■ Assesses students' knowledge, skills, or both ■ Looks for evidence that the students have changed their thinking or behaviors ■ Allows students to assess their own learning and group-process skills ■ Asks open-ended questions such as, Why do you think ...? What evidence do you have? What do you know about x? How would you explain x? 	<ul style="list-style-type: none"> ■ Tests vocabulary words, terms, and isolated facts ■ Introduces new ideas or concepts ■ Creates ambiguity ■ Promotes open-ended discussion unrelated to the concept or skill

Figure 17:
BSCS Instructional Model:
What the Teacher Does.
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Stage of the Instructional Model	The BSCS 5E Instructional Model: What the Student Does	
	That Is Consistent with This Model	That Is Inconsistent with This Model
Engage	<ul style="list-style-type: none"> ■ Asks questions such as, Why did this happen? What do I already know about this? What can I find out about this? ■ Shows interest in the topic 	<ul style="list-style-type: none"> ■ Asks for the “right” answer ■ Offers the “right” answer ■ Insists on answers or explanations ■ Seeks one solution
Explore	<ul style="list-style-type: none"> ■ Thinks freely, but within the limits of the activity ■ Tests predictions and hypotheses ■ Forms new predictions and hypotheses ■ Tries alternatives and discusses them with others ■ Records observations and ideas ■ Suspends judgment 	<ul style="list-style-type: none"> ■ Lets others do the thinking and exploring (passive involvement) ■ Works quietly with little or no interaction with others (only appropriate when exploring ideas or feelings) ■ “Plays around” indiscriminately with no goal in mind ■ Stops with one solution
Explain	<ul style="list-style-type: none"> ■ Explains possible solutions or answers to others ■ Listens critically to others’ explanations ■ Questions others’ explanations ■ Listens to and tries to comprehend explanations that the teacher offers ■ Refers to previous activities ■ Uses recorded observations in explanations 	<ul style="list-style-type: none"> ■ Proposes explanations from “thin air” with no relationship to previous experiences ■ Brings up irrelevant experiences and examples ■ Accepts explanations without justification ■ Does not attend to other plausible explanations
Elaborate	<ul style="list-style-type: none"> ■ Applies new labels, definitions, explanations, and skills in new but similar situations ■ Uses previous information to ask questions, propose solutions, make decisions, and design experiments ■ Draws reasonable conclusions from evidence ■ Records observations and explanations ■ Checks for understanding among peers 	<ul style="list-style-type: none"> ■ “Plays around” with no goal in mind ■ Ignores previous information or evidence ■ Draws conclusions from “thin air” ■ In discussion, uses only those labels that the teacher provided
Evaluate	<ul style="list-style-type: none"> ■ Answers open-ended questions by using observations, evidence, and previously accepted explanations ■ Demonstrates an understanding or knowledge of the concept or skill ■ Evaluates his or her own progress and knowledge ■ Asks related questions that would encourage future investigations 	<ul style="list-style-type: none"> ■ Draws conclusions, not using evidence or previously accepted explanations ■ Offers only yes-or-no answers and memorized definitions or explanations as answers ■ Fails to express satisfactory explanations in his or her own words ■ Introduces new, irrelevant topics

Figure 18:
BSCS Instructional Model:
What the Student Does.
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Glossary

A1c: A test that measures a person's average blood glucose concentration over the past two to three months. Glucose sometimes joins with hemoglobin, the protein in red blood cells that carries oxygen. The A1c test shows the amount of glucose joined to hemoglobin, which is proportional to the amount of glucose in the blood. Also called hemoglobin A1c.

adult-onset diabetes: A term formerly used for type 2 diabetes.

balance: In general, being in harmony with the rest of one's world—physically, mentally, emotionally, and spiritually. In medicine and health, a similar concept: actively keeping major functions of the body within a narrow range or maintaining equilibrium. See homeostasis.

blood glucose: The main sugar found in the blood and the body's main source of energy. Also called blood sugar.

blood glucose concentration (level): The amount of glucose in a given amount of blood. It is noted in milligrams per deciliter, or mg/dL.

blood glucose meter: A small, handheld device used by people with diabetes to check their blood glucose concentration. The meter displays the blood glucose level as a number on the meter's digital display.

blood sugar: A popular term for glucose in the blood. This term is less accurate than blood glucose.

body mass index (BMI): A measure used to evaluate body weight relative to a person's height. For adults, BMI is used to find out if a person is underweight, normal weight, overweight, or obese. For teens and children, BMI is evaluated differently. For more information, go to the Centers for Disease Control Web site, <http://www.cdc.gov/nccdphp/dnpa/bmi/>.

borderline diabetes: A term formerly used for early type 2 diabetes or pre-diabetes. See pre-diabetes.

calorie: The amount of heat energy required to raise the temperature of 1 gram of water 1 degree Celsius. In this usage, calorie is spelled with a lowercase c. The food Calorie (written with a capital C) is actually a kilocalorie, or 1,000 calories. The Calorie is an indication of the amount of energy contained in food. The Calorie content written on food labels is actually kilocalories.

carbohydrate: One of the three main nutrients in food. Carbohydrates make up sugar, starch, and cellulose. Foods that provide carbohydrates include starches, vegetables, fruits, dairy products, and sugars.



certified diabetes educator (CDE): A health professional with expertise in diabetes education who has met eligibility requirements and successfully completed a certification exam. See diabetes educator.

coma: A sleeplike state in which a person is not conscious. In people who have diabetes, it may be caused by *hyperglycemia* (high blood glucose) or *hypoglycemia* (low blood glucose).

concentration: The amount of a substance in a specified volume of liquid or air.

deciliter (dL): A volume equal to one-tenth of a liter, or 100 milliliters. In diabetes, blood glucose concentrations are often measured as the number of milligrams of glucose in a deciliter of blood.

diabetes educator: A health professional who teaches people who have diabetes how to manage their diabetes. Diabetes educators work in hospitals, physicians' offices, managed care organizations, home health care, and other settings.

diabetes mellitus: A condition characterized by high blood glucose concentrations. Diabetes mellitus can be classified as either type 1 or type 2. Diabetes may cause serious health problems, such as heart disease, stroke, kidney failure, blindness, or amputations.

Diabetes Prevention Program (DPP): A study by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducted from 1998 to 2001 in people at high risk for type 2 diabetes. All study participants had impaired glucose tolerance (also called pre-diabetes) and were overweight. Basic information about the DPP and its results can be found at the NIDDK Web site, <http://diabetes.niddk.nih.gov/dm/pubs/preventionprogram/>.

dialysis: The process of cleaning wastes from the blood by a dialysis machine. The kidneys usually perform this function.

dietitian: A health professional who advises people about meal planning, weight control, and diabetes management. A registered dietitian (RD) has met eligibility requirements and successfully completed a certification exam.

digestion: The process of making food absorbable by mechanically and enzymatically breaking it down into simpler chemical compounds. Digestion begins in the mouth and continues in the esophagus, stomach, and intestines.

epidemic: An outbreak of disease affecting a large number of people at the same time. Or a disease that increases suddenly in numbers that exceed what is expected.

fasting blood glucose test: A medical test of the body's ability to metabolize glucose that is used to diagnose diabetes or pre-diabetes. It is also used to monitor people who have diabetes.

fat: 1. One of the three main nutrients in food. Foods that provide fat include butter, margarine, salad dressing, oil, nuts, meat, poultry, fish, and some dairy products. 2. Excess calories are stored as body fat, providing the body with a reserve supply of energy and other functions.

gestational diabetes mellitus: A type of diabetes mellitus that develops only during pregnancy and usually disappears upon delivery. Gestational diabetes increases the risk that the mother will develop diabetes later. It is managed with meal planning, activity, and, in some cases, insulin.

glucagon: A hormone produced in the pancreas. It is released in response to decreases in the blood glucose concentration. Glucagon acts to increase blood glucose by stimulating the breakdown of glycogen and the synthesis of glucose.

glucose: A simple sugar with the chemical formula $C_6H_{12}O_6$. Glucose is the main type of sugar used by cells.

glycogen: The chief carbohydrate used by animals for energy storage.

homeostasis: A fundamental characteristic of living systems; the tendency of an organism to maintain a stable, constant internal environment.

hormone: A regulatory chemical secreted by cells or glands and carried through the blood. Hormones act on specific target cells and organs elsewhere in the body to elicit a response; a chemical messenger.

hyperglycemia: Indicates excessive blood glucose.

hypoglycemia: A condition that occurs when blood glucose levels are lower than normal. Signs include hunger, nervousness, shakiness, perspiration, dizziness or light-headedness, sleepiness, and confusion. If left untreated, hypoglycemia may lead to unconsciousness.

impaired fasting glucose (IFG): A condition in which a blood glucose test, taken after an eight- to 12-hour fast, shows a level of glucose higher than normal but not high enough for a diagnosis of diabetes. IFG is one of two conditions (with impaired glucose tolerance) that are the basis for a diagnosis of pre-diabetes. See impaired glucose tolerance (IGT) *and* pre-diabetes.

impaired glucose tolerance (IGT): A condition in which blood glucose concentrations are higher than normal but not high enough for a diagnosis of diabetes. IGT is one of two conditions (with impaired fasting glucose) that are the basis for a diagnosis of pre-diabetes. Terms for IGT that are no longer used include borderline, subclinical, chemical, or latent diabetes. See impaired fasting glucose (IFG) *and* pre-diabetes.



insulin: A hormone produced by the pancreas and released in response to elevated blood glucose concentrations. Insulin decreases blood glucose by increasing the uptake and use of glucose by cells.

insulin-dependent diabetes mellitus: A term formerly used for type 1 diabetes.

insulin receptors: Specific proteins on the cell membrane that binds to insulin and trigger a series of biochemical events that result in the uptake of glucose into the cell. See receptor.

insulin resistance: The body's inability to respond to and use the insulin produced by the pancreas. Insulin resistance is linked to obesity, hypertension, and high levels of fat in the blood.

juvenile diabetes: A term formerly used for type 1 diabetes.

kidney failure: A chronic condition in which the kidneys do not work properly, causing the body to retain fluid and harmful wastes to build up. A person with kidney failure needs dialysis or a kidney transplant.

kidneys: The two organs that regulate water and salt levels, filter water and wastes from the blood, and get rid of the end products as urine.

liver: The body organ that changes food into energy, removes alcohol and poisons from a person's blood, and makes bile, a substance that breaks down fat and helps rid the body of wastes.

metabolism: The sum of all chemical and physical processes within a living organism. Specifically, all of the chemical changes in living cells by which energy is provided for vital processes and activities and new material are assimilated.

noninsulin-dependent diabetes mellitus: A term formerly used for type 2 diabetes.

nutritionist: A person with training in nutrition. A nutritionist may or may not have specialized training or qualifications. See dietitian.

obesity: A condition in which the body has a greater than normal amount of fat. Obesity is more a severe condition than being overweight. In adults, obesity is defined as a body mass index (BMI) of 30 or more.

oral glucose tolerance test (OGTT): A test used to diagnose pre-diabetes and diabetes. The oral glucose tolerance test is given by a health professional after an overnight fast. After a blood sample is taken, the patient drinks a high-glucose beverage. Blood samples are taken during the three hours after drinking the glucose beverage. Test results are compared with a standard and show how the body uses glucose over time.

overweight: Having an above-normal body weight. In adults, being overweight means having a body mass index (BMI) of 25–29.9.

pancreas: The body organ that makes the hormones insulin and glucagon, as well as some enzymes used in digestion. The pancreas is located behind the lower part of the stomach and is about the size of a hand.

pre-diabetes: A condition in which blood glucose levels are higher than normal but are not high enough for a diagnosis of diabetes. People with pre-diabetes are at increased risk for type 2 diabetes, heart disease, and stroke. Pre-diabetes is diagnosed by having impaired fasting glucose, impaired glucose tolerance, or both. See impaired fasting glucose (IFG) and impaired glucose tolerance (IFT).

protein: 1. One of the three main nutrients in food. Foods that provide protein include meat, poultry, fish, cheese, milk, dairy products, eggs, and dried beans. 2. Proteins are produced in the body for cell structure, hormones such as insulin, and other functions.

receptor: A molecule (membrane protein) that recognizes specific chemicals, including hormones, neurotransmitters, or other body chemicals. When the hormone or other body chemical binds to its receptor, a biological response is triggered in the cells. See insulin receptors.

sucrose: A double sugar or disaccharide composed of glucose and fructose. Known as table sugar or white sugar, it is found naturally in sugarcane and in beets.

sugar: 1. A class of carbohydrates with a sweet taste; includes glucose, fructose, and sucrose. 2. A term used to refer to blood glucose.

Adapted with permission from the *Diabetes Dictionary* by the National Institute of Diabetes and Digestive and Kidney Diseases; *MedlinePlus Medical Dictionary*; and *BSCS Biology: An Ecological Approach*, 10th edition (BSCS, 2006).



Resource Directory

In an effort to provide teachers with additional high-quality resources of diabetes, we offer the following list of resources.

General Information on Diabetes

1. National Diabetes Information Clearinghouse (NDIC)

<http://diabetes.niddk.nih.gov>

The NDIC is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). NDIC was created to increase knowledge and understanding about diabetes among patients, health professionals, and the general public. The NDIC Web site provides access to

- publications about diabetes, provided free of copyright, in varying reading levels;
- publications for health fairs and community events;
- the Combined Health Information Database;
- the diabetes subfile (which contains fact sheets, brochures, audiovisual materials, and reference materials for patients and health professionals); and
- an “A to Z list” of diabetes topics and titles.

2. U.S. Department of Health and Human Services—National Institutes of Health (NIH)

<http://health.nih.gov>

The National Institutes of Health (NIH), a part of the U.S. Department of Health and Human Services, is the primary Federal agency for conducting and supporting medical research. The NIH Web site provides access to

- research health topics A–Z,
- search health topics, and
- browse health categories.

3. U.S. Department of Health and Human Services—Indian Health Service

<http://www.ihs.gov>

The mission of the Indian Health Service (IHS) Division of Diabetes Treatment and Prevention is to develop, document, and sustain a public health effort to prevent and control diabetes in American Indian and Alaska Native peoples.

4. Food Nutrition Information Center

<http://fnic.nal.usda.gov>

The Food and Nutrition Information Center has been a leader in food and human nutrition information dissemination since 1971. It provides credible, accurate, and practical resources for nutrition and health professionals, educators, government personnel and consumers. The Web site provides access to

- resources for teachers,
- downloadable nutrition education,
- training materials, and
- high-resolution images for educational use.

5. National Diabetes Education Program

<http://ndep.nih.gov/>

This National Diabetes Education Program is a joint program of the CDC (Centers for Disease Control and Prevention), NIH (National Institutes of Health), and 200-plus partners.

It provides

- resources for health professionals,
- resources for educators, and
- opportunities and information for business professionals.

6. Children with Diabetes

<http://www.childrenwithdiabetes.com>

Children with Diabetes is an online community for kids, families and adults with diabetes, and provides

- the latest news and information for anyone with diabetes,
- an interactive database for children to use in e-mailing pen pals,
- forums,
- a parents' section with parent-specific information on diabetes,
- a home page for parents of kids with diabetes,
- an *Ask the Diabetes Team* feature, and
- a *Diabetes Basics* section (which offers basic medical information about diabetes, insulin, and research).

7. National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC)

<http://www.cdc.gov/diabetes>

CDC's Diabetes Public Health Resource Web site contains information about

- the National Diabetes Education Program,
- national conferences on diabetes,
- diabetes data and trends,
- national studies, and
- *Diabetes & Me* (basic information on diabetes and its complications and on ways to be active and eat right).



8. American Diabetes Association

<http://www.diabetes.org>

The American Diabetes Association is the nation's leading nonprofit health organization providing diabetes research, information, and advocacy. The mission of the association is to prevent and cure diabetes and to improve the lives of all people affected by diabetes.

9. Nutrition.gov

<http://www.nutrition.gov>

Nutrition.gov provides easy, online access to government information on food and human nutrition for consumers. It is a service of the National Agricultural Library, USDA. The Web site provides access to

- food and nutrition information;
- physical activity requirements;
- food safety for consumers, educators, and health professionals;
- healthy choices to reduce obesity and other food related diseases; and
- specialized nutritional requirements of infants, children, teens, adult women, men, and seniors.

10. Ask the Dietitian—Joanne Larson, MS, RD, LD

<http://www.dietitian.com>

An interesting feature is the Healthy Body Calculator. Just type in your information, and the results are shown on the third page. A list of commonly asked questions and answers is provided.

11. Nutrition Quest

<http://www.nutritionquest.com>

This Web site offers an excellent tool for personal nutrition analysis, including

- fat content in your diet,
- fruit content in your diet,
- vegetable content of your diet , and
- fiber intake.

12. Joslin Diabetes Center

<http://www.joslin.org>

The mission of the Joslin Diabetes Center is to improve the lives of people with diabetes and its complications through innovative care, education, and research that will lead to the prevention and cure of the disease. The Web site provides current diabetes education via

- the latest news and press releases,
- an online diabetes library,
- online classes,

- discussion boards, and
- an interactive learning center (which provides a series of interactive courses on diabetes).

13. U.S. Department of Agriculture—MyPyramid.gov

<http://www.mypyramid.gov/>

The *MyPyramid Plan* offers you a personal eating plan with the foods and amounts that are right for you. Use the advice at *Inside the Pyramid* to help you

- make smart choices from every food group,
- find your balance between food and physical activity,
- get the most nutrition out of your calories, and
- stay within your daily calorie needs.

Teaching Tools

1. Discovery Kids

<http://yucky.discovery.com>

This interactive Web site promotes health education activities for kids, including

- games and quizzes,
- information on the endocrine system,
- information on the nervous system,
- information on the skeletal system, and
- information on the digestive system.

2. KidsHealth

<http://kidshealth.org>

Many topics are available, such as homework help, how the body works, information and news, and featured articles.

3. Mission Nutrition

<http://www.missionnutrition.ca/missionnutrition/eng/>

The Mission Nutrition Web site offers nutrition information for teachers, parents, or students. The links for educators are in the form of lesson plans and student activities.

4. Kateri Memorial Hospital Centre

<http://www.ksdpp.org>

This is the Web site of the Kahnawake Schools Diabetes Prevention Project. Their motto is “Healthy eating habits, daily physical activity, and positive attitude can prevent diabetes.” This main Web page is oriented toward the educator and focuses on teaching elementary school children about the prevention of diabetes.



5. NIH Office of Science Education

<http://science.education.nih.gov/>

The Office of Science Education provides educational resources on this Web site. The NIH Curriculum Supplement Series is a package of interactive teaching units that combine cutting-edge science research discoveries from the National Institutes of Health, one of the world's foremost medical research centers, with state-of-the-art instructional materials. The educational resources are listed by topic, grade level, and resource formats.

Books

American Diabetes Association. (2005). *American Diabetes Association complete guide to diabetes*. Alexandria, VA: Author.

Kaufman, F. R. (2005). *Diabesity: The obesity-diabetes epidemic that threatens America and what we must do to stop it*. New York: Bantam Dell.

Enduring Understandings for the Grades K–2 Units

By the end of the Grades K–2 Units, students should be able to understand the following:

- We depend on nature for gifts.
- Balance is important for a healthy life.
- Our world, bodies, minds, and feelings work together to keep us healthy.
- We can listen to and learn from wise people.
- Diabetes is a disease that occurs when the body does not use sugar (glucose) in the right way.

Project Goal 1

To increase students' understanding of health and diabetes. To help American Indian and Alaska Native children learn how to maintain balance for themselves, their families, and their communities.

K–4 Specific Goals

1. Describe how meeting basic bodily needs creates a healthy balance in life.
2. Explain that diabetes is when a person's blood sugar is too high, which leads to further imbalances in the body.
3. Investigate positive health behaviors that will reduce the risk of diabetes.
4. Explore positive health behaviors that students and their families and their communities can adopt to contribute to a healthy balance.

Project Goal 2

To increase American Indian and Alaska Native students' understanding of and appreciation for the process of developing scientific and community knowledge with respect to health, diabetes, and maintaining balance.

K–4 Specific Goals

1. Give examples of scientific and community knowledge that promote well-being and prevent diseases.
2. Describe scientific concepts and traditional wisdom to maintain health and prevent disease.
3. Demonstrate positive health behaviors from a scientific view and cultural perspective.



Project Goal 3

To improve attitudes toward and interest in entering science and health professions by developing a better understanding of how diabetes-related biomedical professionals work with communities and enhance health.

K–4 Specific Goals

1. Identify community members who are health and science professionals as well as role models.
2. Describe the work of community members who are science and health professionals.
3. Give examples of how the community or community members have been helped by the work of science and health professionals.

Health Is Life in Balance

Grades K-2

PREK-KINDERGARTEN: EXPLORING HEALTH AND FOODS





PreK–K Unit Overview

The Diabetes Education in Tribal Schools (DETS) PreK–K Unit, *Exploring Health and Foods*, consists of six lessons and takes nine class sessions of 20–50 minutes to complete. These lessons introduce the student to what health is through examples of physical activity and learning about foods. Students participate in active learning exercises to develop the concepts of health and being healthy. They explore the varieties of healthful foods and the ideas of more and less. Students extend their understanding of more and less to “everyday” and “sometimes” foods and activities. They explore a balance activity and physically demonstrate balance, which is an underlying theme throughout the K–12 curriculum. Students will understand how important messengers are in their daily lives as they learn from others who have knowledge and wisdom.

The unit begins from students’ background knowledge of what they know about health, and it introduces how to stay healthy by eating a variety of foods and participating in physical activities. Students also are introduced to people they listen to and learn from, as a career component leading to the introduction of health professionals. Students will practice how to balance, as a concrete idea, and later practice dancing the Native American Round Dance, or Friendship Dance, to further instill how important physical activity is to their health.



PreK–K Correlation with National Standards

National Science Education Standards

In today's classroom, it is important that curriculum materials help teachers address the standards that have been set for various subject areas. The content of this curriculum unit ties directly to the National Research Council's 1996 *National Science Education Standards*. The following chart indicates which standards are addressed by the different lessons within the PreK–K Unit.

Content Standards: Grades K–4

Content Standard A: As a result of activities in grades K–4, all students should develop	Correlation with the DETS PreK–K Unit
Abilities necessary to do scientific inquiry	
<ul style="list-style-type: none"> Employ simple equipment and tools to gather data and extend the senses. 	Lesson 1
<ul style="list-style-type: none"> Use data to construct a reasonable explanation. 	Lesson 1
<ul style="list-style-type: none"> Communicate investigations and explanations. 	Lesson 6
Understandings about scientific inquiry	
<ul style="list-style-type: none"> Scientists use different kinds of investigations depending on the questions they are trying to answer. Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting). 	Lesson 4
Content Standard F: As a result of activities in grades K–4, all students should develop understanding of	
Personal health	
<ul style="list-style-type: none"> Individuals have some responsibility for their own health. Students should engage in personal care—dental hygiene, cleanliness, and exercise—that will maintain and improve health. 	Lessons 2, 6
<ul style="list-style-type: none"> Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat. 	Lesson 4

Source: Reprinted with permission from *National Science Education Standards*. ©1996 by the National Academy of Sciences, National Academies Press, Washington, D.C.



The National Health Education Standards

The content of the PreK–K Unit also meets several of the *National Health Education Standards*, as outlined in the chart below.

This unit also addresses standards in the areas of language arts, math, and social studies (see appendix A).

Standards and Performance Indicators: Pre-Kindergarten–Grade 2.

Standard Number	National Health Education Standard	Correlation to the DETS PreK–K Unit
1	Students will comprehend concepts related to health promotion and disease prevention to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
1.2.1	Identify that healthy behaviors affect personal health.	Lessons 2, 4, 5, 6
3	Students will demonstrate the ability to access valid information and products and services to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
3.2.1	Identify trusted adults and professionals who can help promote health.	Lesson 4
5	Students will demonstrate the ability to use decision-making skills to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
5.2.1	Identify situations when a health-related decision is needed.	Lesson 4
7	Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
7.2.1	Demonstrate healthy practices and behaviors that maintain or improve personal health.	Lessons 2, 5, 6

Source: Reprinted with permission, from the American Cancer Society. *National health education standards: Achieving excellence* (2nd ed.). Atlanta, GA: American Cancer Society. 2007, www.cancer.org/bookstore.

Teacher Strategies for PreK–K

Timeline for the Lessons

The timeline provides a guideline for completing the six lessons in the PreK–K unit. The actual amount of class time needed for the unit will reflect the practice of individual teachers. Some classes will spend more time on activities and discussions than others. Depending on the amount of time available, you may need to complete lessons over multiple days. Lessons over 30 minutes include possible breaking points in the lesson.

Lesson 1, *Snack Attack*: 20–30 minutes

Lesson 2, *What Is Health?*: 80 minutes

Part I, *More and Less Healthy*: 40 minutes

Part II, *Story Time: Through the Eyes of the Eagle*: 40 minutes

Lesson 3, *How to Balance*: 30 minutes

Lesson 4, *More or Less: Everyday and Sometimes Foods*: 70–80 minutes

Part I, *Everyday Foods and Sometimes Foods*: 40–50 minutes

Part II, *Important Messengers*: 30 minutes

Lesson 5, *Let's Get Moving*: 60 minutes

Part I, *Story Time: Knees Lifted High*: 30 minutes

Part II, *Let's Move: Dancing the Round Dance*: 30 minutes

Lesson 6, *Showing What I Have Learned*: 30 minutes

The timeline assumes that you will teach the lessons on consecutive days. If several days separate the lessons, you may need additional time to review the previous lessons. This review will help students make stronger connections between the lessons.

Advance Preparation

2 Weeks Ahead

Begin reviewing lessons.

Order coloring books* to go with the Eagle Book series (optional).

1 Week Ahead

Make photocopies and transparencies.

Gather necessary materials.

*Coloring books that correlate with the Eagle Book series can supplement activities in this unit. These can be used as reinforcing activities or art projects for students. Additionally, *The Eagle Book Series: A Guide for Educators and Communities* (Centers for Disease Control and Prevention, n.d.) includes additional activities and information to go along with each Eagle Book. These resources and activities are available on the TRCD. You can also order printed versions of these resources or download them from the Centers for Disease Control and Prevention Web site, <http://www.cdc.gov/diabetes/pubs/eagle.htm>.



If you wish, send home a copy of Copymaster 1.0, *Letter to Parents or Caregivers*, with each student. Print it on school letterhead, if appropriate. This letter provides some basic information about diabetes for students' families and explains the educational goals for the curriculum that students will be experiencing.

Teacher Materials for the Unit

chart paper
markers for chart paper
tape
scissors
1 small paper bag
3 x 3 sticky notes
1 book
coat hangers and string for making food mobiles
healthful snacks of fruits, vegetables, and water
1 hand drum (optional)
Native American music on the TRCD
Round Dance video on the TRCD (optional)
1 CD player
1 overhead projector
1 color copy of the *Health Is Life in Balance* poster from the TRCD
1 color copy of the *MyPyramid for Kids* poster from the TRCD
Eagle Book: *Through the Eyes of the Eagle*
Eagle Book: *Tricky Treats*
Eagle Book: *Knees Lifted High*
coloring books from the Eagle Book series (optional)
1 transparency of Copymaster 3.1, *Balance*
1 transparency of Copymaster 6.1, *Showing What I Have Learned Chart*
2 copies of Copymaster 1.1, *Snack Attack*

Student Materials for the Unit

For each student

crayons, markers, or colored pencils
1 blank sheet of drawing paper
magazines with pictures of food, clip art pictures of food, or drawing paper
scissors
1 glue stick or paste

- 1 copy of Copymaster 1.0, *Letter to Parents or Caregivers* (optional)
- 1 copy of Copymaster 2.1, *More Healthy*
- 1 copy of Copymaster 2.2, *Less Healthy*
- 1 enlarged copy of Copymaster 3.1, *Balance* (optional)
- 1 copy of either Copymaster 4.1, *Messenger Man*, or Copymaster 4.2, *Messenger Woman*
- 1 copy of Copymaster 5.1, *School-to-Home Activity: The Round Dance*
- 1 copy of Copymaster 6.1, *Showing What I Have Learned Chart*
- 1 copy of Copymaster 6.2, *More or Less Healthy Pictures*

Vocabulary List

balance: For a physical state, balance is shown when an object rests without tipping on a smaller, narrower object. In the context of health issues, balance is a state of harmony where nothing is out of proportion or overemphasized at the expense of the rest.

healthy: Healthy means the condition of being sound in body, mind, and spirit; not sick.

physical activity: A physical activity is any activity in which the body is moving.

Monitoring Students' Progress

Assessing what students have learned during an activity, lesson, or unit is an important part of your role as a teacher. Because assessment can play a different role at different times, the PreK–K Unit has a variety of assessment strategies built in to the procedures.

The Engage lessons often include a mechanism for learning more about the preconceptions that students have before new content material is presented. From research on learning, we know that it is important for students to recall and think about their current knowledge and ideas. Some of this information is likely to be accurate and correct, but often this opportunity enables students to consider what they know, what questions they have, and even what discrepancies they have in their knowledge. Only after considering their prior knowledge will they be ready to add new information or revise incorrect ideas.

Assessment is also important as students progress through the lessons in the unit. In this unit, an icon in the margin denotes an opportunity for assessment. The icon indicates stages at which you can assess students' understanding of the enduring understandings or major concepts the lesson is designed to convey. Specific strategies for evaluating students' understanding are provided with the icon. Some of the strategies are informal and quick, while others may be more in depth. On the basis of students' understanding at these points, you can modify your teaching practices accordingly.

The Evaluate lesson in the unit provides an opportunity for students to synthesize what they have learned during the previous lessons. By completing the Evaluate lesson, students demonstrate what they have learned and apply their understanding to new situations.





Health Is Life in Balance



PREK-K
EXPLORING HEALTH
AND FOODS
STUDENT
LESSONS





A large, circular, light orange geometric pattern, resembling a traditional woven basket or a complex mandala. It features concentric circles and intricate, repeating patterns within each circle. The text is overlaid on this pattern.

LESSON 1
SNACK
ATTACK



Health Is Life in Balance

At a Glance

Lesson 1: Snack Attack Engage

Overview

In Lesson 1, *Snack Attack*, students examine snack choices from an imaginary class. Through this activity, they reveal their understanding of the concepts of more and less. These concepts are used throughout this unit. Students display the snack choices on a pictograph.

Enduring Understandings

Objects in a set can be described as more than or less than objects in another set.

Teacher Background

Children of this age are just beginning to make comparisons. In Lesson 2, *What Is Health?*, students compare amounts as more or less than other amounts. Use this opportunity to reinforce math skills as students are analyzing snack choices. Students will analyze a pictograph or “picture graph” of the numbers and types of snack items that an imaginary class brought to school. In this type of graph, it is important that each item be the same size so that they are correctly represented on the graph. Placing the pictures on a standard-sized sticky note will ensure that the items are the same size.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. reveal their ideas about more and less.

They will reveal their ideas by participating in a class discussion of more and less as they relate to snack items shown on a pictograph.

2. strengthen their math skills.

They will demonstrate their ability by

- creating a pictograph of snacks and
- analyzing the information on the graph as it shows more or less items.

In Advance

Teacher Materials

chart paper

markers for chart paper

tape

scissors

1 small paper bag

3 x 3 sticky notes

1 copy of Copymaster 1.1, *Snack Attack* (see *Preparation*)



Preparation

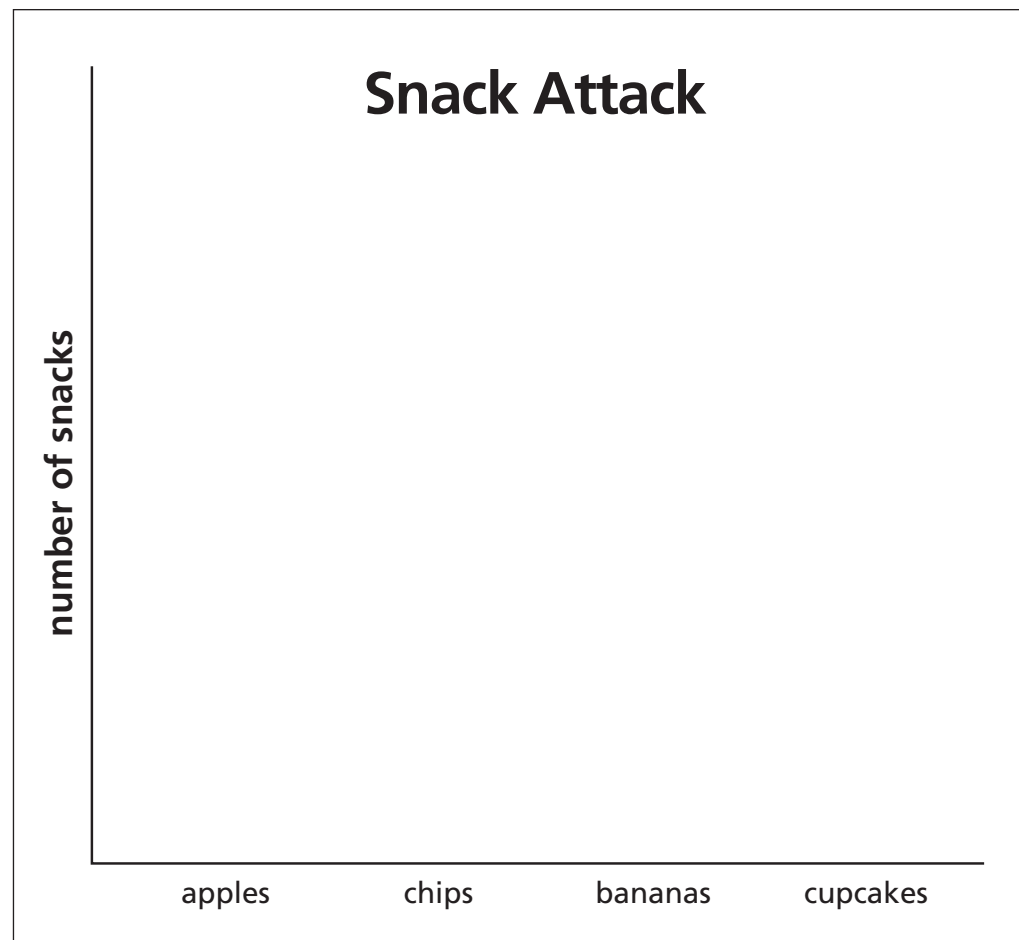
Cut out the pictures from Copymaster 1.1, *Snack Attack*. Place the pictures in the small paper bag.

Process and Procedure

1. Draw the beginnings of a pictograph on the board or chart paper. Add the labels as shown in figure K.1.

Make this pictograph template large enough for the class to see from a distance. Draw and label these axes for your pictograph. Place the graph in a place where you can leave it up for the remainder of the unit.

Figure K.1:
Axes for the pictograph. The axes for the pictograph should look like this.



2. Ask students to sit in a semicircle around you so that they can see you and the graph. Show the students a paper bag and tell them that students from another class brought snacks to school today and that your class is going to see what the other class brought.
3. Take out one of the snack pictures from the bag. Have students name the snack. Tape the picture of the snack onto a sticky note and place it on the pictograph.

Continue until you have emptied your bag, placing like snacks on top of each other to form the pictograph as shown in figure K.2.

Allow students to place the pictures on the graph once you have modeled the correct way to place them.

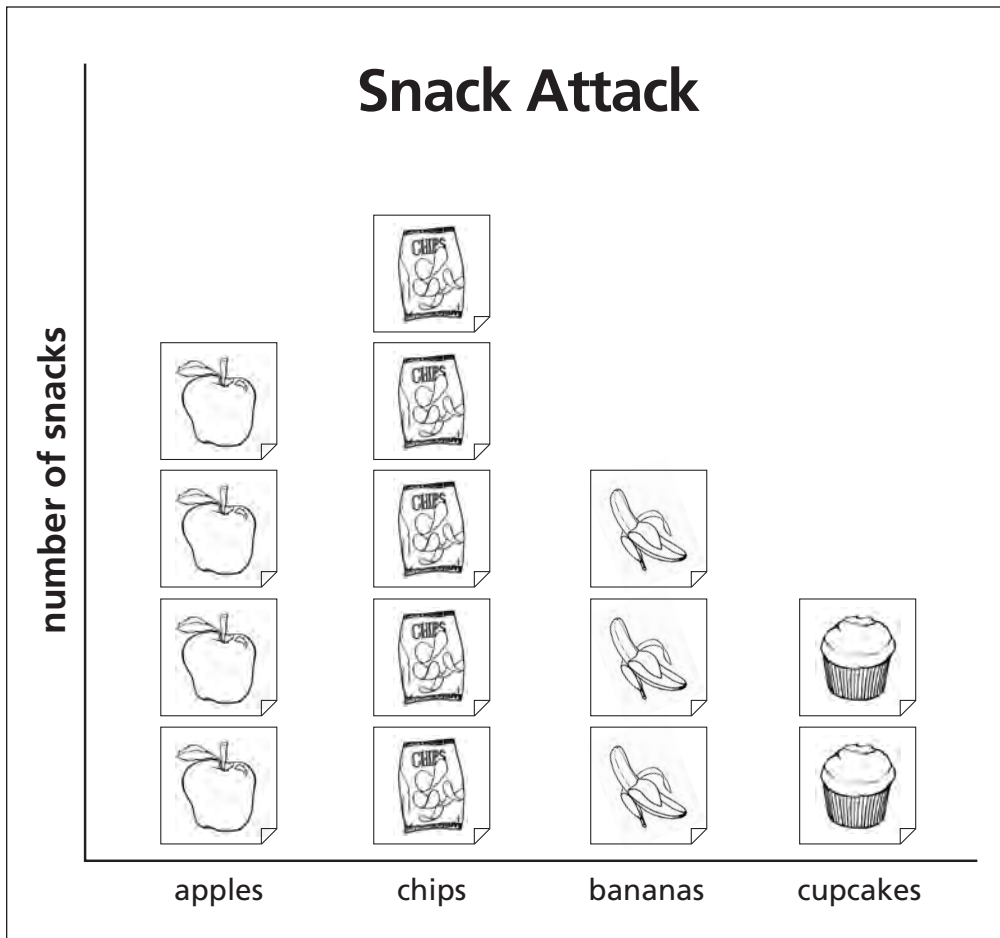


Figure K.2:

Completed pictograph. As you draw snacks from the bag, place the pictures on the pictograph. Try to keep them evenly spaced vertically so that it is easy to see the number of pictures that make up each bar on the graph.

4. After all the pictures are added to the graph, have students count the number of each snack. For example, ask, "How many apples were brought in for snacks?" Write the total number for each snack above the column. Continue this questioning until all the snacks in each of the categories have been counted.
5. Continue the questioning by asking questions such as these:
 - "Which kind of snack did we have the highest number of?"
 - "Which kind of snack did we have the lowest number of?"
6. Discuss the idea of more and less with students. Explain that we can compare the numbers of different things by using these terms. Provide examples to students and then ask them to make some comparisons between categories.

For example, point out that there are four apples and two cupcakes on the graph. Which is the higher number? Because there are four apples but only two cupcakes, we



can say that there are more apples than cupcakes. Ask students if the number of apples is more than or less than the number of bananas. Continue this type of questioning until you are confident that students understand the comparisons. This is an important concept for students to understand for the remainder of the unit.

7. Tell students that over the next several days they will learn more about snacks and the choices they can make to stay healthy.

A circular seal or emblem, rendered in a light orange color. It features a central sunburst or starburst design, surrounded by concentric circles and text. The text is arranged in a circular pattern, but it is too small and faded to be legible. The seal is positioned in the center of the page, overlapping the text.

LESSON 2
WHAT IS
HEALTH?



At a Glance

Overview

In Lesson 2, *What Is Health?*, students explore the idea of being healthy. They “brain-storm” what they know about health and develop a list of more and less healthy activities or foods. The students listen to the Eagle Book story *Through the Eyes of the Eagle* to further develop their ideas about health.

Enduring Understandings

Foods and activities can be classified as more or less healthy.

Teacher Background

The *Dietary Guidelines for Americans* (HHS & USDA, 2005) from the Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA) describe a healthy diet as one that

- emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products;
- includes lean meats, poultry, fish, beans, eggs, and nuts; and
- is low in saturated fats, trans fats, cholesterol, salt (sodium), and added sugars.

The USDA also recommends 60 minutes of physical activity every day, or most days, for children and adolescents. Playtime is often great physical activity for children if the playtime is active and includes such things as running and exercise.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. begin to develop an understanding of the term “healthy.”

They will demonstrate their developing understanding by

- recalling what they know about being healthy,
- naming things they can do to stay healthy,
- considering things that are less healthy, and
- illustrating their ideas of more and less healthy.

2. be able to explain that some things or activities are more healthy than others.

They will demonstrate their ability by illustrating more healthy and less healthy activities on the appropriate handout.

3. develop their listening and observation skills.

They will demonstrate their ability by

- listening to a story read by the teacher,
- recalling more or less healthy behaviors from the story, and
- finding more or less healthy behaviors in the illustrations of the Eagle Book.



In Advance

Teacher Materials

chart paper

markers for chart paper

Eagle Book: *Through the Eyes of the Eagle*

1 coloring book for *Through the Eyes of the Eagle* (optional)

Student Materials

For each student

crayons, markers, or colored pencils

1 blank sheet of drawing paper

1 copy of Copymaster 2.1, *More Healthy*

1 copy of Copymaster 2.2, *Less Healthy*

Preparation

(Optional) Make copies of the coloring book pages from the *Through the Eyes of the Eagle Coloring Book* available on the TRCD. (See p. 49 in the *Teacher Strategies for PreK–K* section for information about ordering the coloring book.)

Process and Procedure

Part I: More and Less Healthy

1. Ask students what they think the word “healthy” means. Prompt the students by asking questions such as, “What do you feel like if you are healthy?” “What do you do when you are not healthy?” Ask them if they have ever been sick.
2. Give each student a copy of Copymaster 2.1, *More Healthy*, and ask them to draw pictures of the things and ideas that will help them be more healthy.

Students might draw pictures of eating healthful foods such as fruits and vegetables or doing fun activities such as riding bikes or playing baseball. As students work on their drawings, circulate around the room and ask questions that can spark ideas in students who are having trouble coming up with ideas or knowing how to draw their ideas.

3. While students are drawing their pictures, draw a T-table on the board or chart paper to record students’ ideas. It should look something like figure K.3.
4. When students complete their drawings, ask for volunteers to share one of their pictures with the class and explain what the picture represents. Add the student’s idea to the “more healthy” column in the T-table.
5. As you write the words on the T-table, repeat the words with the class to help reinforce the written word.

More Healthy	Less Healthy

Figure K.3:
Sample “more healthy and less healthy” T-table.

6. Ask students if they can think of things that might make them less healthy. Give each student a copy of Copymaster 2.2, *Less Healthy*, and ask students to draw things they think could make them less healthy.
7. Again, allow time for students to draw pictures representing things that might make them less healthy.

As students work, circulate among them to monitor their progress and offer support and guidance as needed.

8. Ask students to share their ideas about things that might make them less healthy. Record their ideas on the right side of the T-table in the column titled “less healthy.”
9. Ask students if they agree with the ideas that have been put into the two categories.

If a student feels that a specific item or idea belongs in a different category, ask all of the students to explain why they feel it should belong in a specific category. If students can’t reach a consensus, list it in both categories (if the logic the students use is correct to support both categories).

Note to Teacher: *This T-table should be displayed in the room through Lesson 5, Let’s Get Moving. You will add to this chart several times throughout the unit.*

Note to Teacher: *This is an appropriate breaking point for this lesson. Alternatively, you could break after Step 5, but you would need to review students’ ideas on the “more healthy” side of the T-table before proceeding with Step 6.*

Part II: Story Time: Through the Eyes of the Eagle

1. Read the Eagle Book *Through the Eyes of the Eagle* (30 pages). After reading the book, engage students to think about ways they can be healthy every day.



Depending on the time available and students' attention spans, you may want to limit reading to 15-minute increments. Alternately, preread the book and tell a condensed version of the story as you show the pictures in the book.

2. Go back to pages 2, 3, and 4 in the book and ask the students to tell what the children and people are doing on those pages (playing, dancing, fishing).
3. Give each student a blank sheet of paper and have them draw a picture of something they do that requires them to run, jump, walk, or skip. Do they do any of the activities that students did in the story? Do any of them dance at powwows?
4. Ask students why they think the children on page 20 are not outside playing a game or dancing. What are they doing?

Note to Teacher: *This is an appropriate breaking point for this part of the lesson. If you break here, you will need to spend a few minutes reviewing the story with students before you continue with Step 5.*

5. Ask students if they think watching TV and playing video games all day are like playing a game where they need to run, jump, walk, or skip.
6. Encourage students to think of things they could do that are more active and things they could do that are less active.
7. Add their ideas to the “more healthy and less healthy” T-table from Part I.

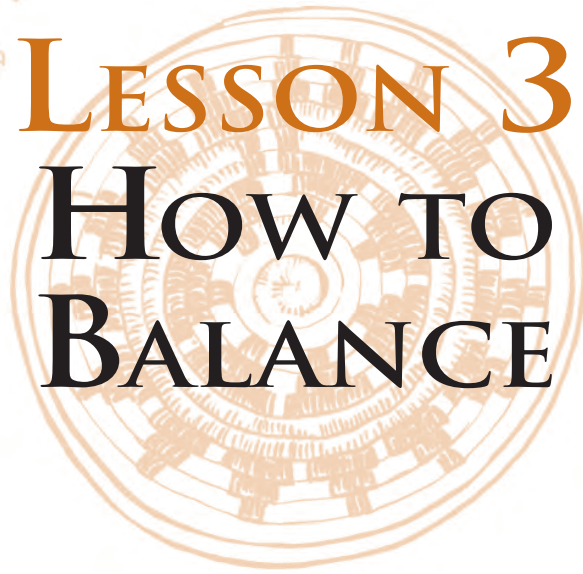


Possible Extension

Give students copies of pages from the coloring book that goes along with the Eagle Book. Allow students to color the pictures.



LESSON 3
HOW TO
BALANCE





Health Is Life in Balance

At a Glance

Overview

In Lesson 3, *How to Balance*, students practice balancing objects and their own bodies. They then connect good health with balance.

Enduring Understandings

Good health is like a body in balance.

Teacher Background

For a physical state, balance is shown when an object rests without tipping on a smaller, narrower object. In the context of health issues, balance is a state of harmony where nothing is out of proportion or overemphasized at the expense of the rest. The term healthy means the condition of being sound in body, mind, and spirit. See the *Life in Balance* section of *Introductory Information* for more information.

Outcomes and Indicators of Success

By the end of this activity, students should be able to

1. begin to understand balance.

They will demonstrate their understanding by

- observing a balanced object,
- balancing objects on their heads,
- balancing their bodies by standing on two feet and then one foot, and
- describing activities that require balance.

2. conceptually connect balance with good health.

They will demonstrate their ability by

- observing a demonstration of being off balance and
- participating in a discussion of how doing too many less healthy things may make our bodies off balance or unhealthy.

In Advance

Teacher Materials

- 1 book
- 1 overhead projector
- 1 transparency of Copymaster 3.1, *Balance*

Student Materials

For each student

- crayons, markers, or colored pencils (optional)
- 1 enlarged copy of Copymaster 3.1, *Balance* (optional)



Process and Procedure

1. Begin this lesson by walking around the room with a book balanced on your head. Ask students to describe what you are doing.

Some may say that you are balancing a book on your head. Allow students to try to balance a book on their heads and then try to walk.

2. Ask students what they know about balance.

Students' responses will help you determine what preconceptions students have about balance.

3. Ask students to stand up and put their arms out to the side. Ask them if they feel like they might fall over to either side.

Students will likely state that they feel very stable and in balance.

4. Ask students to stand on one foot and keep their arms out to the side. Ask, "What happens when you stand on one foot?" Then ask, "Are you off balance?"

Most should agree they feel off balance. Some students may find it easy to balance. You can ask them if it is harder than when they stood with both feet on the ground.

5. Make the connection between balance and good health by demonstrating balance once again to students by doing an activity such as walking with a book on your head or standing on one foot. Tell the students that being healthy is like being able to balance or being in balance. If you do too many things that are less healthy, then you may get off balance and not be healthy.

Consider acting out the off-balance scenario to connect it to being unhealthy.

6. Show students a transparency of Copymaster 3.1, *Balance*, which shows pictures of things that require balance. Talk about each picture and have students tell you how it shows balance.

If you wish, you can enlarge the pictures and give each student a copy to color.



LESSON 4
MORE OR LESS:
EVERYDAY AND
SOMETIMES FOODS



Health Is Life in Balance

At a Glance

Overview

In Lesson 4, *More or Less: Everyday and Sometimes Foods*, students connect the ideas of more and less to foods. Students continue to strengthen their grouping skills as they consider which foods should be eaten every day and which ones should only be eaten sometimes. They listen to the Eagle Book story *Tricky Treats* to learn more about making healthful food choices. In the second part of the lesson, students consider elders or other adults whom they trust, listen to, and learn from. Students name health professionals with whom they are familiar.

Enduring Understandings

- A healthy diet includes some foods that are eaten every day and some foods that are only eaten sometimes.
- Messengers are elders or other adults who we can trust, listen to, and learn from.

Teacher Background

The USDA recommends that we eat a variety of foods. You can find these recommendations on the *MyPyramid for Kids* poster from the TRCD or the USDA's Web site, <http://www.mypyramid.gov/kids/index.html>. It is not that some foods are inherently bad or good but that some foods should be eaten less often or more often. The width of the colored bands on the food pyramid indicate those foods we need more of and those that we should eat less of. The purple band for meat and the yellow band for oils are smaller than the bands for fruits and vegetables and whole grains. This visually indicates what foods we need more of and what foods we need less often.

In this lesson, students explore snack choices. These snacks may be fresh fruits or vegetables that would be good to eat more often, or “everyday foods.” Other snacks may be chips (high in oils) or sweets. These snacks should be eaten less often, or classified as “sometimes foods.”

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand that a healthy diet includes foods that should be eaten every day and foods that should only be eaten sometimes.

They will demonstrate their understanding by

- categorizing snacks, on a T-table, as everyday foods or sometimes foods,
- selecting new snacks that are healthful and should be eaten every day,
- connecting everyday and sometimes foods with the concept of more and less,

Lesson 4: More or Less: Everyday and Sometimes Foods

Explain



- finding everyday and sometimes foods in magazine pictures and making a mobile of each type of food, and
 - eating a healthful snack that is an everyday food.
2. realize the importance of people we can trust, listen to, and learn from.
- They will demonstrate their realization by
- considering whether Tricky Coyote from the Eagle Book *Tricky Treats* is trustworthy and
 - naming elders or other adults whom they trust and learn from.
3. name health professionals they can listen to and learn from.
- They will demonstrate their ability by naming various health professionals for specific needs.

In Advance

Teacher Materials

- chart paper (optional)
- markers for chart paper (optional)
- glue or tape
- Eagle Book: *Tricky Treats*
- 1 coloring book for *Tricky Treats* (optional)
- scissors
- coat hangers and string for making food mobiles
- healthful snacks of fruits, vegetables, and water
- pictograph from Lesson 1
- 1 color copy of the *Health Is Life in Balance* poster from the TRCD
- 1 color copy of the *MyPyramid for Kids* poster from the TRCD
- 1 copy of Copymaster 1.1, *Snack Attack* (see *Preparation*)

Student Materials

For Each Student

- crayons, markers, or colored pencils
- magazines with pictures of food, clip art pictures of food, or drawing paper
- scissors
- 1 glue stick or paste
- 1 copy of either Copymaster 4.1, *Messenger Man*, or Copymaster 4.2, *Messenger Woman*

Preparation

Cut out the pictures from a copy of Copymaster 1.1, *Snack Attack*.

Read the Eagle Book *Tricky Treats* before this lesson to become familiar with the story. When introducing the book to the children, you may want to tell the story in your own words before reading it to them. This storytelling approach engages the students' attention.

Make copies of the coloring book pages from the *Tricky Treats Coloring Book* (optional).

Cut string and gather clothes hangers for the food mobile activity.

Gather healthful snacks for the class or ask parent volunteers to bring snacks for the students. If you get volunteers, make sure they know the kind of everyday snacks that you need for the activity. Find out if any students have allergies or sensitivities to specific foods and ensure that problematic foods are not included in the snacks.

Process and Procedure

Part I: Everyday Foods and Sometimes Foods

1. Remind students of the activity they did in Lesson 1, *Snack Attack*, where they counted the number of different snacks that another class brought to school. Have students look at the pictograph that they completed during that lesson. Ask students if they think a person should eat the same amount of all foods.

Allow several students to express their opinions and explain why they think a person should or should not eat the same amount of all foods. You can either leave the question open ended to apply to all foods or you can use specific examples of foods shown in the pictograph. Ask students to express their ideas in terms of more than or less than. For example, a student might say that a person should eat more apples than cupcakes (although some students might give the opposite answer!).

After students express the idea that a person should eat more of some foods than others, explain that they will use some other words that can help them make decisions about what to eat. Draw a T-table on the board (or chart paper). At the top of the left-hand column, write "everyday foods" and at the top of the right-hand column, write "sometimes foods" (see figure K.4). Ask students if they know what these words mean.

Everyday Foods	Sometimes Foods

Figure K.4:
Sample "everyday and sometimes foods" T-table.



Help students with the words and ask them to repeat them with you. Explain that things in the “everyday” column are likely to be the things that we would eat more of and things that are in the “sometimes” column are things that we would probably eat less of.

2. Ask students to choose one of the snack foods in the pictograph. Ask them which column they think that food should go in—“everyday” or “sometimes.” After students give their opinions, glue or tape the picture of the snack to the appropriate column. Repeat for all the foods in the pictograph.

Things that belong in the everyday category include apples and bananas. Things that belong in the sometimes category include chips and cupcakes. If you think a student wants to put a food in an inappropriate category, ask other students in the class if they agree with where you put the picture in the chart or whether you should move it. Ask students where they think other foods, such as carrots, soda, strawberries, candy bars, or other favorite snacks would fit on T-table.

Explain to students that when picking a snack or treat, it is best to eat fruits and vegetables and to drink water. Small amounts are better, and we should try to avoid foods with a lot of sugar or fats.

3. Hold up the Eagle Book *Tricky Treats* and briefly tell the story to the students. Discuss the different snacks that the children had in their backpacks and how Coyote tried to trick them into eating something that is not good for them. Open the book to page 16 and read the wise words of Mr. Eagle:

“When picking a snack or a treat, we need to make sure it does not have a lot of sugar in it. We also need to remember that small amounts are better. Fruits and vegetables every day make for healthy snacks too. ... I am very proud of all my new friends. You have taken the time to learn how to stay healthy. Coyote, I hope you will not try to trick the children into eating something you know is not good for them.”

Note to Teacher: *You may want to make copies of pages from the Tricky Treats Coloring Book to use with your students. This is an appropriate breaking point for this activity.*

4. Ask students to name some new everyday and sometimes foods that they learned about from the story. Draw pictures of the food items in the T-table for those students who are not yet reading.

Ask students to name other foods or drinks and decide if they are everyday or sometimes foods.

5. Explain to students that they will make food mobiles. Students will collect pictures of different kinds of foods and sort them by putting everyday foods in one pile and sometimes foods in another pile.

Have students cut out foods from magazines or clip art or draw their own pictures of foods. Ask students to sort the foods into everyday and sometimes foods, and into foods they should eat more of or less of. Have them explain why. Using coat hangers and strings, create one mobile for everyday foods and one for sometimes foods. Suspend each food picture from the coat hangers by a piece of string, making a colorful mobile. To reinforce the idea of more and less, include more pictures and foods for the everyday (more) foods than you do for the sometimes foods. Hang the food mobiles in the classroom to remind the students of their ideas.

6. Have a healthful snack of fruits, vegetables, and water for the class.

At the close of the lesson, remind students of the message from *Tricky Treats*: Choose everyday food snacks like fruits and vegetables, eat small amounts, drink plenty of water, and move your body every day!

Part II: Important Messengers

1. Discuss with students the importance of listening to people you trust.

Remind students of the tricky Coyote in the story *Tricky Treats* and how he tried to trick the children. Ask students if the Coyote is someone they would trust. Ask students to name people they trust and listen to. Students should name parents, grandparents, teachers, doctors, and so on.

2. Ask students to think about someone who can help them learn more about ways to keep healthy.

Who do we go to when we are sick? Who is someone we can “listen to and learn from”?

3. Remind the students that in the Eagle Book *Through the Eyes of the Eagle*, the great bald eagle is a new friend of Rain That Dances.

Ask students to think about people they get information from. Examples include teachers, friends, parents, and grandparents.

Who helps them, teaches them new things, or helps them understand things? Examples include their mothers, fathers, aunts, uncles, and brothers or sisters.

4. Ask the following questions to build a list of health professionals that people can trust and learn from:
 - “When you are sick, who do you visit at the clinic?”
 - “When you have a toothache, who do you see?”



- “When you need new glasses, who do you go to?”
 - “At school if you get hurt, who helps you?”
5. Tell the students that sometimes these people are called “messengers” because they can give us a message of good health.
 6. Ask students to choose either the *Messenger Man* (Copymaster 4.1) or *Messenger Woman* (Copymaster 4.2) handout. Ask students to name an important messenger they trust and color their handouts to represent that person.

As students are coloring their handouts, visit each student and write the name of the messenger on the top of the handout.

7. Display all of the messenger pictures in the room. Arrange the messengers in a circle similar to that shown on the *Health Is Life in Balance* poster. Have students share about their messenger with the rest of the class.



LESSON 5
LET'S GET
MOVING





Health Is Life in Balance

At a Glance

Overview

Lesson 5, *Let's Get Moving*, shifts the focus from more and less healthful foods to more and less healthy activities. Students listen to the Eagle Book story *Knees Lifted High* and add activities to their more healthy and less healthy T-table lists from Lesson 2, *What Is Health?* They participate in a physical activity described in the story. In Part II of the lesson, students participate in a traditional Round Dance to tie together balance, physical activity, and cultural connections.

Enduring Understandings

- Staying physically active is important for good health.
- Physical activity can include traditional American Indian and Alaska Native dances.

Teacher Background

Staying active to expend the Calories taken in as food is important for our bodies. Many modern-day children's activities are less active than in past times. The Round Dance can be used as a physical activity as well as a way to reinforce the importance of traditional activities. Doing the Round Dance shows students that they need to use their minds and bodies to make good choices every day: to be active and to eat good foods every day.

The Round Dance goes by many names for different tribes: *Kahomni*, 2-Step, Owl Dance, and Rabbit Dance. It is a social dance that often is a part of Native American powwow activities. A powwow is a celebration where people gather to sing Native American songs, dance, see family and friends, conduct honorings such as giveaways, and engage in competition in singing and dancing. For more information, see the *Life in Balance* section of *Introductory Information*.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. sharpen their listening and comprehension skills.

They will demonstrate their ability by

 - actively listening to the Eagle Book story *Knees Lifted High* and
 - listening for and naming more and less healthy activities from the story.
2. begin to understand the difference between activities that are more or less healthy.

They will demonstrate their understanding by categorizing activities as more or less healthy.
3. deepen their appreciation of American Indian or Alaska Native culture.

They will demonstrate their appreciation by



- listening to a story about American Indians,
- participating in a physical activity from the story *Knees Lifted High*, and
- participating in an American Indian and Alaska Native cultural dance.

In Advance

Teacher Materials

more healthy and less healthy T-table from Lesson 2

1 hand drum (optional)

Native American music on the TRCD

Round Dance video on the TRCD (optional)

1 CD player

Eagle Book: *Knees Lifted High*

1 coloring book for *Knees Lifted High* (optional)

1 overhead projector

1 color copy of the *Health Is Life in Balance* poster from the TRCD

Student Materials

For each student

1 copy of Copymaster 5.1, *School-to-Home Activity: The Round Dance*

Preparation

Read the Eagle Book *Knees Lifted High* before this lesson to become familiar with the story. When introducing the book to the children, you may want to tell the story in your own words before reading it to them. This storytelling approach engages the students' attention.

Make copies of the coloring book pages from the *Knees Lifted High Coloring Book* (optional).

Listen to the music on the TRCD. Decide which passage you will use for the Round Dance in Part II. You could also use a hand drum to create music or you could locate music from another source.

If you are not familiar with doing the Round Dance, watch the video on the TRCD to learn more about how to do the dance.

Process and Procedure

Part I: Story Time: Knees Lifted High

1. Ask students to think about what they have been learning about more healthy and less healthy.

This does not need to be a long discussion. As soon as you know that students remember the main points about things that can make a person more healthy or less healthy, move on to the next step.

2. Ask students to sit in a reading circle. Read pages 1–9 of the Eagle Book *Knees Lifted High*. Ask students if they heard anything in the story that could be listed as more healthy or less healthy.

Reread some of the story if students do not remember the references to physical activity. Call their attention to the pictures on pages 8 and 9 of the story. For more healthy, students should name playing outside, working hard, and keeping strong and fit. Tell the students that these represent a physical activity (any activity where the body is moving). They should name staying inside, watching television, and playing video games as less healthy.

3. Ask students why they think it's important to move our bodies. Ask, "What would happen to our bodies if we sat all day?"
4. Continue reading *Knees Lifted High*. Ask students to listen for more activities they can add to the more healthy and less healthy lists. Add these activities to the T-table lists (more healthy and less healthy from Lesson 2) as they appear in the story. When you get to page 24, have students stand and follow the instructions for the activity.

Part II: Let's Move: Dancing the Round Dance

1. Introduce students to the Native American Round Dance and help them make the connection to a traditional physical activity. Display the *Health Is Life in Balance* poster.

Ask students if they have ever played a game in a circle. Have several students voice their answers. Ask students if they have ever participated in dances. Inform students that dances are important activities in the lives of American Indian and Alaska Native tribes. One dance that is part of many tribes is the Round Dance.

Note to the Teacher: Tell students that the people in the poster are dressed in their dance regalia and doing an American Indian dance sometimes known as a Friendship Dance. The Round Dance is a way to show how life works in a circle, and holding hands shows how the circle is connected.

2. Explain to students that they will be participating in a Round Dance as a way to participate in a physical activity and remember the significance of the circle.

For more information on the importance of circles to many American Indian and Alaska Native cultures, refer to the *Life in Balance* section of *Introductory Information*.



- 3. Start playing an American Indian or Alaska Native song from the TRCD or another source. Join in the circle and ask students to follow you in the dance. Move in a circle clockwise.**

Students can pick up the dance fairly easily by watching your movements. If they don't know the "beat," remind them to keep moving. While students are dancing, inform (or remind) them that this is called the Round Dance. Native Americans have used this dance for many years to celebrate friendship and unity among all people.

The emphasis for this activity is on rhythmic movement together in a circle, not on the form or execution of the dance steps. Don't worry about doing the dance "correctly." At powwows or ceremonies, the point of the Round Dance or friendship dance is for everyone to participate, regardless of their skill level.

- 4. After dancing one complete circle, discuss the idea of balance.**

Discuss how all the dancers have to move together at the same speed to reinforce the idea of balance.

Have students start the dance again, and then have students act out imbalance, with some taking bigger steps, some smaller steps, some faster steps, and some stopping. Some may want to hop on one foot or both feet.

Discuss how this makes the circle out of balance. All the parts must work together to keep the circle moving smoothly.

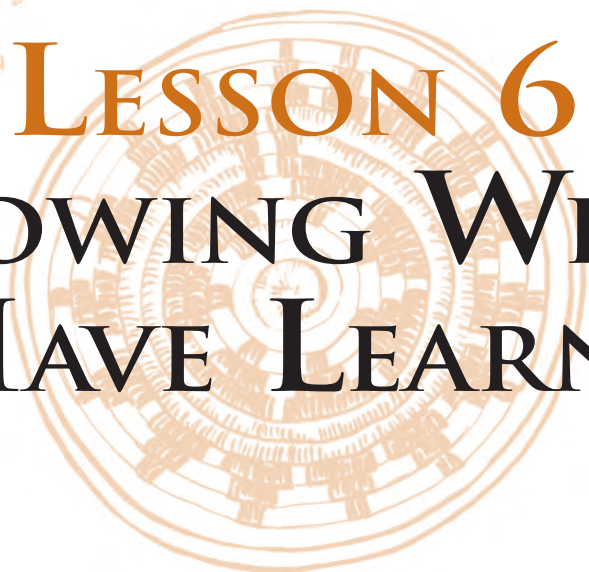
- 5. After the students have finished with the dance, guide them in a discussion about their experience.**

Reinforce the idea that doing the Round Dance in this way shows them that they need to use their minds and bodies to make good choices every day: to be active every day and to eat good foods every day.

- 6. Distribute Copymaster 5.1, *School-to-Home Activity: The Round Dance*, to each student. Tell students to give this handout to their parents, caregivers, or older siblings. Tell them that this is a way to share what they are doing with their family.**



LESSON 6
SHOWING WHAT
I HAVE LEARNED





Health Is Life in Balance

At a Glance

Overview

In Lesson 6, *Showing What I Have Learned*, students demonstrate what they have learned in the previous lessons of the unit. They will categorize a set of foods and activities as more or less healthy.

Enduring Understandings

Because this is an Evaluate lesson, there are no new major concepts for this lesson. Students will be synthesizing the concepts they learned during previous lessons.

Teacher Background

There is no additional teacher background for this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. demonstrate their understanding of foods and activities that are more or less healthy.

They will demonstrate their understanding by

- sorting foods and activities into the categories of more or less healthy and
- placing the foods and activities in the appropriate place on the handout.

2. demonstrate that they can make good health choices.

They will demonstrate their ability by

- choosing a food that they will eat more of or less of to have a healthier diet,
- illustrating the food choice,
- choosing an activity to do more of or less of to promote good health, and
- illustrating the chosen activity.

In Advance

Teacher Materials

scissors

1 overhead projector

1 transparency of Copymaster 6.1, *Showing What I Have Learned Chart*

Student Materials

For each student

crayons, markers, or colored pencils

1 glue stick or paste

scissors (optional)

Lesson 6:
Showing What
I Have Learned
Evaluate



1 copy of Copymaster 6.1, *Showing What I Have Learned Chart*

1 set of pictures cut from Copymaster 6.2, *More or Less Healthy Pictures* (see *Preparation*)

Preparation

Cut apart the pictures on Copymaster 6.2, *More or Less Healthy Pictures*, before class begins. Each student will need one set of pictures. Alternatively, you can give students scissors and a copy of Copymaster 6.2 and have them cut out the pictures themselves. Students could also draw their own pictures in the chart.

Process and Procedure

1. Remove the “more healthy or less healthy” T-table created during Lesson 2, *What Is Health?*, from the room.

In this lesson, your students will demonstrate what they have learned in this unit.

2. Give each student a copy of Copymaster 6.1, *Showing What I Have Learned Chart*. Also give each student a set of pictures cut from Copymaster 6.2, *More or Less Healthy Pictures*.

Note to Teacher: *This is an opportunity to differentiate your instruction to meet the needs of individual learners. Adjust the number of items based on your students' abilities.*

3. Tell students to first sort their pictures into two piles. Explain that they should put pictures of foods and activities that are more healthy into one pile and foods and activities that are less healthy in another pile.

Give students time to complete the task.

4. Display a transparency of Copymaster 6.1 and clearly show students which column is the “more healthy” column. Tell students to paste all their pictures from their more healthy pile in this column.
5. Point out the “less healthy” column on Copymaster 6.1. Ask students to paste their pictures of less healthy foods and activities in this column.
6. Have students choose a food that they like to eat. Ask them to draw a picture of that food and decide if it is a food they should eat more of or less of to be healthy. Students can draw their pictures on the back of their handouts.

Because students at this age may not write much yet, they can use pictures to indicate whether their decision is to eat more or less of the food. For example, a happy face would indicate that they can eat more of this food because it is healthy and a sad face would mean that they should eat less of this food. Another alternative is that students draw a big picture to indicate they can eat more of the food and a little picture to indicate that they should eat less of the food.



Encourage students to choose foods that have not been mentioned or pictured in earlier lessons or activities. For example, students may decide to eat less of sugar-coated cereal or drink less soda.

7. Ask students to choose an activity that they like to do. Again, ask them to draw a picture of that activity and decide if it is something they should do more of or less of to be healthy.

Activities such as riding a bike, walking, playing kickball, and swimming are examples of things that students should probably want to do more of to be healthy because they involve a lot of physical movement. Things like playing video games or watching television should probably be done less because most students do quite a bit of these activities and they don't involve much physical activity.

Assessment Opportunities

As students draw their pictures, circulate among them. Ask them about their pictures and why they are deciding that a food is something that they should eat more of or less of or why an activity is something they should do more often or less often.





Health Is Life in Balance

Exploring Health and Foods

PREK-K UNIT COPYMASTERS

Copymaster 1.0, *Letter to Parents or Caregivers*

Copymaster 1.1, *Snack Attack*

Copymaster 2.1, *More Healthy*

Copymaster 2.2, *Less Healthy*

Copymaster 3.1, *Balance*

Copymaster 4.1, *Messenger Man*

Copymaster 4.2, *Messenger Woman*

Copymaster 5.1, *School-to-Home Activity: The Round Dance*

Copymaster 6.1, *Showing What I Have Learned Chart*

Copymaster 6.2, *More or Less Healthy Pictures*

Dear Parents or Caregivers,

Welcome to the Diabetes Education in Tribal Schools program. Your child will be learning the *Health is Life in Balance* curriculum, which will provide a learning experience in areas of type 2 diabetes, obesity, and prevention. This letter gives you an overview of the background and characteristics of the curriculum. We will also request your help in making the learning experience for your child more meaningful by including family and at-home activities designed to reinforce lessons in the curriculum. Your active involvement in the curriculum activities has the potential to positively affect the health of your child.

“The Diabetes Epidemic” Need for New Curriculum

Diabetes in American Indians and Alaska Natives (NDIC, NIDDK, NIH)

www.niddk.nih.gov

- Diabetes has tripled in the last 30 years.
- Type 2 diabetes is steadily increasing in children.
- The prevalence of obesity is steadily increasing in children.
- About 14 percent of 12 to 19-year-olds are classified as obese.
- The Centers for Disease Control and Prevention predicts 1 out of 3 American children born since 2000 will develop diabetes.
- About 15 percent of American Indians and Alaska Natives have been diagnosed with diabetes.
- American Indians and Alaska Natives are 2.6 times more likely to have diagnosed diabetes.
- Type 2 diabetes is becoming increasingly common in all youth, especially American Indian and Alaska Native youth.
- American Indians and Alaska Natives have physiological and lifestyle risk factors for type 2 diabetes.
- Both diet and physical activity have changed for many American Indian and Alaska Native groups over the past several decades.

With these grim statistics, one fact is encouraging: ***type 2 diabetes can often be prevented or delayed through a balanced lifestyle that includes healthy eating and activity habits and maintaining normal weight.*** Clearly, for the

millions of children who are likely to develop diabetes, learning how to make healthful food and activity choices and why they should is potentially lifesaving.

Health curriculum materials usually cover diet and activity, but not always from a scientific perspective. Also, not all schools offer health as a subject at all grade levels. So instructional materials that explore the science of healthy lifestyles and diabetes prevention are valuable. In addition, *Health Is Life in Balance* is designed to be culturally appropriate for a highly vulnerable group of children, American Indian and Alaskan Native students, as well as for their classmates from diverse ethnic backgrounds.

Overview of the K–4 Curriculum Plan: Enduring Concepts

- Health is life in balance.
- All animals need nutritious food and daily exercise to stay healthy.
- Humans obtain energy from the sun by eating a variety of plant and animal sources of food in balance.
- Diabetes is an imbalance of health at many levels.
- Personal health behaviors can help reduce the risks of diabetes.
- Making healthy choices includes many aspects of life: food, water, rest, exercise, senses, safety, and relationships with others.
- The Circle of Life represents balance in important aspects of life: body, mind, feelings, and environment.
- Traditional food sources and physical activities of Native American ancestors are different than those in the present day, and we can learn important things from the past.
- Individuals, families, and communities can work together to maintain health and prevent diseases.
- Students can develop skills and have opportunities to become scientists or health providers.

The Round Dance

The Round Dance graphic on the next page shows concepts of balanced lifestyles in an age-appropriate, appealing way that is relevant for American Indian children. Many tribes and intertribal groups use the Round Dance as a representation of the Circle of Life that promotes balance, friendship, unity, equality, and the earth. Both the latest medical research about preventing disease and promoting health and the traditional teachings of Native Americans emphasize ideas of balance in a person's whole life. Thus, it is a central theme for our materials. This curriculum uses the Round Dance to promote nutrition, physical activity, diversity, and respecting self and others—thus illustrating *Health Is Life in Balance*.

Health Is Life in Balance was developed by educators from eight Tribal Colleges and their university partners. Team members frequently consulted with in-service teachers and reviewed research on science education, early education, and culturally appropriate education for American Indian students. Funding for the Diabetes Education in Tribal Schools program is provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) within the National Institutes of Health (NIH).

We would like to again welcome parents and caregivers to the *Health Is Life in Balance* curriculum. It is our hope that your participation in the school-to-home activities will help engage your child in his or her learning and that the materials will be beneficial in guiding your children to lead healthy lives.















Sincerely,





1.1

Snack Attack





2.1

More Healthy





2.2

Less Healthy

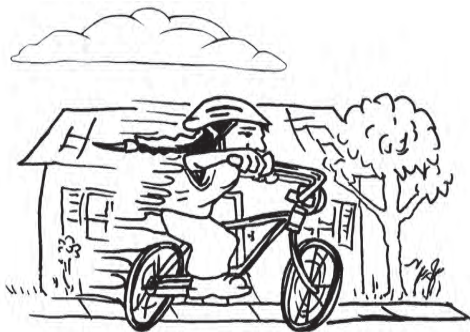




3.1



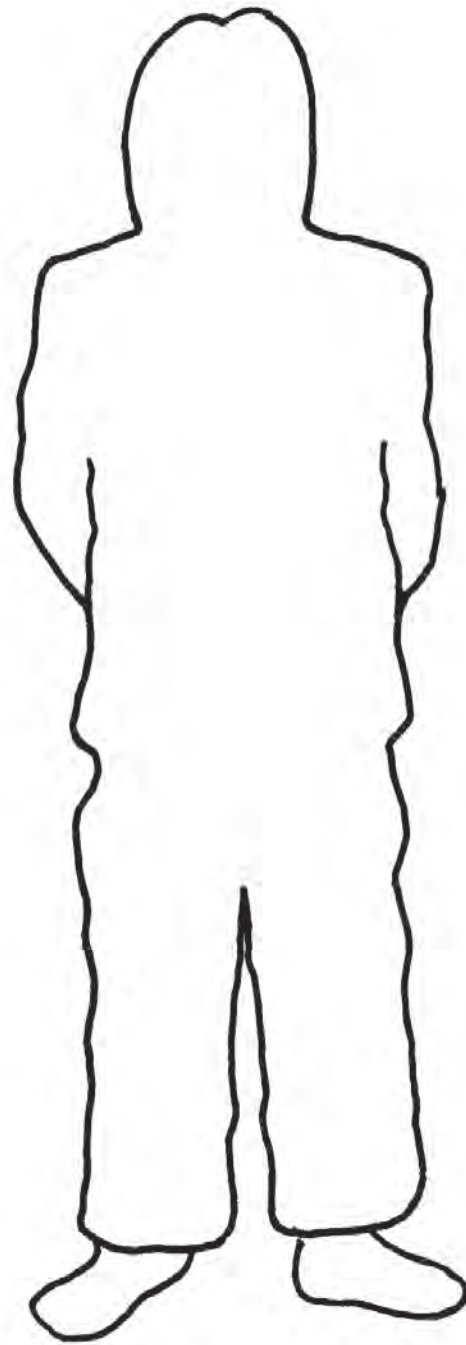
balance





4.1

Messenger Man





4.2

Messenger Woman





5.1

School-to-Home Activity:

The Round Dance

Your child is learning about the Native American Round Dance, a social dance that is done by many tribes. Your child is learning that the Round Dance is one example of physical activity that is special to many Native American tribes.

The Round Dance goes by many names for different tribes: *Kahomni*, 2-Step, Owl Dance, and Rabbit Dance. It is a social dance that often is a part of Native American powwow activities.

A powwow is a celebration where people gather to sing Native American songs, dance, see family and friends, conduct honorings such as giveaways, and engage in competition in singing and dancing.

Powwows take place all over the United States and Canada. During the summer months, there is usually a powwow every weekend in different areas of the United States. Contact the tribe in your area and find out when their annual celebration or powwow takes place. Take your family to the powwow and participate in the intertribal dancing and the round dancing. Powwows are social events and are open to the public (some powwows may require an admission fee). You will find that a powwow is well attended by Native American and non-Indian people alike.

Listen to the master of ceremonies (MC), who is the official who lets everyone in attendance know that activities and events are taking place during a powwow. The MC will let the audience know when the dances are taking place where anyone is welcome to participate. These dances are called Intertribals; or the MC will call for the Round Dance.





5.1

Your children can show you what they have learned in their classes by your family's attendance and participation at a powwow. It will also reinforce the importance of physical activity as your family strives to stay in balance and be healthy.

Web resource for more powwow information:

Powwows.com

www.powwows.com





6.1

Showing What I Have Learned Chart

More Healthy

Less Healthy

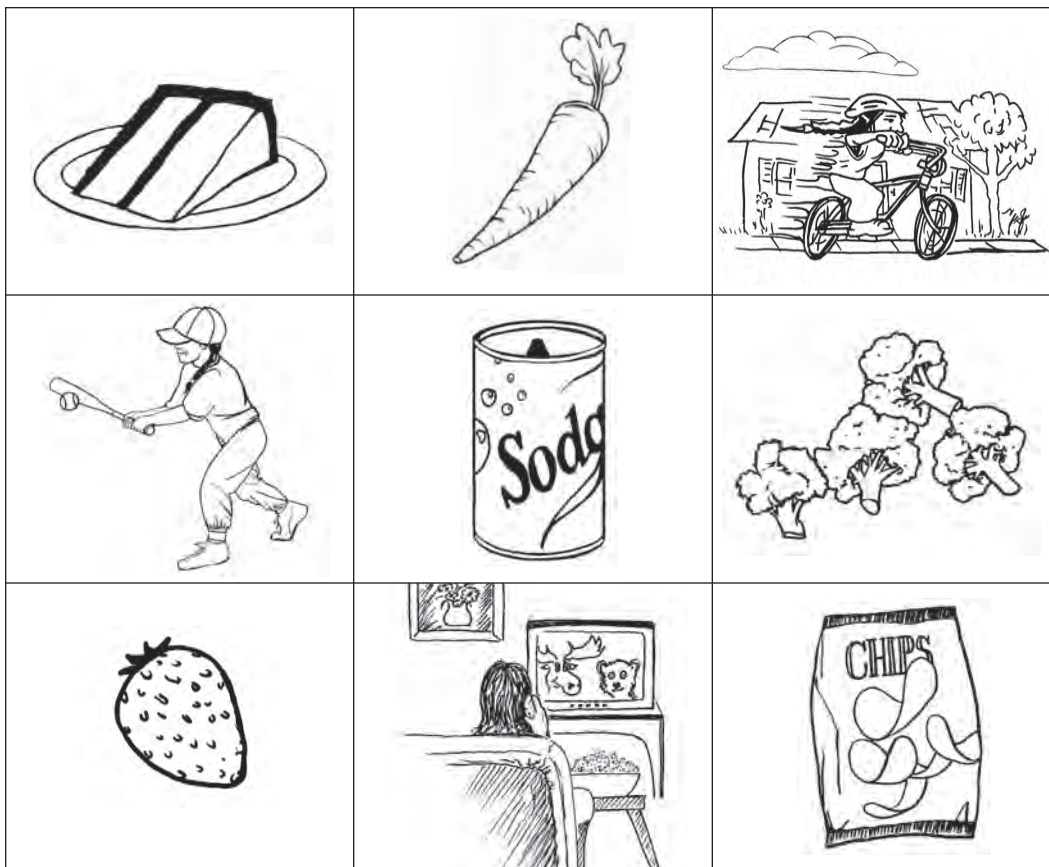
More Healthy	Less Healthy





6.2

More or Less Healthy Pictures





6.2





Health Is Life in Balance

Health Is Life in Balance

Grades 1–2

UNIT 1: WHAT IS A HEALTHY BALANCE?





Unit 1 Overview

The Diabetes Education in Tribal Schools (DETS) Grades 1–2 Unit 1, *What Is a Healthy Balance?*, consists of five lessons and takes five class sessions of 30–40 minutes to complete. Students will explore balance and healthy choices. These choices will be connected to four areas of our lives that work together to keep us healthy and in balance.



Unit 1 Correlation with National Standards

National Science Education Standards

In today's classroom, it is important that curriculum materials help teachers address the standards that have been set for various subject areas. The content of this curriculum unit ties directly to the National Research Council's 1996 *National Science Education Standards*. The following chart indicates which standards are addressed by the different lessons within Unit 1.

Content Standards: Grades K–4

Content Standard A: As a result of activities in grades K–4, all students should develop	Correlation with the DETS 1–2 Unit 1
Abilities necessary to do scientific inquiry	
<ul style="list-style-type: none"> Communicate investigations and explanations.. 	Lesson 3
Understandings about scientific inquiry	
<ul style="list-style-type: none"> Scientists use different kinds of investigations depending on the questions they are trying to answer. Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting).. 	Lessons 1, 3
<ul style="list-style-type: none"> Scientists develop explanations using observations (evidence) and what they already know about the world (scientific knowledge). Good explanations are based on evidence from investigations. 	Lesson 2
Content Standard B: As a result of the activities in grades K–4, all students should develop an understanding of	
Position and motion of objects	
<ul style="list-style-type: none"> The position of an object can be described by locating it relative to another object or the background. 	Lesson 2
Content Standard F: As a result of activities in grades K–4, all students should develop understanding of	
Personal health	
<ul style="list-style-type: none"> Individuals have some responsibility for their own health. Students should engage in personal care—dental hygiene, cleanliness, and exercise—that will maintain and improve health. 	Lessons 1, 3, 4
<ul style="list-style-type: none"> Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat 	Lessons 1, 3

Source: Reprinted with permission from *National Science Education Standards*. © 1996 by the National Academy of Sciences, National Academies Press, Washington, D.C.



National Health Education Standards

The content of Unit 1 also meets several of the *National Health Education Standards*, as outlined in the chart below.

This unit also addresses standards in the areas of language arts, math, and social studies (see appendix A).

Standards and Performance Indicators: Pre-Kindergarten–Grade 2.

Standard Number	National Health Education Standard	Correlation with the DETS 1–2 Unit 1
1	Students will comprehend concepts related to health promotion and disease prevention to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
1.2.1	Identify that healthy behaviors affect personal health.	Lessons 1, 3
1.2.2	Recognize that there are multiple dimensions of health.	Lessons 1, 2, 3
7	Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
7.2.1	Demonstrate healthy practices and behaviors that maintain or improve personal health.	Lesson 5

Source: Reprinted with permission, from the American Cancer Society. *National health education standards: Achieving excellence* (2nd ed.). Atlanta, GA: American Cancer Society. 2007, www.cancer.org/bookstore.

Teacher Strategies for Unit 1

Timeline for the Lessons

The timeline provides a guideline for completing the five lessons in Unit 1. The actual amount of class time needed for the unit will reflect the practice of individual teachers. Some classes will spend more time on activities and discussions than others. Depending on the amount of time available, you may need to complete lessons over multiple days.

Lesson 1, *More Healthy or Less Healthy*: 30 minutes

Lesson 2, *What Is Balance?*: 30 minutes

Lesson 3, *Myself in Balance*: 30–40 minutes

Lesson 4, *Let's Move: Dancing the Round Dance*: 30 minutes

Lesson 5, *Milo's Family: A Message of Good Health*: 30–40 minutes

The timeline assumes that you will teach the lessons on consecutive days. If several days separate the lessons, you may need additional time to review the previous lessons. This review will help students make stronger connections between the lessons.

Advance Preparation

2 Weeks Ahead

Begin reviewing lessons.

The information on Copymaster 1.3, *School-to-Home Activity: What Helps a Person Be Healthy?*, is from the National Diabetes Education Program (NDEP) Web site. If you wish, you can order printed copies of the publication from the NDEP Web site, http://www.ndep.nih.gov/diabetes/pubs/Power_tips.pdf.

1 Week Ahead

Make photocopies and transparencies.

Gather necessary materials.

If you wish, send home a copy of Copymaster 1.0, *Letter to Parents or Caregivers*, with each student. Print it on school letterhead, if appropriate. This letter provides some basic information about diabetes for students' families and explains the educational goals for the curriculum that students will be experiencing.

Teacher Materials for the Unit

chart paper

butcher paper (optional)

markers

tape



- 1 paper plate
- 1 glue stick or pencil
- 1 ball of clay
- 3 pennies
- scissors
- 1 hand drum (optional)
- 1 color copy of the *Health Is Life in Balance* poster from the TRCD
- Native American music on the TRCD
- Round Dance video on the TRCD (optional)
- 1 CD player
- 1 overhead projector (optional)
- 1 transparency of Copymaster 5.2, *Healthy Choices* (optional)
- 1 copy of Copymaster 5.1, *A Story about Milo Tatanka*
- 1 copy of Copymaster 5.3, *Messages for Good Health* (optional)

Student Materials for the Unit

For each student

- crayons, markers, or colored pencils
- 1 copy of Copymaster 1.0, *Letter to Parents or Caregivers* (optional)
- 1 copy of Copymaster 1.1, *More Healthy*
- 1 copy of Copymaster 1.2, *Less Healthy*
- 1 copy of Copymaster 1.3, *School-to-Home Activity: What Helps a Person Be Healthy?*
- 1 copy of Copymaster 3.1, *Health Is Life in Balance Circle*
- 1 copy of Copymaster 3.2, *School-to-Home Activity: Myself in Balance*
- 1 copy of Copymaster 5.2, *Healthy Choices*
- 1 copy of Copymaster 5.3, *Messages for Good Health* (optional)

Vocabulary List

balance: For a physical state, balance is shown when an object rests without tipping on a smaller, narrower object. In the context of health issues, balance is a state of harmony where nothing is out of proportion or overemphasized at the expense of the rest.

healthy: Healthy means the condition of being sound in body, mind, and spirit; not sick.

physical activity: A physical activity is any activity in which the body is moving.

Monitoring Students' Progress

Assessing what students have learned during an activity, lesson, or unit is an important part of your role as a teacher. Because assessment can play a different role at different times, Unit 1 has a variety of assessment strategies built in to the procedures.

The Engage lessons often include a mechanism for learning more about the preconceptions that students have before new content material is presented. From research on learning, we know that it is important for students to recall and think about their current knowledge and ideas. Some of this information is likely to be accurate and correct, but often this opportunity enables students to consider what they know, what questions they have, and even what discrepancies they have in their knowledge. Only after considering their prior knowledge will they be ready to add new information or revise incorrect ideas.

Assessment is also important as students progress through the lessons in the unit. In this unit, an icon in the margin denotes an opportunity for assessment. The icon indicates stages at which you can assess students' understanding of the enduring understandings or major concepts the lesson is designed to convey. Specific strategies for evaluating students' understanding are provided with the icon. Some of the strategies are informal and quick, while others may be more in depth. On the basis of students' understanding at these points, you can modify your teaching practices accordingly.


The Evaluate lesson in the unit provides an opportunity for students to synthesize what they have learned during the previous lessons. By completing the Evaluate lesson, students demonstrate what they have learned and apply their understanding to new situations.





Health Is Life in Balance

Health Is Life in Balance



UNIT 1 WHAT IS A HEALTHY BALANCE? STUDENT LESSONS





Health Is Life in Balance



LESSON 1
MORE HEALTHY OR
LESS HEALTHY





Health Is Life in Balance

At a Glance

Overview

The purpose of Lesson 1, *More Healthy or Less Healthy*, is to engage students in thinking about what health means to them. Students consider the question, “What does it mean to be healthy?” to start them thinking about good health. Next, students draw pictures of their ideas that represent the concept *more healthy* and pictures that represent *less healthy*.

Enduring Understandings

Foods and activities can be classified as more or less healthy.

Teacher Background

The *Dietary Guidelines for Americans* (HHS & USDA, 2005) from the Department of Health and Human Services (HHS) and U.S. Department of Agriculture (USDA) describe a healthy diet as one that

- emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products;
- includes lean meats, poultry, fish, beans, eggs, and nuts; and
- is low in saturated fats, trans fats, cholesterol, salt (sodium), and added sugars.

The USDA also recommends 60 minutes of physical activity every day, or most days, for children and adolescents. Playtime is often great physical activity for children if the playtime is active and includes such things as running and exercise.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. begin to develop an understanding of the term “healthy.”

They will demonstrate their developing understanding by

- recalling what they know about being healthy,
- naming things they can do to be more healthy or less healthy, and
- illustrating their ideas of more and less healthy.

2. sort ideas about more and less healthy.

They will demonstrate their ability by illustrating activities that are likely to make a person more healthy or less healthy.

In Advance

Teacher Materials

chart paper

markers

tape



Student Materials

For each student

crayons, markers, or colored pencils

1 copy of Copymaster 1.0, *Letter to Parents or Caregivers* (optional)

1 copy of Copymaster 1.1, *More Healthy*

1 copy of Copymaster 1.2, *Less Healthy*

1 copy of Copymaster 1.3, *School-to-Home Activity: What Helps a Person Be Healthy?*

Preparation

Approximately one week before starting Unit 1, send a copy of Copymaster 1.0, *Letter to Parents or Caregivers*, home with each student to inform the families that students will be learning about diabetes and maintaining a healthy balance (optional).

Draw a T-table on the board or large sheet of chart paper by making two columns with the headings “more healthy” and “less healthy.” This should remain visible for the entire unit.

Process and Procedure

1. Pose this question to your class: “What does it mean to be healthy?”

Students may respond with ideas such as “It is when I feel good” or “When I feel like running and playing” or “When I am not sick.”

2. Give students a copy of Copymaster 1.1, *More Healthy*. Ask students to think of things that will help make them *more healthy*. Have them draw pictures of those things on their handouts.

Encourage students to think about things that might include types of food and any examples of things they do.

3. Using the T-table that you prepared before class, point to the left-hand column, “more healthy.” Ask students to show the class one of their pictures of something that makes them more healthy. Write the students’ ideas on the T-table.

As you write on the T-table, go over the words with the students to encourage reading and word recognition.

As an alternative for some things that students may have drawn, students can act out a physical activity that is on their lists. The class can guess the name of the activity.

4. Give students a copy of Copymaster 1.2, *Less Healthy*, and explain that they will now draw pictures of things they think will make them *less healthy*.

Students may have more difficulty with this concept. You might have them think of what it means not to be healthy if they are struggling with examples.

5. Give students a chance to share their ideas and list them on the right side of the T-table in the column labeled “less healthy.”

6. After students have had time to draw their pictures and share their ideas, ask if students agree with the ideas that have been put into the two categories or if students have thought of new ideas to add.

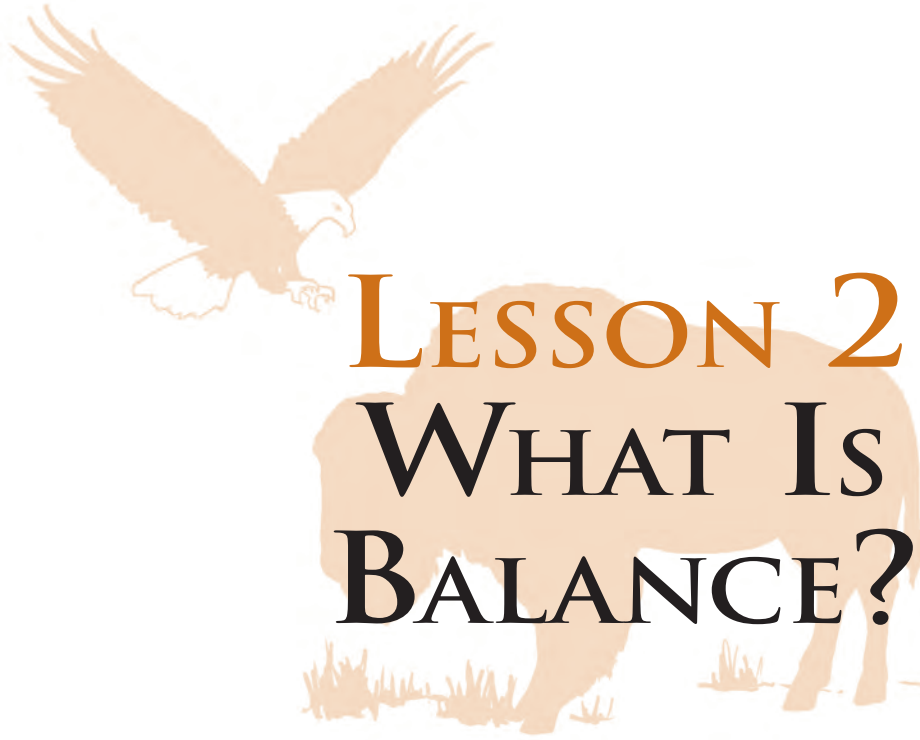
If a student feels that a specific item or idea belongs in a different category, ask that student and the student who suggested the item to explain why they feel it should belong in a specific category. If students can't reach a consensus, list it in both categories (if the logic the students use is correct to support both categories).

Note to Teacher: *Keep this T-table visible for the entire unit. Students will refer to the list in Lesson 3, Myself in Balance.*

7. Give each student a copy of Copymaster 1.3, *School-to-Home Activity: What Helps a Person Be Healthy?*, to take home.



Health Is Life in Balance



LESSON 2
WHAT IS
BALANCE?



Health Is Life in Balance

At a Glance

Lesson 2: What Is Balance? Explore

Overview

In Lesson 2, *What Is Balance?*, students experience balance and being out of balance as they stand on one foot. You will use a model to demonstrate balance. Then students explore what happens to balance if part of a model is changed. Students then connect the idea of balance to four areas of life: world, body, mind, and feelings.

Enduring Understandings

- Objects can be balanced.
- Our world, bodies, minds, and feelings all work in balance to keep us healthy.
- Models help us understand.
- Illness can cause our bodies to be out of balance.

Teacher Background

For a physical state, balance is shown when an object rests, without tipping, on a smaller, narrower object. Students will start to develop their own operational definition of balance in this lesson. They need not memorize this formal definition to be successful. In the context of health issues, balance is a state of harmony where nothing is out of proportion or overemphasized at the expense of the rest. Students will begin to understand this concept as they work through the activities in this lesson.

Though belief systems vary with every tribe, striving for harmony and balance in life seems central to many American Indians and Alaska Natives. Harmony and balance is the American Indian belief in interrelatedness and connectedness with all that is natural. The concept not only explains the interdependence of humans with other animates and inanimates in the world, but it also recognizes the need for individual wellness—the interdependence of physical, emotional, psychological, and spiritual well-being.

It is common for American Indians and Alaska Natives to represent this interrelatedness and connectedness by a circle. Individuals are considered whole when their physical, mental, spiritual, and emotional selves exist in harmony. If there is something negative going on with one part of the self, it affects the other parts and causes an imbalance in the whole self.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. explore the concept of balance.

They will explore the concept of balance by

- observing their teacher balance certain objects,
- describing how certain activities require balance,
- doing physical activities involving balance, and
- describing and experiencing objects out of balance.



2. begin to understand how balance relates to health.

They will demonstrate their understanding by

- recognizing the four areas—my world, body, mind, and feelings—of the Health Is Life in Balance Circle;
- observing a demonstration of balance using a physical model; and
- simulating an illness by causing the physical model to become unbalanced.

3. analyzing their paper plate model as a representation of their lives.

They will demonstrate their ability by comparing the physical model with their healthy lives.

In Advance

Teacher Materials

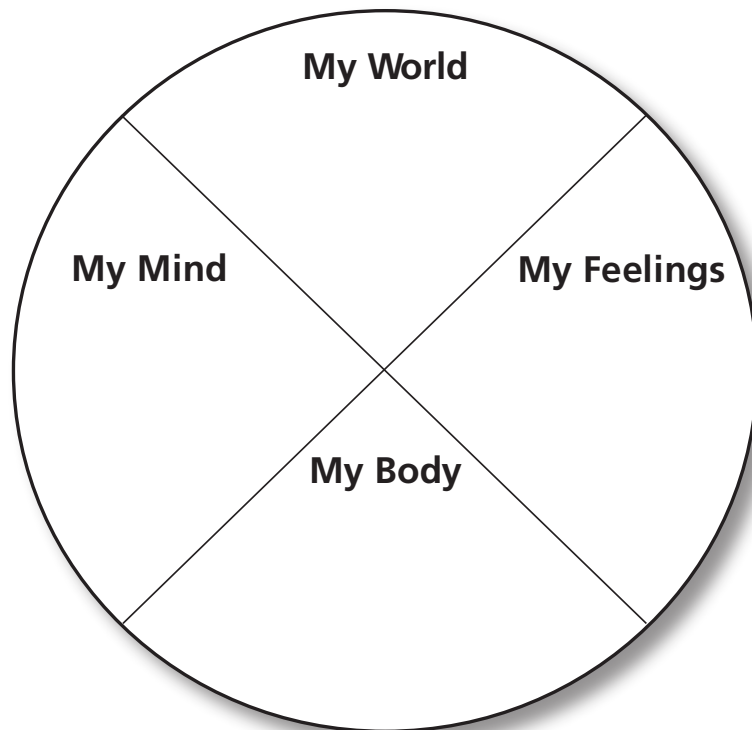
- 1 paper plate
- 1 marker
- 1 glue stick or pencil
- 1 ball of clay
- 3 pennies

Preparation

Draw and write on a paper plate, using a marker to create labeled quadrants similar to those shown in figure 1.1.

Practice setting up the plate and dropping the pennies onto it. (See Steps 9 and 12.)

Figure 1.1:
Health Is Life in Balance Circle.



Process and Procedure

1. Stand in front of the class and balance on one foot. Ask the students to all stand and balance on one foot. Do this without using the word “balance.”

Note to Teacher: *If you have students with special needs, have them balance objects on their hands or on the table.*

2. Ask students if they know of a word that describes what they are doing. Lead them to say the word balance. Write the word balance on the board.

If students have trouble thinking of the word balance, give them hints by showing them more examples such as balancing a book on your head or a ruler on your finger.

3. Have students balance on one foot again. Ask them what happens if they are “out of balance.”

Common answers will be that they will fall over or wiggle to stay balanced.

4. Ask students to act out being out of balance.
5. Have students sit down and then ask them to give an example of something that is balanced.

Likely student responses will include standing on one foot and balancing, balancing two sides of a teeter-totter so that they are even, or explaining how riding a bike requires balance.

6. After students have observed your demonstration of balance, ask them to again define in their own words what balance means to them. Write their ideas on the board.

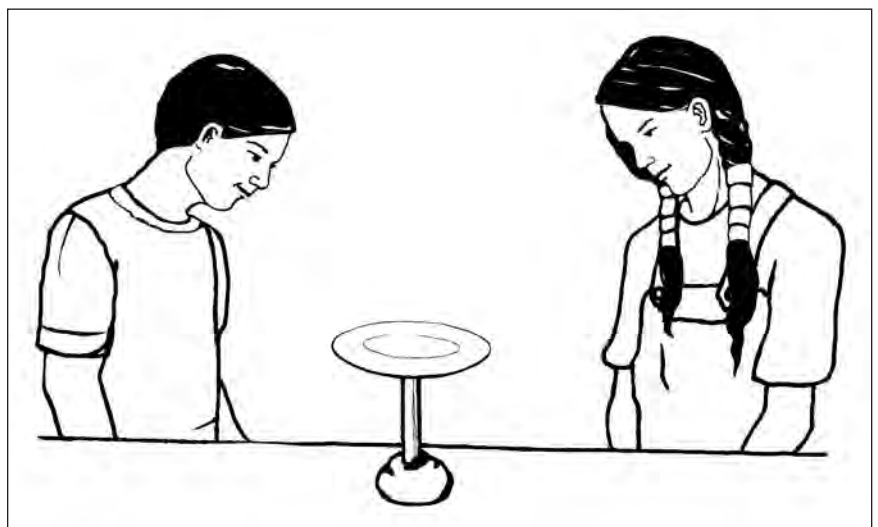
Accept all responses that indicate an understanding of balance.

7. Balance the plate on top of a glue stick or pencil (see figure 1.2). Ask students if this demonstrates balance. Ask students if this agrees with their definition of balance.

Allow students to add information to their definition of balance, if appropriate.

8. Hold up the plate to show students what has been written on the plate. Read or have students read the words on the plate. Discuss that the words and the four parts of the circle represent four parts of a person’s life.

Figure 1.2:
Balancing a plate. Students learn about balance by observing a demonstration using the plate model.





- 9. Balance the plate again on top of the glue stick. Ask students to predict what would happen to the plate if you drop a penny onto it. After students make their predictions, demonstrate dropping the penny.**

Students' predictions should relate to the balance of the plate. Some students may predict that the plate will be far enough out of balance to fall off the glue stick, and other students may predict that the plate will stay on the glue stick but tilt to one side. Drop the penny randomly (without trying to maintain balance) into the "my body" area. Most students would associate an illness with the physical body. For this reason, it is appropriate to drop the penny into that part of the circle.

- 10. Remind students that the plate and its four parts are a model for our lives—everyone's life involves these four parts. Ask students, "If the penny stands for a problem or illness, what does dropping the penny on the plate mean to a person's life?"**

Help students understand that dropping the penny and causing the plate to be out of balance is similar to having a health problem or illness that causes a person to be out of balance. Students may see this as not being "normal" or as being sick. Accept reasonable explanations but try to guide students to the understanding that just as dropping the penny leads to being out of balance, an illness or problem can cause people's lives to be out of balance.

Remind students what happened to the plate after dropping the penny in Step 9. Sometimes the plate will fall off. That represents being very out of balance. Sometimes the plate will stay on the glue stick, but will be tilted to some degree. This could represent an illness that takes you out of balance to a smaller degree. Students can probably recognize that sometimes a health problem can make you a little uncomfortable but you still do most of your normal activities. A stuffy nose might be an example of this type of illness. Other health problems are more likely to keep you from your normal activities. For example, the flu might keep you in bed for a day or two. In one case, you are just a little out of balance, whereas in the other case, you are further out of balance.

- 11. Balance the plate on the glue stick once again. This time, ask students what they think would happen if more than one part of a person's life changed. Ask students what they would do to the model to show two parts of a person's life changing.**

Students should see that this would involve dropping pennies in more than one area of the plate and would represent changing more than one part of a person's life.

- 12. Demonstrate dropping two pennies on the plate in different areas.**

Drop the first penny in the "my body" area of the circle (to reinforce what students saw earlier), but try to do it in a way that the plate becomes only a little off balance (but

remains on the glue stick). Drop the next penny in any other quadrant. Don't try to balance out the plate. Optimally, the plate will become more out of balance to illustrate that when more parts of our lives are disrupted, we become more out of balance. Repeat the demonstration as necessary.

Note to Teacher: *If pennies are placed exactly opposite each other and equidistant from the center, the plate can balance. Avoid this placement for this analogy.*

- 13.** Ask students, "If the balancing plate shows a life that is healthy and balanced, what happens to the person's life when the person gets sick? Is the person's life the same as before?"

If students understand that the balancing plate represents a person's life that is healthy, they should say that the person's life is not the same.

- 14.** Conclude the activity by discussing the model with the class. Ask questions such as the following to guide the discussion. Again, remind students that the plate represents a person's life:

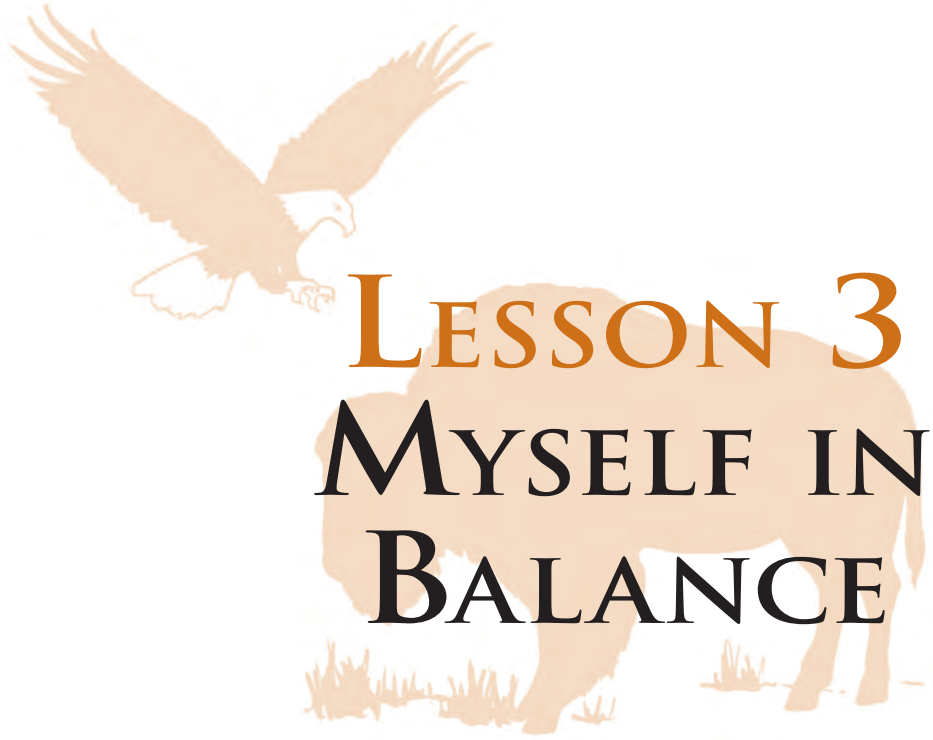
- "What happens to a person's life if something changes in one part of the person's life?"
- "Can you give me an example of a change in each part of the person's life that may make the person's life out of balance?"
- "What happens if more than one thing changes in a person's life?"
- "Are all four parts of a person's life important for keeping balanced?"
- "If a person's life is not balanced, can it be changed so that it is back in balance?"

Students will express their ideas differently, but try to help them see that changing a certain part of a person's life will change the balance. Changing more than one thing can make a person's life go even further out of balance. All four parts are important. If students have difficulty with this idea, ask them to predict what would happen if you cut out one section of the plate without changing anything else about how the plate is balanced. If a person's life is not balanced, changing what is wrong may help get a person's life back in balance.

- 15.** Ask students if they can think of another word for a person's life being balanced. It might be helpful to phrase it as, "If all four parts of a person's life are balanced, the person can be what?"

If students don't suggest it, ask them if "healthy" would be a good word to use. Go on to explain that a healthy person wants to have all four parts of his or her life to stay balanced and work right.





LESSON 3
MYSELF IN
BALANCE



At a Glance

Overview

In Lesson 3, *Myself in Balance*, students connect Lesson 1, *More Healthy or Less Healthy*, and Lesson 2, *What Is Balance?* Using the T-table from Lesson 1, students begin to categorize the things that they have drawn and written about on the T-table. They sort these things into the four areas that they explored in Lesson 2: my world, my body, my mind, and my feelings.

Enduring Understandings

- Categorizing things can help us understand them better.
- We can influence our own health by making good choices.

Teacher Background

In the context of health issues, balance is a state of harmony where nothing is out of proportion or overemphasized at the expense of the rest.

Beliefs: Harmony and Balance

Though belief systems vary with every tribe, striving for harmony and balance in life seems central to many American Indians and Alaska Natives. Harmony and balance are the American Indian beliefs in the interrelatedness and connectedness with all that is natural. These concepts not only explain the interdependence of humans with other animates and inanimates in the world, but also recognize the need for individual wellness—the interdependence of physical, emotional, psychological, and spiritual well-being.

It is common for American Indians and Alaska Natives to represent this interrelatedness and connectedness by a circle. Individuals are considered whole when their physical, mental, spiritual, and emotional selves exist in harmony. If there is something negative going on with one part of the self, it affects the other parts and causes an imbalance in the whole self.

Black Elk Speaks: Being the Life Story of a Holy Man of the Oglala Sioux

Black Elk Speaks is the story of the Lakota healer Nicholas Black Elk (1863–1950) and his people during the latter part of the nineteenth century. The following quotes are from the book, which was first published in 1932.

“Finding our face, finding our heart, finding our foundation ...

“... Every thing an Indian does is in a circle, and that is because the power of the World always works in circles, and everything tries to be round.



“... This knowledge came to us from the outer world without religion. Everything the power of the World does is done in a circle. The sky is round, and I have heard that the earth is round like a ball, and so are the stars. The wind, in its greatest power, whirls. Birds make their nests in circles, for theirs is the same religion as ours. The sun comes forth and goes down again in a circle. The moon does the same and both are round. Even the seasons form a great circle from childhood to childhood, and so it is in everything where power moves. Our teepees were round like the nests of birds, and these were always set in a circle, the nation’s hoop, a nest of many nests, where the Great Spirit meant for us to hatch our children.” (Neihardt, 1988)

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. begin to understand that a healthy body is in balance.

They will demonstrate their understanding by

- illustrating a Health Is Life in Balance Circle and
- categorizing healthy foods and activities into the four parts of their lives represented on the circle.

2. expand their knowledge and understanding of healthy activities.

They will demonstrate their ability by considering each entry that is labeled “more healthy” and connecting the entries with part of their Health Is Life in Balance Circles.

In Advance

Teacher Materials

chart paper or butcher paper

markers

tape

scissors

T-table from Lesson 1

Student Materials

For each student

crayons, markers, or colored pencils

1 copy of Copymaster 3.1, *Health Is Life in Balance Circle*

1 copy of Copymaster 3.2, *School-to-Home Activity: Myself in Balance*

Preparation

Tape several pieces of chart paper or butcher paper together and cut out a large circle. This circle should be large enough so that the class can stand around it and hold it in the air. Label the quadrants on the paper as shown in figure 1.1 on page 140 leaving room for students to add words or drawings. If you have a large class, consider making two circles.

Post the T-table from Lesson 1.

Process and Procedure

1. Using the T-table, remind students that during Lesson 1 they listed things that can make a person “more healthy.”

As a class, read through the list of ideas that students added to the T-table earlier.

2. Give each student a copy of Copymaster 3.1, *Health Is Life in Balance Circle*. Begin by pointing out the “my body” area of the large circle. Ask students to think of something they can draw or write to show what people can do to help keep their bodies more healthy. Explain that students can draw their pictures in the “my body” area of the circle.

Examples of what students could write about (or draw pictures of) that would make people’s bodies more healthy include exercising, eating good foods, washing their hands, sleeping, and brushing their teeth. (Many other examples would fit this category.)

Note to Teacher: *Students may find it difficult to distinguish between the area and how things in each category can make people more healthy. If your students find this challenging, give an example or two as you introduce each area and ask students whether that example would make a person more healthy or less healthy. Explain the reasons if necessary. For example, some students may not fully understand why something that affects their feelings could lead to being more healthy or less healthy. An example of something that affects feelings is being asked by other students to play games after school. Most students would say that they feel good if they are asked to play with their friends. Ask students if they would feel better or worse if they were in this situation.*

3. After students have completed their drawings for the “my body” area of the circle, ask them now to think about the “my world” area of the circle. Ask students to think about things that are around them (in their world) that can help them be more healthy. Allow time for students to draw their ideas in that area of the circle.

The “my world” part includes everything around them, such as their homes, people, and nature. For things in their world that help them stay healthy, students could



depict having a warm home, enough food to eat, family or friends who care about them, clothes to wear, and so forth.

4. Continue with the “my feelings” area. If students are not sure what feelings are, give some examples, such as being happy or sad. Ask students to think about feelings that may help a person be more healthy. Allow time for students to draw pictures to represent their ideas.

Students could draw pictures of being with friends; being happy; getting a hug from a parent, making them feel good; or having fun playing with a pet.

5. Move on to the “my mind” area. Ask students what the mind is and how having a healthy mind can help people stay healthier. Allow time for students to draw in that area of the circle.

The mind allows a person to think and learn. Examples of what students could draw to show that the mind helps a person stay healthy include reading a book, playing a game (such as a board game), doing a puzzle, talking to other people, learning how to do a new craft, and making decisions (such as deciding if it is safe to cross the street, wearing a helmet when riding a bike, or talking to a parent about a problem).

6. Explain to students that scientists sometimes try to learn about the world by sorting things into categories of things that are alike, the same, or similar to each other. Tell the students they will act like scientists to sort information.
7. Display your large paper circle, either on the wall or on the floor. Beginning with the “my body” category, ask for volunteers to share one thing that they wrote or drew about how their bodies could help them be healthier. As students respond, write the ideas in the appropriate area of the circle.

As students respond, ask them to explain why the action or thing that they drew would make a person healthier. Allow several students to add their ideas to the “my body” area of the circle.

8. After several students have had the chance to add their ideas to the “my body” area of the circle, continue in a similar manner to each of the other areas of the circle.

As you continue with this activity, ask if everyone agrees or if some students have a different opinion. The “my body” category may be the easiest for students and would include things such as healthful food and getting exercise. You may need to prompt students to come up with other answers (depending on what they had in the original list). To prompt students to come up with things for other categories, you could use questions such as, “Would getting a hug from your mother make you feel happy?” and “Would your life be better if you got hugs from your mother?” “Would having good

friends to play with help make you healthier?” Try to have equal numbers of entries in each area to reinforce balance.

It is possible for something to be in more than one category. The important thing is that the students explain why they think it belongs in one category more than another. For example, a teacher is someone in a student’s life and, for that reason, could be placed into the “my world” category. The teacher is also someone who makes our minds work better and be more healthy, so a student could reasonably suggest that the teacher belongs in the “my mind” category.

9. After students have added their ideas to the large paper circle, remind them of the T-table that they completed in Lesson 1. Focusing on the “more healthy” column, briefly review the ideas that students put in that list. Ask students if those ideas have been put into the class’s large paper circle diagram. If an idea is not already in the circle, ask students if it should be and where it should be placed.
10. Wrap up the discussion by asking students whether it is important to have good things in each category to have a good, healthy life.

Allow students to share their ideas.
11. Give each student a copy of Copymaster 3.2, *School-to-Home Activity: Myself in Balance*. Briefly go over what the activity is that students will do at home with their parents, guardians, or family.



Assessment Opportunities

As students discuss things that belong in the different parts of the circle, listen to their explanations to determine how well they understand each area and whether the example is appropriate for the category. You could also collect student copies of Copymaster 3.1 to assess students’ understanding.



Health Is Life in Balance



LESSON 4
LET'S MOVE:
DANCING THE
ROUND DANCE



At a Glance

Overview

Lesson 4, *Let's Move: Dancing the Round Dance*, introduces students to the Native American Round Dance and helps make the connection that physical activity is important to good health.

Enduring Understandings

- Physical activity is important to good health.
- Traditional dances are good physical activities to promote good health.

Teacher Background

It is important for our bodies to stay active to expend the calories taken in by food. Many modern-day children's activities are less active than in past times. The Round Dance can be used as a physical activity as well as a way to reinforce the importance of traditional activities. Doing the Round Dance shows students that they need to use their minds and bodies to make good choices every day: to be active and to eat good foods every day.

The Round Dance goes by many names for different tribes: *Kahomni*, 2-Step, Owl Dance, and Rabbit Dance. It is a social dance that is often a part of American Indian gatherings, including community social dances, ceremonies, and powwows.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. deepen their appreciation of American Indian and Alaska Native culture.

They will demonstrate their appreciation by

 - participating in an American Indian and Alaska Native cultural dance and
 - experiencing teamwork to keep the circle "in balance."
2. understand how working together illustrates being in balance.

They will demonstrate their understanding by

 - moving together and in rhythm with others around a circle;
 - experiencing out of balance movements around the circle; and
 - discussing, as a class, the relationship of working together and balance.
3. recognize that traditional dances can be a form of physical activity to promote good health.

They will demonstrate their ability by actively participating in the Round Dance with their classmates.

Lesson 4:
Let's Move: Dancing
the Round Dance
Elaborate



In Advance

Teacher Materials

tape

1 hand drum (optional)

1 color copy of the *Health Is Life in Balance* poster from the TRCD

Native American music on the TRCD

Round Dance video on the TRCD (optional)

1 CD player

Health Is Life in Balance large paper circle from Lesson 3

Preparation

Listen to the music on the TRCD and select a passage to use for dancing the Round Dance.

If you use the option of a hand drum for the music, the activity will be easier if you have another adult play the drum so that you can help students with the dance. Arrange for the person to be at your classroom at the appropriate time.

If you are not familiar with the Round Dance, view the video on the TRCD to learn more about the dance.

Display the *Health Is Life in Balance* poster in the classroom.

Process and Procedure

1. Ask students if they have ever participated in a game played in a circle or danced in a circle. Inform students that dances are important activities in the lives of Native American tribes. One dance that is part of many tribes is the Round Dance. Explain to students that the Round Dance is one example of a physical activity that is special to many Native American tribes.

Call attention to the *Health Is Life in Balance* poster. Point out that the people in the poster are dressed in their dance regalia and doing a Native American dance that is sometimes known as a Friendship Dance. The Round Dance is a way to show how life works in a circle, and by holding hands it shows how the circle is connected.

2. Explain to students that they will be participating in a Round Dance as a way to help them remember the importance of the circle and balance to a healthy life. Lay the large paper circle from Lesson 3, *Myself in Balance*, on the floor and ask students to stand around the circle.
3. Start playing a Native American song to accompany the dance. Ask students to move in a circle clockwise; if they don't know the "beat," remind them to keep moving.

While students are dancing, inform (or remind) them that this is called the Round Dance. Native Americans have used this dance for many years to celebrate friendship and unity among all people.

- 4. After dancing one complete circle, discuss the idea of balance. Talk about how all the dancers have to move together at the same speed to stay in balance. Have students start the dance again, and then have students act out imbalance, with some taking bigger steps, some smaller steps, some faster steps, and some stopping. Discuss how this makes the circle out of balance.**

All the parts must work together to keep the circle moving smoothly.

- 5. After the students have finished with the dance, guide them in a discussion about their experience.**

Reinforce the idea that doing the Round Dance in this way shows them that they need to use their minds to make good choices every day, to give their bodies physical activity, to eat good foods every day, and to take time to “listen and learn” to help themselves stay healthy.



Health Is Life in Balance



LESSON 5
MILO'S FAMILY:
A MESSAGE OF
GOOD HEALTH



Health Is Life in Balance

At a Glance

Overview

In Lesson 5, *Milo's Family: A Message of Good Health*, students listen to a story about a young boy, Milo Tatanka, and his family. Students identify good health behaviors and record them on a handout. They relate these behaviors to one of the four parts of life in balance: my world, my body, my mind, or my feelings. Older students may write a good-health message to Milo's family.

Enduring Understandings

Because this is the Evaluate lesson for Unit 1, no new concepts are introduced.

Teacher Background

Storytelling is an ancient art form through which a storyteller projects mental and emotional images using the spoken word. Using oral literature as the vehicle and the storyteller as the driver, it brings people from diverse backgrounds together for shared magical moments. Storytelling preserves oral language from previous cultures and brings it to the language of the current generation.

The benefits for students are many and varied. Storytelling presents ideas and thoughts in a pleasurable way, bringing people together for a warm and personal shared experience. Because well-told stories are so pleasing to students, storytelling establishes a positive attitude toward stories and books. Often, students are motivated to read on their own after hearing a good story. Through storytelling, the student hears rich and varied language patterns presented in a particularly satisfying format, which provides the opportunity for listeners of all ages to interact on a personal level.

Besides enjoyment and motivation, there are other benefits. Storytelling helps students understand story structure, as they become exposed to different plots, characters, and settings. It can provide a connection for students who are beginning to write the oral language patterns they hear. The stories that are told act as models for the students' own writing as well as build knowledge of different lives. As a listening activity, storytelling develops listening comprehension and provides the opportunity for using visualization to create mental and emotional images.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. analyze a story for good-health choices.

They will demonstrate their ability by

- choosing good-health behaviors from a story that includes both healthy and less healthy choices and

Lesson 5:
Milo's Family: A Message
of Good Health
Evaluate



- recording the good-health choices from a traditional story.
2. sharpen their listening skills.
 - They will demonstrate their ability by
 - quietly listening to a story read by their teacher and
 - listening for specific good-health choices within the story.
 3. relate good-health choices to areas of their lives.
 - They will demonstrate their ability by connecting their illustrations to the proper area of life represented on the Health Is Life in Balance Circle.

In Advance

Teacher Materials

- 1 overhead projector (optional)
- 1 transparency of Copymaster 5.2, *Healthy Choices* (optional)
- 1 copy of Copymaster 5.1, *A Story about Milo Tatanka*
- 1 copy of Copymaster 5.3, *Messages for Good Health* (optional)

Student Materials

For each student

- crayons, markers, or colored pencils (optional)
- 1 copy of Copymaster 5.2, *Healthy Choices*
- 1 copy of Copymaster 5.3, *Messages for Good Health* (optional)

Process and Procedure

1. Pass out copies of Copymaster 5.2, *Healthy Choices*, to each student. Tell them you are going to read a story and they are to listen for things in the story that are healthy choices.
2. Read Copymaster 5.1, *A Story about Milo Tatanka*, aloud to students. Pause during the story to allow students to record (either by drawing or naming) the healthy choices in the story.
3. Have students draw a line from each healthy choice they recorded in the top of the handout to the proper area in the circle at the bottom of the handout.

You may wish to demonstrate what students should do by displaying a transparency of Copymaster 5.2. Ask students for one or two examples of a healthy choice mentioned in the story. Then discuss with the students how the line should be drawn and then draw the line accordingly.

Assessment Opportunities

Ask students to explain why they feel that a healthy choice ties to a specific area of the circle. If a student's reasoning is unclear, ask probing questions to either better understand the student's logic or to help the student rethink his or her decision.



Possible Extension

Copymaster 5.3, *Messages for Good Health*, can be used as an additional assessment. Have students write captions about good-health choices for each family member. Have students color and display their messages for the class. Alternatively, you could prepare a transparency of Copymaster 5.3 and have the class work together to decide what healthy message each person in the picture should say. These messages should reflect what students have learned in Unit 1.



What is a Healthy Balance?

UNIT 1

COPYMASTERS



Copymaster 1.0, *Letter to Parents or Caregivers*

Copymaster 1.1, *More Healthy*

Copymaster 1.2, *Less Healthy*

Copymaster 1.3, *School-to-Home Activity: What Helps a Person Be Healthy?*

Copymaster 3.1, *Health Is Life in Balance Circle*

Copymaster 3.2, *School-to-Home Activity: Myself in Balance*

Copymaster 5.1, *A Story about Milo Tatanka*

Copymaster 5.2, *Healthy Choices*

Copymaster 5.3, *Messages for Good Health*

Dear Parents or Caregivers,

Welcome to the Diabetes Education in Tribal Schools program. Your child will be learning the *Health is Life in Balance* curriculum, which will provide a learning experience in areas of type 2 diabetes, obesity, and prevention. This letter gives you an overview of the background and characteristics of the curriculum. We will also request your help in making the learning experience for your child more meaningful by including family and at-home activities designed to reinforce lessons in the curriculum. Your active involvement in the curriculum activities has the potential to positively affect the health of your child.

“The Diabetes Epidemic” Need for New Curriculum

Diabetes in American Indians and Alaska Natives (NDIC, NIDDK, NIH)

www.niddk.nih.gov

- Diabetes has tripled in the last 30 years.
- Type 2 diabetes is steadily increasing in children.
- The prevalence of obesity is steadily increasing in children.
- About 14 percent of 12 to 19-year-olds are classified as obese.
- The Centers for Disease Control and Prevention predicts 1 out of 3 American children born since 2000 will develop diabetes.
- About 15 percent of American Indians and Alaska Natives have been diagnosed with diabetes.
- American Indians and Alaska Natives are 2.6 times more likely to have diagnosed diabetes.
- Type 2 diabetes is becoming increasingly common in all youth, especially American Indian and Alaska Native youth.
- American Indians and Alaska Natives have physiological and lifestyle risk factors for type 2 diabetes.
- Both diet and physical activity have changed for many American Indian and Alaska Native groups over the past several decades.

With these grim statistics, one fact is encouraging: ***type 2 diabetes can often be prevented or delayed through a balanced lifestyle that includes healthy eating and activity habits and maintaining normal weight.*** Clearly, for the

millions of children who are likely to develop diabetes, learning how to make healthful food and activity choices and why they should is potentially lifesaving.

Health curriculum materials usually cover diet and activity, but not always from a scientific perspective. Also, not all schools offer health as a subject at all grade levels. So instructional materials that explore the science of healthy lifestyles and diabetes prevention are valuable. In addition, *Health Is Life in Balance* is designed to be culturally appropriate for a highly vulnerable group of children, American Indian and Alaskan Native students, as well as for their classmates from diverse ethnic backgrounds.

Overview of the K–4 Curriculum Plan: Enduring Concepts

- Health is life in balance.
- All animals need nutritious food and daily exercise to stay healthy.
- Humans obtain energy from the sun by eating a variety of plant and animal sources of food in balance.
- Diabetes is an imbalance of health at many levels.
- Personal health behaviors can help reduce the risks of diabetes.
- Making healthy choices includes many aspects of life: food, water, rest, exercise, senses, safety, and relationships with others.
- The Circle of Life represents balance in important aspects of life: body, mind, feelings, and environment.
- Traditional food sources and physical activities of Native American ancestors are different than those in the present day, and we can learn important things from the past.
- Individuals, families, and communities can work together to maintain health and prevent diseases.
- Students can develop skills and have opportunities to become scientists or health providers.

The Round Dance

The Round Dance graphic on the next page shows concepts of balanced lifestyles in an age-appropriate, appealing way that is relevant for American Indian children. Many tribes and intertribal groups use the Round Dance as a representation of the Circle of Life that promotes balance, friendship, unity, equality, and the earth. Both the latest medical research about preventing disease and promoting health and the traditional teachings of Native Americans emphasize ideas of balance in a person's whole life. Thus, it is a central theme for our materials. This curriculum uses the Round Dance to promote nutrition, physical activity, diversity, and respecting self and others—thus illustrating *Health Is Life in Balance*.

page 2 of 3

Health Is Life in Balance was developed by educators from eight Tribal Colleges and their university partners. Team members frequently consulted with in-service teachers and reviewed research on science education, early education, and culturally appropriate education for American Indian students. Funding for the Diabetes Education in Tribal Schools program is provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) within the National Institutes of Health (NIH).

We would like to again welcome parents and caregivers to the *Health Is Life in Balance* curriculum. It is our hope that your participation in the school-to-home activities will help engage your child in his or her learning and that the materials will be beneficial in guiding your children to lead healthy lives.

Sincerely,





1.1

More Healthy





1.2

Less Healthy





1.3

School-to-Home Activity:

What Helps a Person Be Healthy?

As part of their lessons in school, your children are learning how what they eat and the activities they do affect their health and life. The following information title, “We have the power to prevent diabetes,” was created by the National Diabetes Education Program (NDEP) to help families learn about seven powerful steps to be healthy. You can also find this information on the NDEP Web site, http://www.ndep.nih.gov/diabetes/pubs/Power_tips.pdf.

Although this information was developed for American Indians and Alaska Natives, it is good advice for all people and all communities. Even very young children can learn healthy choices at an early age for a lifetime with a little help from their families. With this knowledge, you will be able to talk with your children about what makes us “more healthy” and “less healthy”.

Using these seven healthy tips, 1) move more, 2) make healthy food choices, 3) take off some weight, 4) set goals you can meet, 5) record your progress, 6) seek help, and 7) keep at it, you and your family are on your way to health and balance. These are all simple things that you and your children can do to get started today as a family. As stated in a positive message from Dr. Yvette Roubideaux, “We have the power to help our people and the generations to come. We have the power to prevent diabetes.”





1.3

1. Move More.

Get up, get out, and get moving. Walk, dance, bike ride, swim, or play ball with your friends or family. It doesn't matter what you do as long as you enjoy it. Try different things to keep it fun.

2. Make Healthy Food Choices.

Focus on eating less. Eat fiber-rich fruits and vegetables each day. Choose whole grain foods such as whole wheat bread and crackers, oatmeal, brown rice, and cereals. Cut down on fatty and fried foods. You still can have foods you enjoy, just eat smaller servings. Choose water to drink.

3. Take Off Some Weight.

Once you start eating less and moving more, you will lose weight. By losing just 10 pounds, you can cut your chances of getting diabetes.

4. Set Goals You Can Meet.

Start by making small changes. Try being active for 15 minutes a day this week. Then each week add 5 minutes until you build up to at least 30 minutes 5 days a week. Try to cut 100 calories out of your diet each day (that's one can of soda!). Slowly reduce your calories over time. Talk to your health care team about your goals.

5. Record Your Progress.

Write down all the things you eat and drink and the number of minutes you are active. Keeping a diary is one of the best ways to stay focused and reach your goals.





1.3

6. Seek Help.

You don't have to prevent diabetes alone. Ask your family and friends to help you out. Involve them in your activities. You can help each other move more, eat less, and live a healthy life. Go for a walk together or play a pick-up game of basketball. Join a support group in your area to help you stay on track.

7. Keep At It.

Making even small changes is hard in the beginning. Try to add one new change a week. If you get off track, start again and keep at it.

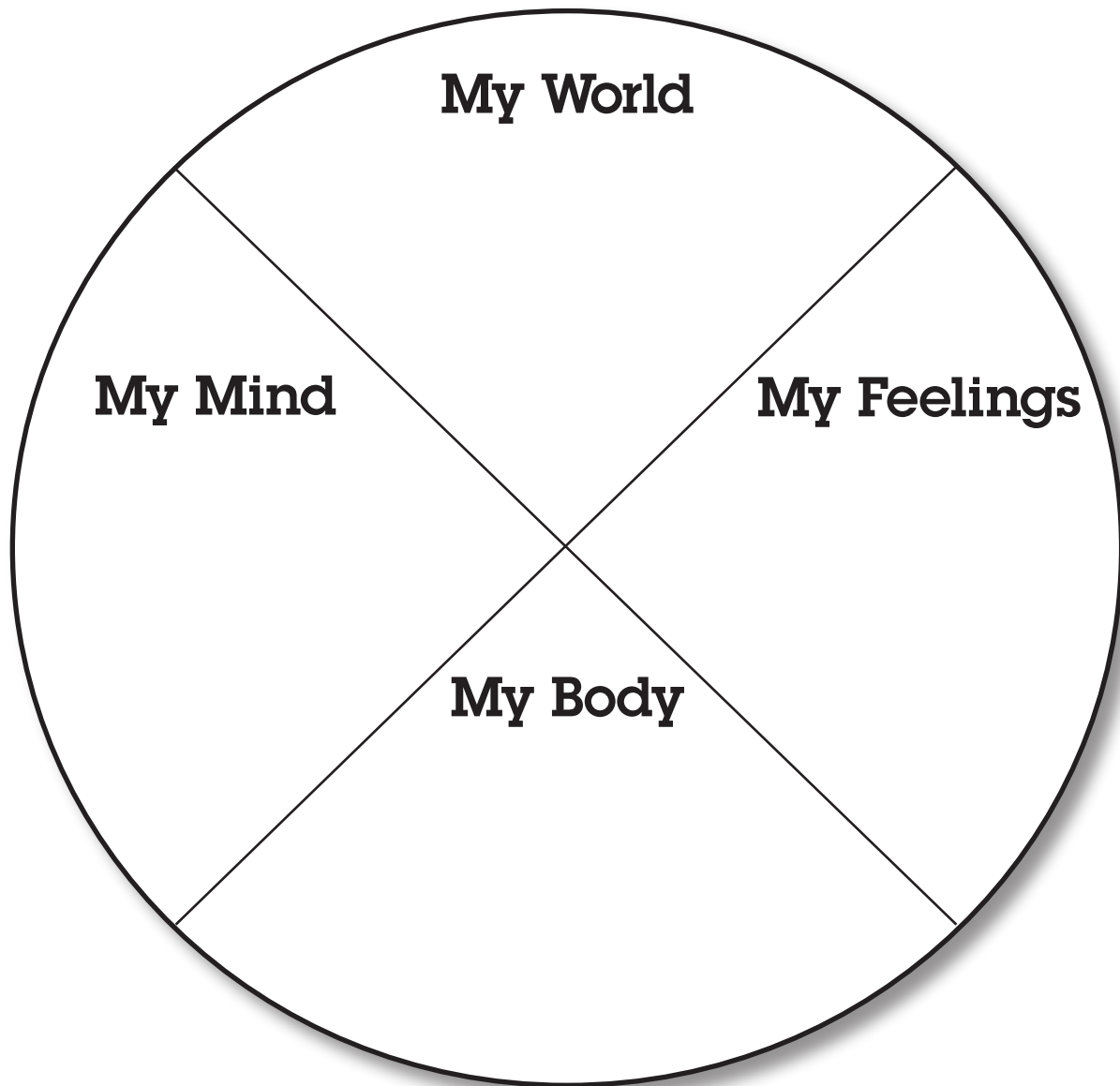
National Diabetes Education Program
www.YourDiabetesInfo.org





3.1

Health Is Life in Balance Circle





3.2

School-to-Home Activity:

Myself in Balance

On the following page is a chart that your child completed in class. He or she is learning to think of healthy examples to go in each part of the circle. For example, “my world” is the child’s family, friends, home, or things in nature, and your child has been asked in class to think of something that goes in that section.

Please take a few minutes to add to this circle with your child. For “my body,” you and your child can come up with an example of something healthy your family can do for their bodies, such as eating a healthful snack or engaging in some fun physical activity such as playing (inside or outside). Try to come up with a specific example for each section and then take time to do these things with your child over the next week. For example, if you want to use a healthful snack as an example of something healthy for “my body,” think of a healthful snack, write it down in that section of the chart, then prepare and eat that snack with your child. A big hug can be an example of something healthy for “my feelings.”

page 1 of 2





3.2





5.1

A Story about Milo Tatanka

Milo was a young boy who lived in the country with his family. This included himself, his mom and dad, four brothers, three sisters, his grandma and grandpa, and two uncles. Milo's youngest brother and sister always stayed in the house, watched TV, and played their video games all day. They also snacked all day, eating chips, soda, and candy.



Milo's family didn't own a car so they walked everywhere, to school, to the store, and to the post office to check the mail. The children always complained when they had to walk to the store, or anywhere.





5.1

Milo's family worked together to plant a big garden every spring. They all helped turn the soil over and made rows to plant the seeds.

It was Milo's job to walk to the river to haul water back for the garden every day. He carried two large buckets. On the way to the river, he enjoyed listening to the birds and watching butterflies. Milo walked early in the morning when the sun was just coming up to greet the day. It made him happy to work.



All of Milo's family helped care for the garden during the summer except his youngest brother and sister, who stayed in the house all day watching TV, playing games, and snacking on chips, soda, and candy.





5.1

Milo's older brothers and sisters picked berries from the trees when they were ripe. They liked eating them as a snack. The berries were sweet, plump, and juicy.



When the garden was ready to be harvested, all the family helped, except the younger ones, who were in the house. The vegetables would be dried and stored for the winter. Milo was happy working alongside his family, and happy they'd have vegetables for the winter.



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5.2

Healthy Choices

Healthy Choices





5.3

Messages for Good Health





Health Is Life in Balance

Health Is Life in Balance

Grades 1–2

UNIT 2: EXPLORING THE FOOD GROUPS





Unit 2 Overview

The DETS Grades 1–2 Unit 2, *Exploring the Food Groups*, consists of four lessons and requires six to seven class sessions of 20–70 minutes to complete. Students begin by discussing the foods they eat while learning about the food groups that make up the *MyPyramid for Kids* poster. Students learn about the importance of combining healthful foods and physical activity for optimum health. Students create a menu for a pizza party and learn how they can use the *MyPyramid for Kids* poster to help them make food choices for healthy eating.



Unit 2 Correlation with National Curriculum Standards

National Science Education Standards

In today's classroom, it is important that curriculum materials help teachers address the standards that have been set for various subject areas. The content of this curriculum unit ties directly to the National Research Council's 1996 *National Science Education Standards*. The following chart indicates which standards are addressed by the different lessons within Unit 2.

Content Standards: Grades K–4

Content Standard A: As a result of activities in grades K–4, all students should develop	Correlation with the DETS 1–2 Unit 2
Understandings about scientific inquiry	
<ul style="list-style-type: none"> Scientific investigations involve asking and answering a question and comparing the answer with what scientists already know about the world. 	Lessons 1, 4
<ul style="list-style-type: none"> Scientists use different kinds of investigations depending on the questions they are trying to answer. Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting). 	Lessons 1, 2
Content Standard F: As a result of activities in grades K–4, all students should develop understanding of	
Personal health	
<ul style="list-style-type: none"> Individuals have some responsibility for their own health. Students should engage in personal care—dental hygiene, cleanliness, and exercise—that will maintain and improve health. 	Lessons 3, 4
<ul style="list-style-type: none"> Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat. 	Lessons 1, 4

Source: Reprinted with permission from *National Science Education Standards*. © 1996 by the National Academy of Sciences, National Academies Press, Washington, D.C.



National Health Education Standards

The content of Unit 2 also meets several of the *National Health Education Standards*, as outlined in the chart below.

This unit also addresses standards in the areas of language arts, math, and social studies (see appendix A).

Standards and Performance Indicators: Pre-Kindergarten–Grade 2.

Standard Number	National Health Education Standard	Correlation with the DETS 1–2 Unit 2
1	Students will comprehend concepts related to health promotion and disease prevention to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
1.2.1	Identify that healthy behaviors affect personal health.	Lessons 2, 4
1.2.2	Recognize that there are multiple dimensions of health.	Lessons 2, 3
7	Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
7.2.1	Demonstrate healthy practices and behaviors that maintain or improve personal health	Lessons 1, 3
8	Students will demonstrate the ability to advocate for personal, family, and community health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
8.2.2	Encourage peers to make positive health choices.	Lesson 4

Source: Reprinted with permission, from the American Cancer Society. *National health education standards: Achieving excellence* (2nd ed.). Atlanta, GA: American Cancer Society. 2007, www.cancer.org/bookstore.

Teacher Strategies for Unit 2

Timeline for the Lessons

The timeline provides a guideline for completing the four lessons in Unit 2. The actual amount of class time needed for the unit will reflect the practice of individual teachers. Some classes will spend more time on activities and discussions than others. Depending on the amount of time available, you may need to complete lessons over multiple days.

Lesson 1, *Creating Our Own Food Groups*: 30–40 minutes

Lesson 2, *Introducing Scientists' Food Groups*: 40–50 minutes

Lesson 3, *Physical Activity Is Important, Too!*: 40–60 minutes

Part I, *Physical Activity*: 20–30 minutes

Part II, *Dancing the Round Dance*: 20–30 minutes

Lesson 4, *What I Know about Eating and Exercise*: 50–70 minutes

Part I, *What's in a Pizza?*: 20 minutes

Part II, *Party Healthy*: 30–50 minutes

The timeline assumes that you will teach the lessons on consecutive days. If several days separate the lessons, you may need additional time to review the previous lessons. This review will help students make stronger connections between the lessons.

Advance Preparation

4 Weeks Ahead

Order additional resources available to supplement the Eagle Books, if desired.*

2 Weeks Ahead

Begin reviewing lessons.

Gather pictures of food cut from magazines or printed from Web sites (see Lesson 1).

Ask parents to help with supplies for a pizza party (see Lesson 4).

1 Week Ahead

Make photocopies and transparencies.

Gather necessary materials.

Read *Plate Full of Color* from the Eagle Book series.

*Coloring books that correlate with the Eagle Book series can supplement activities in this unit. These can be used as reinforcing activities or art projects for students. Additionally, *The Eagle Book Series: A Guide for Educators and Communities* (Centers for Disease Control and Prevention, n.d.) includes additional activities and information to go along with each Eagle Book. These resources and activities are available on the TRCD. You can also order printed versions of these resources or download them from the Centers for Disease Control and Prevention Web site: <http://www.cdc.gov/diabetes/pubs/eagle.htm>.



Review information on Copymaster 2.1, *The New Food Guide Pyramid*, and Copymaster 2.2, *MyPyramid for Kids*.

Teacher Materials for the Unit

chart paper

markers

1 black marker

1 hand drum (optional)

Eagle Book: *Plate Full of Color*

1 triangular strip of each color of paper: orange, green, red, yellow, blue, purple, white

supplies needed for a pizza party

Native American music on the TRCD

Round Dance video on the TRCD (optional)

1 CD player

1 overhead projector (optional)

1 copy of Copymaster 2.1, *The New Food Guide Pyramid*

1 color copy of the *My Pyramid for Kids* poster from the TRCD

1 color copy of the *Health Is Life in Balance* poster from the TRCD

Student Materials for the Unit

For each student

crayons, markers, or colored pencils (including red, blue, green, yellow, purple, and orange
to match colors on *MyPyramid for Kids*)

scissors

glue or tape

1 paper plate

1 piece of colored paper

1 copy of Copymaster 2.7, *MyPyramid for Kids Coloring Page*

1 copy of Copymaster 2.8, *School-to-Home Activity: Introducing Scientists' Food Groups*

For each team of 3–4 students

pictures of a variety of foods cut from magazines or printed from Web sites

scissors (optional)

2–3 different colors of paper

glue or tape

1 copy on orange paper of Copymaster 2.2, *Grains Food Group*

1 copy on green paper of Copymaster 2.3, *Vegetables Food Group*

1 copy on red paper of Copymaster 2.4, *Fruits Food Group*

1 copy on blue paper of Copymaster 2.5, *Milk Food Group*

1 copy on purple paper of Copymaster 2.6, *Meat and Beans Food Group*

Vocabulary List

healthy: Healthy means the condition of being sound in body, mind, and spirit; not sick.

physical activity: A physical activity is any activity in which the body is moving.

Monitoring Students' Progress

Assessing what students have learned during an activity, lesson, or unit is an important part of your role as a teacher. Because assessment can play a different role at different times, Unit 2 has a variety of assessment strategies built in to the procedures.

The Engage lessons often include a mechanism for learning more about the preconceptions that students have before new content material is presented. From research on learning, we know that it is important for students to recall and think about their current knowledge and ideas. Some of this information is likely to be accurate and correct, but often this opportunity enables students to consider what they know, what questions they have, and even what discrepancies they have in their knowledge. Only after considering their prior knowledge will they be ready to add new information or revise incorrect ideas.


Assessment is also important as students progress through the lessons in the unit. In this unit, an icon in the margin denotes an opportunity for assessment. The icon indicates stages at which you can assess students' understanding of the enduring understandings or major concepts the lesson is designed to convey. Specific strategies for evaluating students' understanding are provided with the icon. Some of the strategies are informal and quick, while others may be more in depth. On the basis of students' understanding at these points, you can modify your teaching practices accordingly.



The Evaluate lesson in the unit provides an opportunity for students to synthesize what they have learned during the previous lessons. By completing the Evaluate lesson, students demonstrate what they have learned and apply their understanding to new situations.



Health Is Life in Balance



UNIT 2

EXPLORING THE

FOOD GROUPS

STUDENT

LESSONS





Health Is Life in Balance

An illustration in a light orange tone. On the left, an eagle is shown in flight, wings spread wide. On the right, a Native American woman is depicted sitting on the ground, wearing a traditional dress with a patterned skirt and a hooded garment. The text is overlaid on this illustration.

LESSON 1
CREATING OUR
OWN FOOD GROUPS



Health Is Life in Balance

At a Glance

Overview

In Lesson 1, *Creating Our Own Food Groups*, students participate in a class discussion about the foods they eat. They consider questions about why a variety of foods is good in our diet. Next, students group pictures of food according to their similarities. Finally, students share their categories and the criteria they used to place foods in these particular categories.

Enduring Understandings

- We eat a variety of foods to be healthy.
- Foods can be grouped according to similarities.

Teacher Background

We can group foods in many different ways. Grocery stores group foods on shelves according to marketing strategies. The USDA groups foods using the MyPyramid food guidance system to inform us of the types and relative amounts of each group to eat for a healthy diet. There is no right or wrong way to group foods. The grouping criteria depend on what you want to know about the food.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. reveal what they know about eating different foods.

They will reveal what they know by

- participating in a class discussion about foods that they eat and
- discussing why it is important to eat a variety of foods.

2. compare different foods according to similarities.

They will demonstrate their ability by

- analyzing a variety of foods cut from pictures in a magazine and
- grouping foods in categories based on criteria that they choose.

3. use reasoning to justify their food groups.

They will demonstrate their ability by explaining their criteria for grouping foods.

In Advance

Teacher Materials

chart paper
markers

Lesson 1: Creating Our Own Food Groups Engage



Student Materials

For each team of 3–4 students

pictures of a variety of foods cut from magazines or printed from Web sites (see *Preparation*)

scissors (optional)

2–3 different colors of paper

glue or tape

Preparation

Collect and cut out pictures of a variety of foods from old magazines or printed from Web sites. Alternatively, you can give teams of students magazines and have them cut out pictures, but this will require additional class time.

Process and Procedure

1. Engage the students in a discussion about the foods they eat by asking the following questions:

- “What kinds of foods do you eat?”
- “Can we eat just one kind of food?”
- “Would it matter if we ate only bananas or candy bars? What would happen?”
- “Does it matter what a person eats?”

Use these questions to assess your students’ understanding of our need for a variety of healthful foods.

2. As students respond to the questions, record their answers on chart paper or the board. Record all reasonable answers. Raise the idea that eating a variety of foods helps keep us healthy. Ask, “Is it important to eat a variety of foods? Why?” “How do you decide what to eat?”
3. Ask the students to think about the different kinds of foods they eat. Are there ways to group foods together based on how they are alike?
Inform students that they will be doing an activity that lets them think about this question.
4. Divide your class into teams of three or four students and hand each team an assortment of pictures of food. Ask students to think about the different foods and how they may be alike or different from each other. Challenge students to think of a way to sort the pictures into different groups based on how they are alike or different. Tell them they can decide how to sort the foods, but they must be able to tell the class why they put foods into different groups. Give each team two or three sheets of different colored paper and explain that

students should place the pictures that belong in different groups on the separate colors of paper.

The pieces of colored paper are to aid students in keeping groups separate. If students have trouble getting started, lead the class in a discussion of different ways to sort their pictures of food. Characteristics that students may use to sort foods include color, taste, the meal when they are usually eaten, or what the foods are made of. Once students see these different ways to sort foods, they can choose one or come up with another way on their own.

- 5. Allow five to 10 minutes for teams to decide the characteristic they will use to categorize their pictures and to do the sorting.**

As students work, circulate among teams and monitor their progress. Listen to their reasoning. Probe for understanding by asking questions about why they put certain foods in a group or asking them to describe what is alike or similar about all things in a group. This will prepare them for when they share their ideas with the class.

- 6. After teams have sorted their pictures of food, have them glue or tape their pictures to the colored paper.**
- 7. Ask teams to share their groupings with the rest of the class. Explain that teams should explain how they decided to group foods and why foods belong in a specific group.**

If only one student in the team is sharing, prompt other team members about their groupings, such as telling the class why they put a certain food in a group.

- 8. Finish by telling the students that they have just done what scientists often do in their work. Scientists sort or group things like foods to understand them better. Ask students to think about why it might be helpful to group foods into different categories.**

Students may come up with a variety of answers. If students don't raise the idea that the categories might help a person make better decisions about what to eat, raise this idea with them.



Health Is Life in Balance



LESSON 2
INTRODUCING
SCIENTISTS'
FOOD GROUPS





At a Glance

Overview

In Lesson 2, *Introducing Scientists' Food Groups*, students continue the idea of grouping foods by looking at the USDA's *MyPyramid for Kids*. Students are introduced to the food groups and consider examples from each food group. Students learn the information conveyed on the *MyPyramid for Kids* poster. Finally, they listen to the Eagle Book story *Plate Full of Color* to reinforce the need to eat a variety of foods in a healthy diet.

Enduring Understandings

MyPyramid for Kids can help us make healthful food choices.

Teacher Background

Consult the background information for teachers on Copymaster 2.1, *The New Food Guide Pyramid*.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand what *MyPyramid for Kids* tells us about healthy diets.

They will demonstrate their ability by

- describing food types included in each food group on the poster,
- arranging examples of each food group with the appropriate section of the poster, and
- coloring the stripes on the poster and becoming aware of the different widths of the stripes and their meaning.

2. practice their listening skills as they listen to the Eagle Book story *Plate Full of Color*.

They will demonstrate their ability by

- listening attentively to their teacher as he or she reads the story *Plate Full of Color* and
- recalling healthful food choices mentioned in the story.

In Advance

Teacher Materials

- 1 large *MyPyramid for Kids* drawn on butcher or chart paper (see *Preparation*)
- 1 overhead projector (optional)
- Eagle Book: *Plate Full of Color*
- 1 color copy of the *MyPyramid for Kids* poster from the TRCD
- 1 copy of Copymaster 2.1, *The New Food Guide Pyramid*

Lesson 2:
Introducing Scientists'
Food Groups
Explore
Explain



Student Materials

For each student

crayons, markers, or colored pencils

scissors

glue or tape

1 copy of Copymaster 2.7, *MyPyramid for Kids Coloring Page*

1 copy of Copymaster 2.8, *School-to-Home Activity: Introducing Scientists' Food Groups*

For each team of 3–4 students

1 copy of Copymaster 2.2, *Grains Food Group* (see *Preparation*)

1 copy of Copymaster 2.3, *Vegetables Food Group*

1 copy of Copymaster 2.4, *Fruits Food Group*

1 copy of Copymaster 2.5, *Milk Food Group*

1 copy of Copymaster 2.6, *Meat and Beans Food Group*

Preparation

Prepare copies of Copymasters 2.2–2.6, *Food Groups*, on colored paper to correspond with the colors of the food groups on the *MyPyramid for Kids* poster. Use the colors as follows:

- Copymaster 2.2, *Grains Food Group*: Orange paper
- Copymaster 2.3, *Vegetables Food Group*: Green paper
- Copymaster 2.4, *Fruits Food Group*: Red paper
- Copymaster 2.5, *Milk Food Group*: Blue paper
- Copymaster 2.6, *Meat and Beans Food Group*: Purple paper

Draw a large-size version of *MyPyramid for Kids* on butcher paper or chart paper. Having a large version will enable students to attach their own drawings to it in Step 4.

Read the Eagle Book *Plate Full of Color* before beginning the lesson. When introducing the book to the students, you may want to tell the story in your own words before reading it to them. This storytelling approach engages the students' attention. The story can be read in small parts to keep the students' interest, just as elders often tell stories in many small parts. The whole book can be read as another activity during reading time. During each lesson, you can open the book to particular pages to illustrate a point.

Process and Procedure

1. Explain to the students they have been thinking like scientists by sorting foods into categories.

Return to the idea of using their groups to help them decide what to eat, and then comment to students that food scientists have also grouped foods to help people decide what to eat to be healthy.

2. Display the *MyPyramid for Kids* poster and inform students that this is a picture of how scientists have grouped different foods into categories. Ask students whether they think the information on their own food groupings is related to the information on the diagrams that the scientists came up with.

Guide students to the conclusion that their diagrams have different categories and that each category contains things that are alike in some way. *The MyPyramid for Kids* poster shows the different categories by using different colored stripes within the triangle. The stripes represent groupings of foods we are to eat every day.

3. Group your students into five teams and give each team a copy of either Copymaster 2.2, 2.3, 2.4, 2.5, or 2.6, *Food Groups*. Have each team cut apart the pictures of foods on the handout.

Each team should have a different copymaster on a different color of paper.

4. As you explore each category on the *MyPyramid for Kids* poster, have the team with foods from that group name different foods in that group. If a student does not know what is pictured, ask other class members to help. Have students name other examples that would be a part of that food group. As a team finishes with their food group, have them glue or tape their pictures on the large poster you have prepared with the title of the food group. Continue until all food groups are named and examples are identified.

Note to Teacher: *Students may ask why the oils were not included. Oils do not make up a food group, but small amounts are necessary for good health and that is why it is included on MyPyramid for Kids. We get oils from fish, nuts, and plants (e.g., corn oil, soybean oil, and canola oil). Oils are fats that are liquid at room temperature. Stress the importance of eating and drinking milk products that are low fat or fat free. Additionally stress the importance of choosing lean meats. Our diets typically are high in fats and oils, largely from fried foods. Choosing lean or low-fat foods helps reduce the amount of fat in our diets.*

5. When each color on the *MyPyramid for Kids* poster has been explained, ask students how the scientists decided on the categories in *MyPyramid for Kids*. Ask, “What characteristics or features did scientists use to make the groups?”

The scientists formed groups based on how foods are similar in type. For example, all vegetables are in one group, and fruits are in a different group. Meats and beans are in one group because they give us a lot of one thing our bodies need—protein.

The groupings the students developed in class during Lesson 1, *Creating Our Own Food Groups*, may or may not be similar to those on the *MyPyramid for Kids* poster. Reinforce that people can sort items into different groups using different characteristics.



Students may have used color, taste (sweet, salty, etc.), the meal at which the foods are usually eaten, or some other feature. The scientists used another characteristic to form groups. The important thing for sorting is that each group contains items that share some feature or characteristic; they are alike or similar in some way.

6. Give each student a copy of Copymaster 2.7, *MyPyramid for Kids Coloring Page*, and allow time for them to color the stripes. Then ask students to share with a partner the foods they know about that belong in each group. Have students draw at the bottom of the pyramid one example of their favorite food from each category.
7. When students have completed the coloring page, ask if there is anything else they noticed about the *MyPyramid for Kids*. List their observations on the board or on chart paper. When a student reports an observation, ask the student if he or she has any ideas about what the observation may mean.

One observation that a student may share is that some of the colored stripes are wider than others. Ask students to point out which colored stripes are the widest and identify which food groups they belong to. The colored stripes that are the widest are orange (grains), green (vegetables), red (fruits), and blue (milk). Which are the thinnest? What food groups do these colors belong to? The thinnest colored stripes are purple (meat and beans) and yellow (oils). Explain that children should choose foods from all of the colors, choosing some more often and others less often.

8. Ask the class to consider the questions, “How could knowing the food groups help us in our everyday lives?” and “How can we use this information in *MyPyramid for Kids* to make good food choices every day?”

Lead the students to conclude that we need to choose a variety of foods from the food groups and that we can make choices on what to eat by using the information in the *MyPyramid for Kids* poster.

Note to Teacher: *The next step can be done at reading time to break this lesson into smaller time allotments.*

9. Conclude the lesson by reading the Eagle Book story *Plate Full of Color*. When you finish reading the story, ask students what they have learned by studying *MyPyramid for Kids* and listening to the story *Plate Full of Color*.

Responses should include that we should eat a variety of foods from the different food groups to be healthy.

10. Give each student a copy of Copymaster 2.8, *School-to-Home Activity: Introducing Scientists’ Food Groups*.

Ask them to take this home and share it with their families.



LESSON 3

PHYSICAL ACTIVITY IS IMPORTANT, TOO!





Health Is Life in Balance

At a Glance

Overview

Lesson 3, *Physical Activity Is Important, Too!*, has two parts. Part I encourages students to examine *MyPyramid for Kids* closer and notice the stairs and girl running up the stairs. The students discuss the importance of physical activity along with healthful foods for our lives. Then in Part II, students participate in a traditional dance as one example of a physical activity that is fun. The students also review the food groups as part of this activity.

Enduring Understandings

- Physical activity is important for good health.
- Traditional dances are a form of physical activity.

Teacher Background

It is important for our bodies to stay active to expend the calories taken in by food. Many modern-day children's activities are less active than in past times. The Round Dance can be used as a physical activity as well as a way to reinforce the importance of traditional activities. Doing the Round Dance shows students that they need to use their minds and bodies to make good choices every day: to be active and to eat good foods every day.

The Round Dance goes by many names for different tribes: *Kahomni*, 2-Step, Owl Dance, and Rabbit Dance. It is a social dance that often is a part of Native American gatherings, including ceremonies, social dances, and powwow activities. A powwow is a celebration where people gather to sing Native American songs, dance, see family and friends, conduct honorings such as giveaways, and engage in competition in singing and dancing.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand that physical activity is important for good health.

They will demonstrate their understanding by

- examining *MyPyramid for Kids* and noticing the stairs and girl on the side,
- relating the stairs on *MyPyramid for Kids* to physical activity, and
- giving examples of physical activities that they do often.

2. become aware of traditional dances that can be a form of physical activity.

They will demonstrate their ability by

- giving examples of physical activities that are special to their tribe and
- participating in the traditional dance, the Round Dance, as a form of physical activity.

3. review the food groups from the *MyPyramid for Kids* poster.

Lesson 3:
Physical Activity Is
Important, Too!
Elaborate



They will demonstrate their ability by recalling examples of foods from food groups and examples of physical activities as they dance the Round Dance.

In Advance

Teacher Materials

- 1 black marker
- 1 hand drum (optional)
- 1 triangular strip of each color of paper: orange, green, red, yellow, blue, purple, white
(see *Preparation*)
- 1 color copy of the *My Pyramid for Kids* poster from the TRCD
- 1 color copy of the *Health Is Life in Balance* poster from the TRCD
- Native American music on the TRCD
- Round Dance video on the TRCD (optional)
- 1 CD player

Preparation

Listen to the music on the TRCD and select a passage to use for dancing the Round Dance.

If you use the option of a hand drum for the music, the activity will be easier if you have another adult play the drum so that you can help students with the dance. Arrange for the person to be at your classroom at the appropriate time.

If you are not familiar with the Round Dance, view the video on the TRCD to learn more about the dance.

Cut triangle-shaped strips of paper to use with the Round Dance. Cut the strips proportional in size to the ones in the *MyPyramid for Kids* poster (i.e., with a larger width at the bottom than the top). Use the following colors and label them with the marker:

- Orange (labeled “grains”)
- Green (labeled “vegetables”)
- Red (labeled “fruits”)
- Yellow (labeled “oil”)
- Blue (labeled “milk”)
- Purple (labeled “meat and beans”)
- White (labeled “physical activity”)

See figure 2.1 for the classroom setup of these strips of paper. Consider laminating the strips to keep for multiple class use. Alternatively, draw these triangles on the sidewalk with colored chalk and do the activity outside.

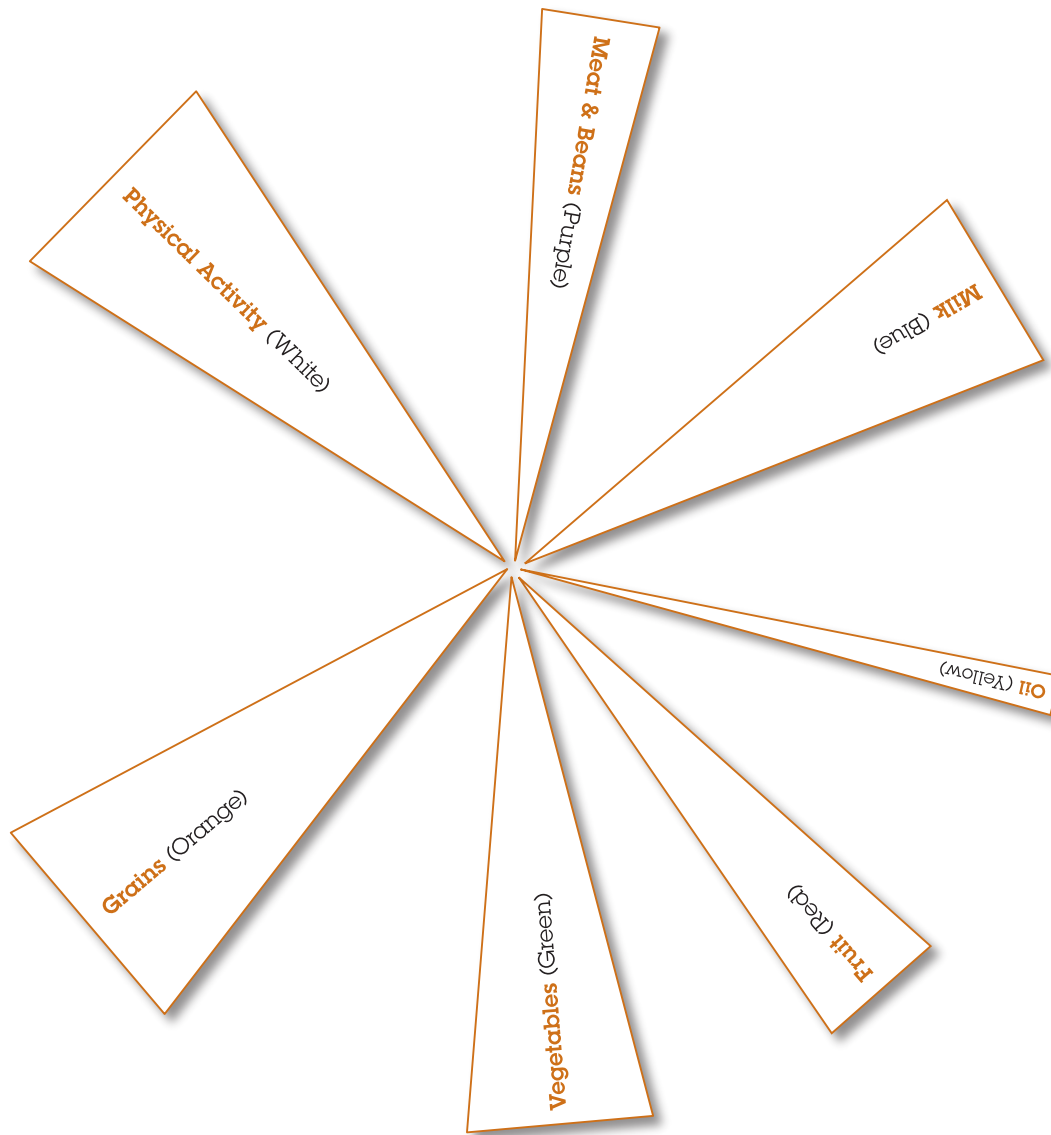


Figure 2.1:
MyPyramid for Kids
classroom setup.

Process and Procedure

Part I: Physical Activity

1. Display the *MyPyramid for Kids* poster. Ask students if there is any other part of *MyPyramid for Kids* that they didn't look at before. If the students do not comment on the stairs on the side of the pyramid, draw their attention to this feature. Ask students if they have any ideas about what the stairs mean.

The other observation students may share is the girl climbing the stairs on the side of the pyramid. Explain that along with eating a variety of foods from *MyPyramid for Kids*, children also need to be physically active to stay healthy and grow strong.



2. Ask students to give examples of physical activities that they do often.

List all activities on the board or chart paper. Record all reasonable answers.

Note to Teacher: *Make sure that students understand what “physical activity” means. A physical activity is any activity in which the body is moving.*

3. After a variety of examples of physical activity are recorded, ask students to think about whether there are some physical activities that are special for their tribe (or the tribes in your area) and that their ancestors also did. Add these to the list.

Students may not be familiar with some of the activities that are unique to their tribe or were common parts of their ancestors' lives. Think of some examples in advance that you can share with your students. Consult with tribal leaders or elders if you need help in determining activities specific for the area or tribe.

4. Ask students to think about why *MyPyramid for Kids* would include physical activity or why physical activity is important.

Students will most likely have different ideas about why physical activity is important. Responses should include that physical activity helps keep people healthy, helps people's bodies work right, or helps make people strong. Accept all reasonable answers.

5. Ask, “How much physical exercise should a person get?” Ask students to share their ideas.

Students may respond that a person should get exercise every day or they may respond that a person should exercise for a certain amount of time each day. Inform the students that they should try to be physically active for at least 60 minutes (or one hour) every day, or most days. Tell students that this does not have to be done all at once.

6. Ask, “What is the reason why we should be concerned with the foods we eat and the amount of physical activity we do every day?”

Physical activity is important for good health. Explain that children need to eat enough food to support growth. We need to balance the food we eat with physical activity every day.

7. Refer students' attention back to the *MyPyramid for Kids* poster. State, “Eating the right amount of foods from each of the food groups and exercising for at least 60 minutes for children every day helps you grow strong and healthy.”

Part II: Dancing the Round Dance

1. Explain to students that they are going to participate in the Round Dance as a way to help them remember what they learned from the *MyPyramid for Kids*

poster—how physical activity every day is part of being healthy. Display a color copy of the *Health Is Life in Balance* poster.

2. Ask students to come and form a circle around the colored strips on the floor. (See figure 2.1 on p. 225.) Start playing a Round Dance song from the TRCD (or slowly beat a drum). Have students begin the dance.

Explain to students that Native Americans have used the Round Dance for many years to celebrate friendship and unity among all people. Model the dance so students can see the beat, and then have students begin dancing, moving in a circle clockwise.

3. After students have completed a full circle at least twice, stop the music and tell students to stop dancing. Ask students to look at the colored strips on the floor and read the name of the food group that is closest to them. Select a few students and ask them to name a food that belongs in the food group that is closest to them. If they stop on a strip that reads “physical activity,” they are to give an example of a modern-day or a traditional activity.

Remind students they are to exercise at least 60 minutes a day. Also remind them to have less “screen time” a day by limiting TV watching or video game playing to less than one to two hours a day. Remind students to “Eat Right. Exercise. Have Fun” (see the *MyPyramid for Kids* poster).

4. Repeat Steps 2 and 3 several times to allow students to participate in a physical activity and to share their ideas about foods or activities.
5. After the students have finished dancing, guide them in a discussion about the dance. Reinforce the idea that doing the Round Dance in this way shows them that they need to eat the right amount of food from each of the food groups along with doing physical activity to grow strong and healthy.

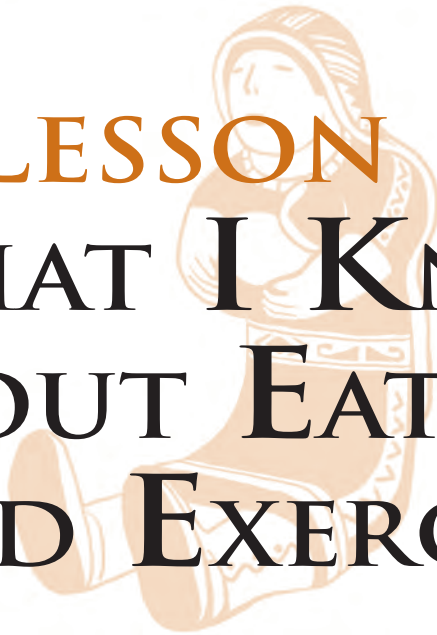
Conduct a discussion by using questions that will help the students give the conclusions themselves. Their answers should include the importance of making healthful food choices from all the food groups from *MyPyramid for Kids*. Remind students to “Eat Right. Exercise. Have Fun.”



Health Is Life in Balance



LESSON 4
WHAT I KNOW
ABOUT EATING
AND EXERCISE





Health Is Life in Balance

At a Glance

Overview

In Lesson 4, *What I Know about Eating and Exercise*, students plan and participate in a pizza party. Students use what they have learned about healthy food choices and physical activity to plan a healthy pizza party.

Enduring Understandings

Because this is the Evaluate lesson for Unit 2, no new concepts are introduced in this lesson.

Teacher Background

No additional teacher background is needed for this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand that some foods we eat combine many food groups.

They will demonstrate their understanding by analyzing a pizza for all of the food groups.

2. understand that they can make choices that will promote good health.

They will demonstrate their understanding by

- planning a pizza party that includes healthful choices from all food groups,
- illustrating their choices on a place mat, and
- consuming healthful foods at the pizza party.

3. communicate to the class their ideas about healthful food choices.

They will demonstrate their ability to communicate by

- explaining their illustrations to the teacher or the class and
- justifying their choices to their teammates.

4. build collaboration skills.

They will demonstrate their ability by

- working in a team to plan a pizza party,
- communicating and explaining to their team, and
- justifying their choice to their team.

In Advance

Teacher Materials

supplies needed for the pizza party (see *Preparation*)

1 color copy of the *MyPyramid for Kids* poster from the TRCD

Lesson 4:
What I Know about
Eating and Exercise
Evaluate



Student Materials

For each student

1 paper plate

1 piece of colored paper

crayons, markers, or colored pencils (red, blue, green, yellow, purple, and orange to match colors on *MyPyramid for Kids*)

Preparation

Ask parents to help with supplies for a pizza party.

Find out about any food allergies or sensitivities that students may have. Make sure all foods for the pizza party are safe for students who have food allergies.

Process and Procedure

Part I: What's in a Pizza?

1. Tell students that they are going to plan a pizza party for their class that will demonstrate what they have learned in this unit. Ask students to name the things that are part of a pizza. Write all answers on the board.

Students should name cheese, sauce, and crust for any type of pizza. If this is all they name, then ask them to think of other types of pizza that they may have seen others eating. Ask them to name the things that were on those pizzas. Additional ingredients might be onions, peppers, mushrooms, meat, and pineapple.

2. For each ingredient that students listed, ask them to name the food group they think it belongs to. Write the food group on the board next to each food.

Students can refer to the *MyPyramid for Kids* poster. Leave these ideas displayed for Part II of this lesson.

Part II: Party Healthy

1. Divide the class into teams of three or four students. Give each team the task of planning a pizza party for their class. Give them these tasks:
 - Use *MyPyramid for Kids* to plan healthful foods and snacks for the party.
 - Plan a physical activity for the party.
2. To help students with the first requirement, give each student a paper plate and crayons, markers, or colored pencils. Ask students to draw on their plates the different foods they want to have at their pizza party.

Note to Teacher: *Depending on the age of your students, you may want to conduct this step as a class, in teams, or individually. This is a lesson for you to use*

as an assessment of their learning; you can best assess students' understanding if they work individually.

3. Have students circle the foods with a colored crayon to show in which food groups they belong.

Students will refer to the *MyPyramid for Kids* poster to help remind them of the colors for each food group. Encourage students to use this as a guide to select foods from all groups. Remind them that all foods do not have to be on the pizza. Others may be included as a drink or a side dish.

Note to Teacher: *Students may try to include several fats in their choices. Remind them that the stripe for fats is very small and the fat that is naturally in the meat and cheese will likely be plenty to include.*

4. After students have completed their plates, ask students to show their plates to the class and explain why they have chosen certain foods.

Accept all answers and let the excitement build about creating a colorful plate of food. If you feel that students may have misconceptions, ask probing questions to further understand the logic they are using.

5. Give each student a piece of colored paper. Explain that they will use this paper to create a place mat that shows a fun physical activity that people can do at the party.

Remind them of the slogan, "Eat Right. Exercise. Have Fun."

6. Ask students to share their ideas with the class.
7. After students have seen the menus and plans for physical activity that class members have presented, ask them to pick one menu and one idea for physical activity for the party they will host.

Work with the class to reach consensus. Make sure that the menu includes healthy choices. If students cannot agree on one menu, ask them to pick items from several menus to create a new menu that includes ideas from several students. Likewise, have students decide as a class which physical activity would be best for the party. If appropriate for the time allowed, students could choose more than one activity.

8. Have parents and students bring the necessary supplies to class for the party. Participate in the physical activity after the meal.

Be sure to add healthful snacks and drinks to round out the meal with all food groups.



Assessment Opportunities

Listen to students' explanations about healthful food choices and ideas for physical activity to evaluate their progress. You may also wish to collect their plates and place mats as evidence of their understanding.

Possible Extension

Career component: Engage students in a class discussion by asking, "Who teaches you about food choices?" Answers will range from parents and grandparents to the school cooks and so on. Introduce the word "dietitian." Explain that a dietitian helps people learn about food and how food keeps you healthy. Guide them to identify somebody in their community who would help teach them about healthful food choices. Invite a dietitian, school nurse, or the school cooks to speak about their jobs and how they help people learn about making healthful food choices.

Exploring the Food Groups

UNIT 2

COPYMASTERS



Copymaster 2.1, The New Food Guide Pyramid

Copymaster 2.2, Grains Food Group

Copymaster 2.3, Vegetables Food Group

Copymaster 2.4, Fruits Food Group

Copymaster 2.5, Milk Food Group

Copymaster 2.6, Meat and Beans Food Group

Copymaster 2.7, MyPyramid for Kids Coloring Page

Copymaster 2.8, School-to-Home Activity: Introducing Scientists' Food Groups



2.1

The New Food Guide Pyramid

The Food Guide Pyramid is one way for people to understand how to eat healthy. A rainbow of colored, vertical stripes represents the five food groups plus fats and oils. Here's what the colors stand for:

- orange — grains
- green — vegetables
- red — fruits
- yellow — fats and oils
- blue — milk and dairy products
- purple — meat, beans, fish, and nuts

The U.S. Department of Agriculture (USDA) changed the pyramid in 2005 because they wanted to do a better job of telling Americans how to be healthy. The agency later released a special version for kids. Notice the girl climbing the staircase up the side of the pyramid? That's a way of showing kids how important it is to exercise and be active every day. In other words, play a lot! The steps are also a way of saying that you can make changes little by little to be healthier. One step at a time, get it?





2.1

The Pyramid Speaks

Let's look at some of the other messages this new symbol is trying to send:

Eat a variety of foods. A balanced diet is one that includes all the food groups. In other words, have foods from every color, every day.

Eat less of some foods, and more of others. You can see that the bands for meat and protein (purple) and oils (yellow) are skinnier than the others. That's because you need less of those kinds of foods than you do of fruits, vegetables, grains, and dairy foods.

You also can see the bands start out wider and get thinner as they approach the top. That's designed to show you that not all foods are created equal, even within a healthy food group like fruit. For instance, apple pie would be in that thin part of the fruit band because it has a lot of added sugar and fat. A whole apple — crunch! — would be down in the wide part because you can eat more of those within a healthy diet.

Make it personal. Through the USDA's MyPyramid website, people can get personalized recommendations about the mix of foods they need to eat and how much they should be eating. There is a kids' version of the website available too.





2.1

How Much Do I Need to Eat?

Everyone wants to know how much they should eat to stay healthy. It's a tricky question, though. It depends on your age, whether you're a girl or a boy, and how active you are. Kids who are more active burn more calories, so they need more calories. But we can give you some estimates for how much you need of each food group.

Grains

Grains are measured out in ounce equivalents. What the heck are they? Ounce equivalents are just another way of showing a serving size.

Here are ounce equivalents for common grain foods. An ounce equivalent equals:

- 1 slice of bread
- ½ cup of cooked cereal, like oatmeal
- ½ cup of rice or pasta
- 1 cup of cold cereal
- * 4- to 8-year-olds need 4–5 ounce equivalents each day.
- * 9- to 13-year-old girls need 5 ounce equivalents each day.
- * 9- to 13-year-old boys need 6 ounce equivalents each day.





2.1

And one last thing about grains: Try make at least half of your grain servings whole grains, such as 100% whole-wheat bread, brown rice, and oatmeal.

Vegetables

Of course, you need your vegetables, especially those dark green and orange ones. But how much is enough? Vegetable servings are measured in cups.

- * 4- to 8-year-olds need 1½ cups of veggies each day.
- * 9- to 13-year-old girls need 2 cups of veggies each day.
- * 9- to 13-year-old boys need 2½ cups of veggies each day .

Fruits

Sweet, juicy fruit is definitely part of a healthy diet. Here's how much you need:

- * 4- to 8-year-olds need 1–1½ cups of fruit each day.
- * 9- to 13-year-olds need 1½ cups of fruit each day.

Milk and Other Calcium-Rich Foods

Calcium builds strong bones to last a lifetime, so you need these foods in your diet.

- * 4- to 8-year-olds need 2 cups of milk (or another calcium-rich food) each day.
- * 9- to 13-year-olds need 3 cups of milk (or another calcium-rich food) each day.





2.1

If you want something other than milk, you can substitute yogurt, cheese, or calcium-fortified orange juice—just to name a few.

Meat, Beans, Fish, and Nuts

These foods contain iron and lots of other important nutrients. Like grains, these foods are measured in ounce equivalents.

An ounce equivalent of this group would be:

- 1 ounce of meat, poultry, or fish
- $\frac{1}{4}$ cup cooked dry beans
- 1 egg
- 1 tablespoon of peanut butter
- $\frac{1}{2}$ ounce (about a small handful) of nuts or seeds
- * 4- to 8-year-olds need 3–4 ounce equivalents each day.
- * 9- to 13-year-olds need 5 ounce equivalents each day.

Whoa! That's a lot to swallow. The good news is that your mom, dad, and the other grown-ups in your life will help you eat what you need to stay healthy. There's more good news — you don't have to become a perfect eater overnight. Just remember those stairs climbing up the side of the new pyramid and take it one step at a time.

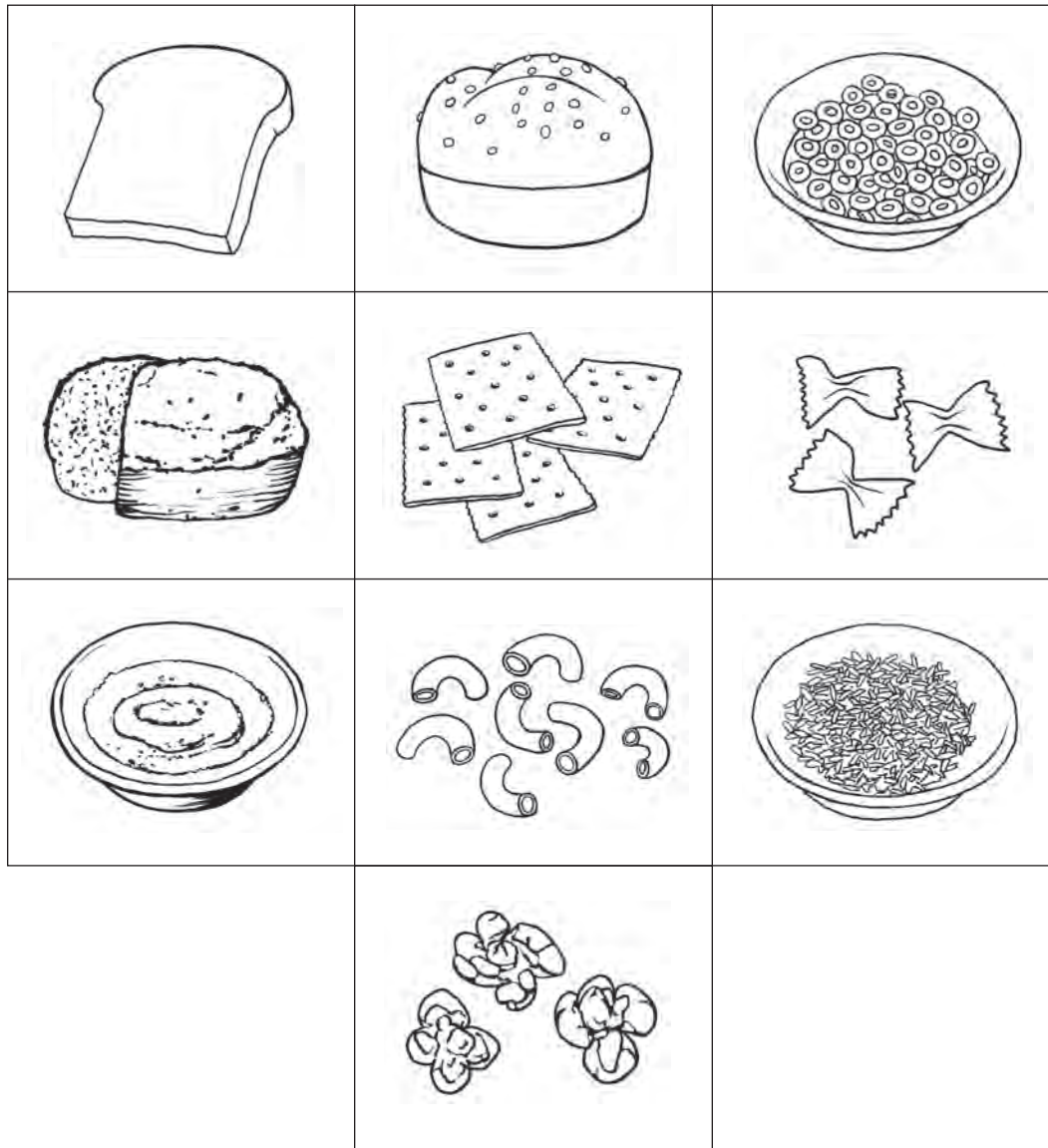
Source: This information was provided by KidsHealth, one of the largest resources online for medically reviewed health information written for parents, kids, and teens. For more articles like this one, visit www.KidsHealth.org or www.TeensHealth.org. ©1995-2008. The Nemours Foundation





2.2

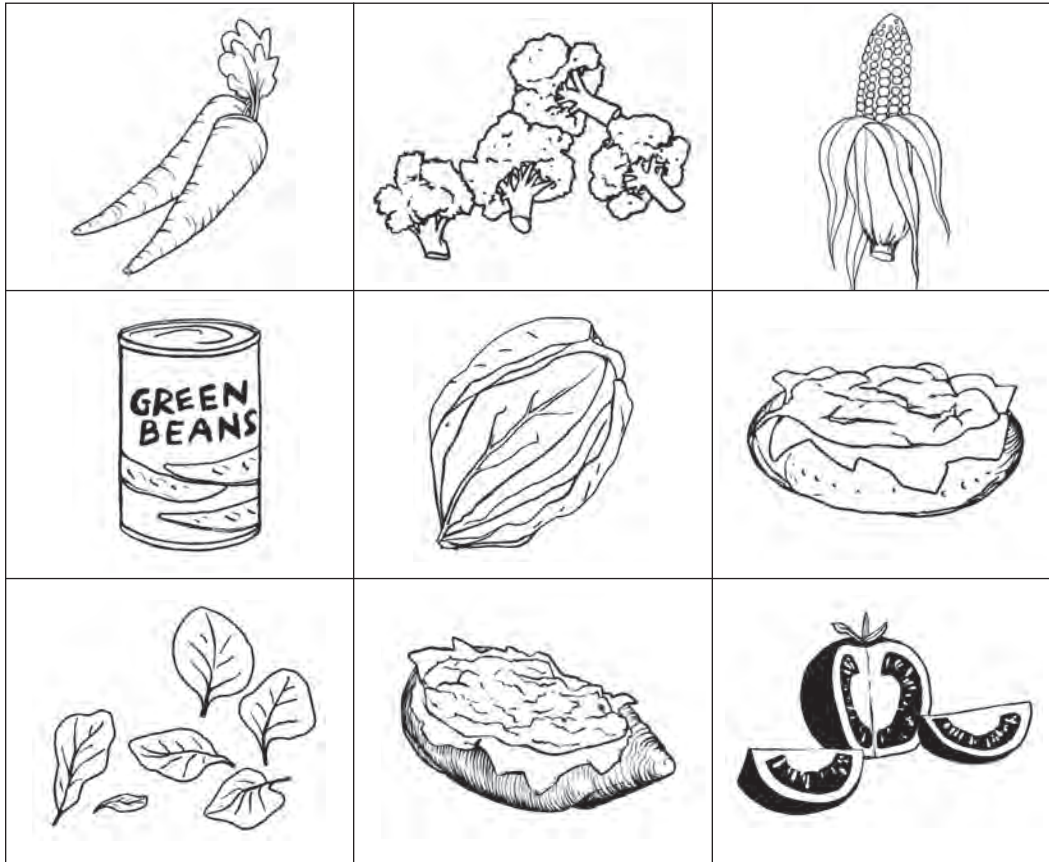
Grains Food Group





2.3

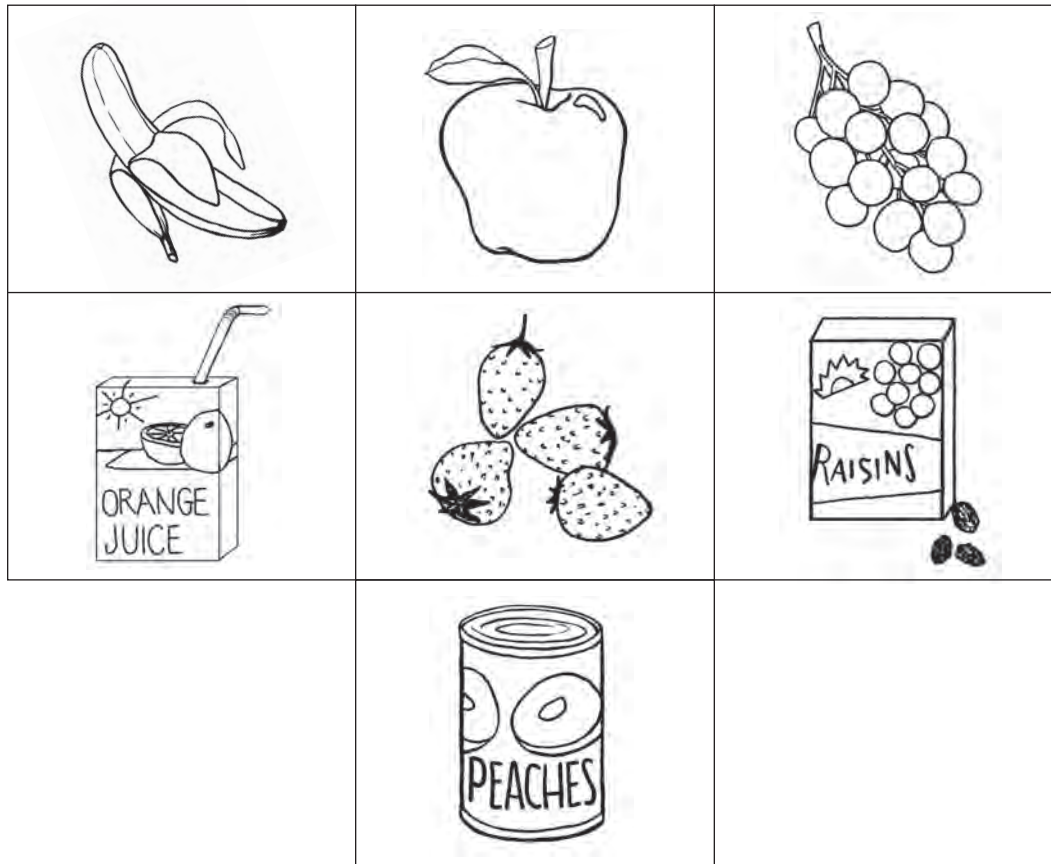
Vegetables Food Group





2.4

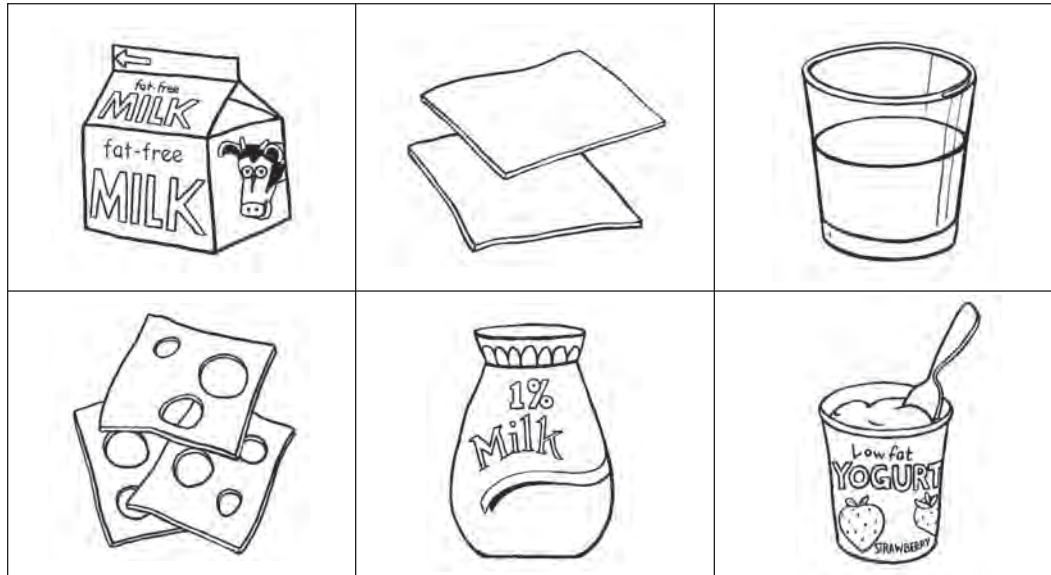
Fruits Food Group





2.5

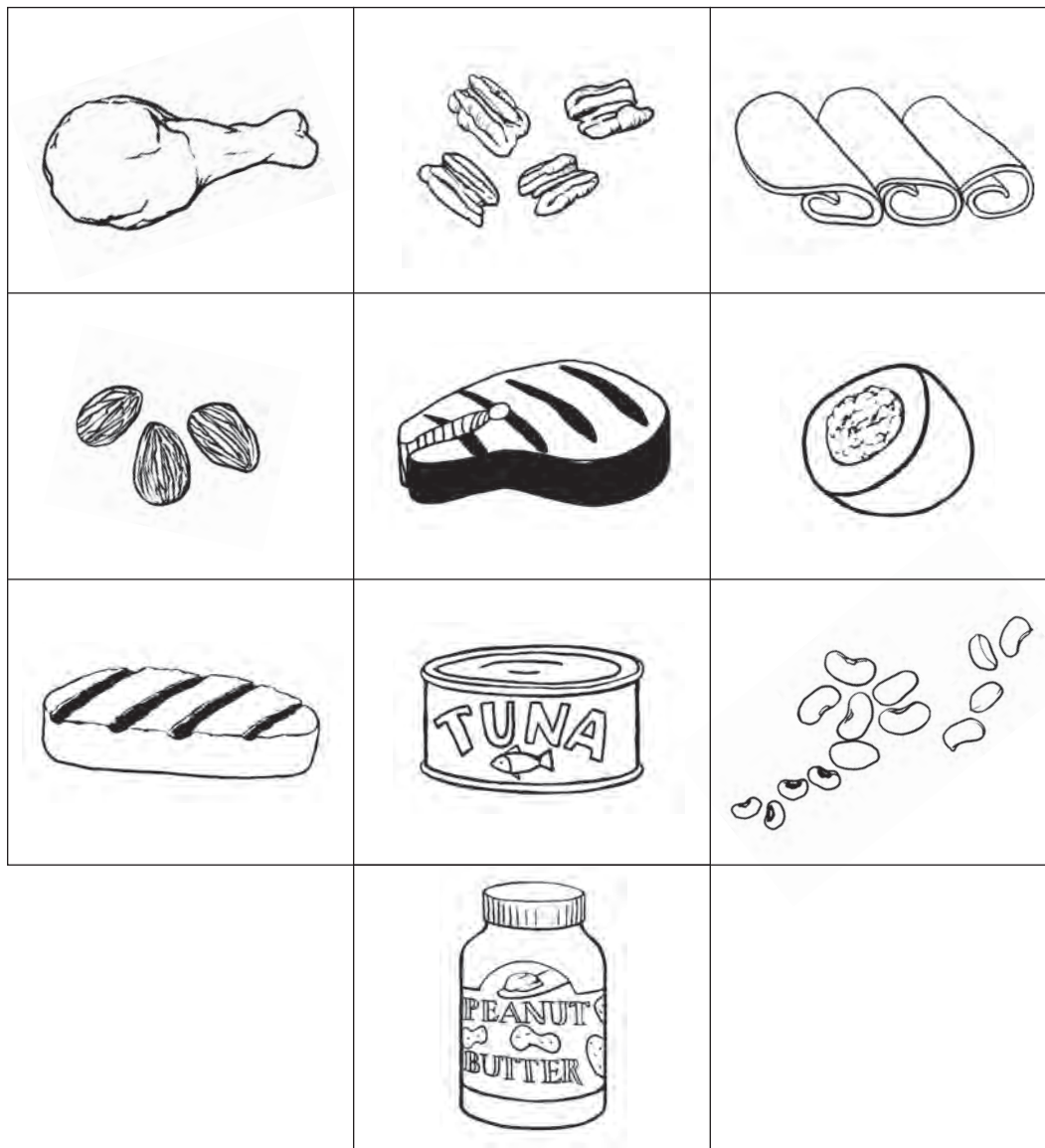
Milk Food Group





2.6

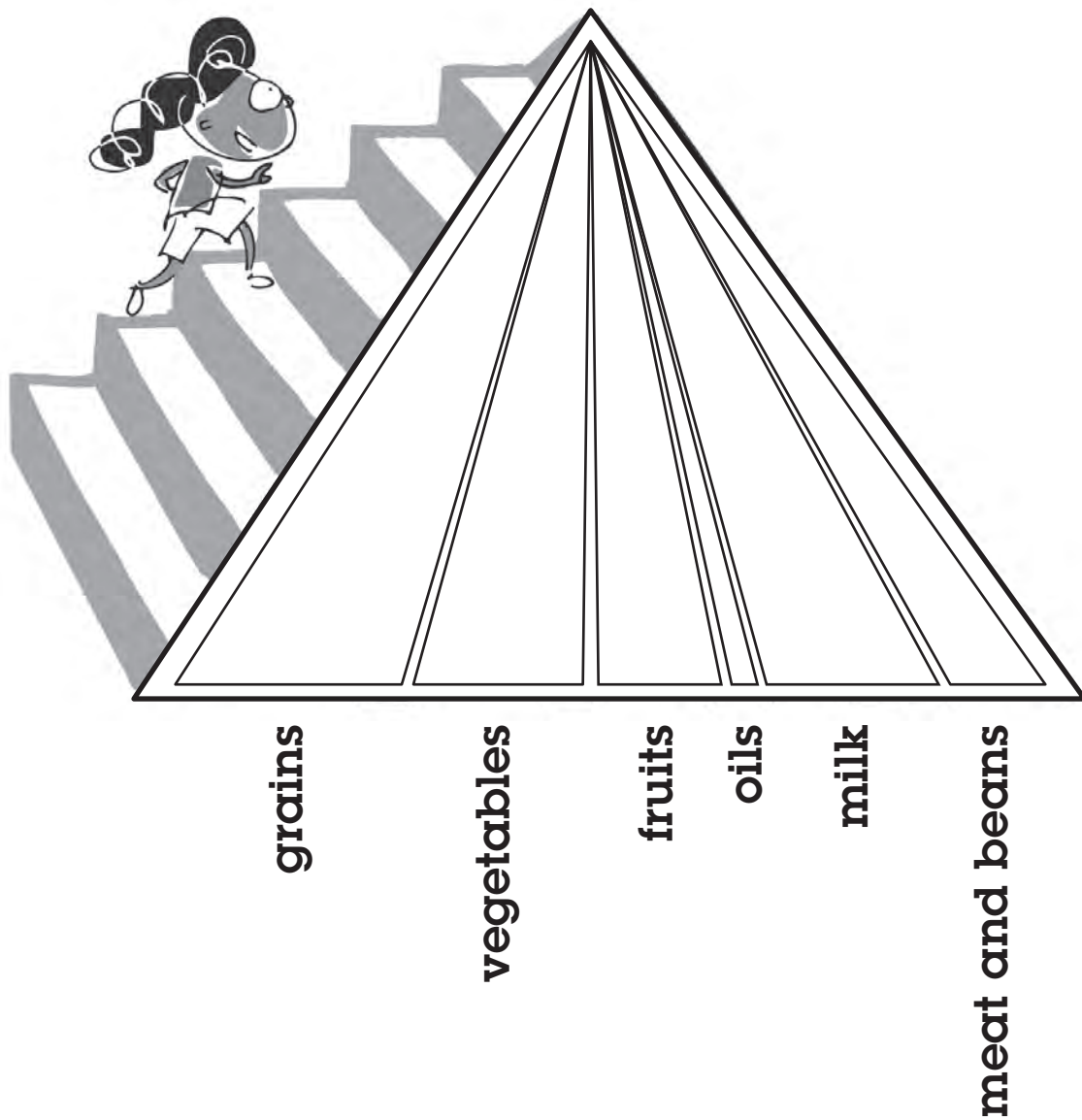
Meat and Beans Food Group





2.7

MyPyramid for Kids Coloring Page





2.8

School-to-Home Activity:

Introducing Scientists' Food Groups

At school, your child has been introduced to the new *MyPyramid for Kids* food pyramid. You can view detailed information about the new food pyramid online at http://kidshealth.org/kid/stay_healthy/food/pyramid.html.

Directions: Choose one or both of the following activities. These activities can take place during the weekend or anytime that is convenient for you and your child.

Home Activity 1: If your home has a computer and Internet access, go to the Web site listed above and click on the **Game Closet** link. You will find fun and interactive games that you and your child can do together that will reinforce the principles of the new *MyPyramid for Kids*.

Home Activity 2: The following page includes the new *MyPyramid for Kids*. Your child has been learning different examples of healthful food that go with each food category and their corresponding color. With your child, go through your food pantry and refrigerator and find healthful examples of food for each category listed. If you don't have a healthful example of one of the categories, find out what kind of healthful food from that category your family may start eating in the future. Try to answer the questions provided with your child.

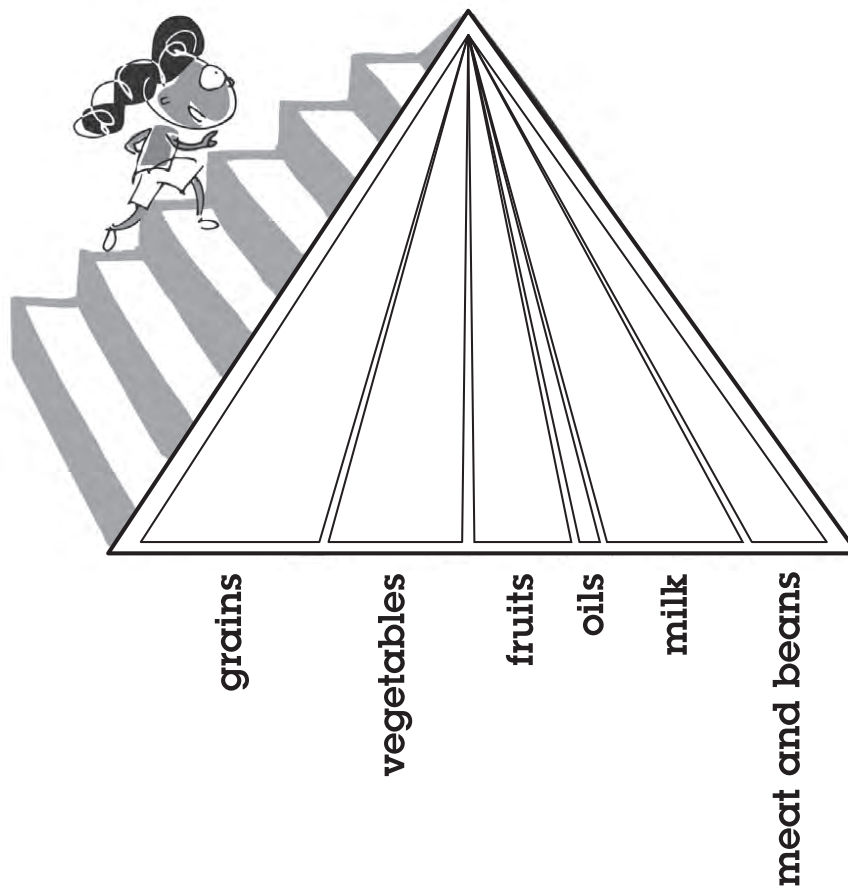
page 1 of 2





2.8

- **Orange:** Orange is for grains. What is a grain? Can you find a food that is a grain? Bread, spaghetti noodles, macaroni, rice, and so on.
- **Green:** Green is for vegetables. Find a vegetable that you like to eat.
- **Red:** Red is for fruits. Can you find a fruit that is the color red? What other colors of fruit can you think of? What is your favorite fruit to eat?
- **Yellow:** Yellow is for oils. What is oil? Why do you think oils are on our MyPyramid for Kids? Can you find a type of oil that we eat?
- **Blue:** Blue is for milk and milk foods. Why is it important for us to drink milk? Are there different ways to have milk? What do you like the most about milk?
- **Purple:** Purple is for meat and beans. Where does meat come from? How about beans? Why do you think it is important to eat meat and beans?



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Health Is Life in Balance

Health Is Life in Balance

Grades 1–2

UNIT 3: DIABETES IS AN IMBALANCE IN THE BODY





Unit 3 Overview

The DETS Grades 1–2 Unit 3, *Diabetes Is an Imbalance in the Body*, consists of five lessons and requires approximately eight class sessions of 20–40 minutes to complete. Students participate in a number of activities to learn about diseases and diabetes. Specific activities to emphasize include developing a definition for disease by comparing and contrasting diabetes to a cold and listening to a story to learn that eating healthful foods and getting more activity can help people stay healthy.



Unit 3 Correlation with National Standards

National Science Education Standards

In today's classroom, it is important that curriculum materials help teachers address the standards that have been set for various subject areas. The content of this curriculum unit ties directly to the National Research Council's 1996 *National Science Education Standards*. The following chart indicates which standards are addressed by the different lessons within Unit 3.

Content Standards: Grades K–4

Content Standard A: As a result of activities in grades K–4, all students should develop	Correlation with the DETS 1–2 Unit 3
Abilities necessary to do scientific inquiry	
<ul style="list-style-type: none"> Communicate investigations and explanations. 	Lessons 2, 5
Understandings about scientific inquiry	
<ul style="list-style-type: none"> Scientists use different kinds of investigations depending on the questions they are trying to answer. Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting). 	Lessons 1, 2, 3
Content Standard F: As a result of activities in grades K–4, all students should develop understanding of	
Personal health	
<ul style="list-style-type: none"> Individuals have some responsibility for their own health. Students should engage in personal care—dental hygiene, cleanliness, and exercise—that will maintain and improve health. 	Lessons 2, 3

Source: Reprinted with permission from *National Science Education Standards*. ©1996 by the National Academy of Sciences, National Academies Press, Washington, D.C.



National Health Education Standards

The content of Unit 3 also meets several of the *National Health Education Standards*, as outlined in the chart below.

This unit also addresses standards in the areas of language arts, math, and social studies (see appendix A).

Standards and Performance Indicators: Pre-Kindergarten–Grade 2.

Standard Number	National Health Education Standard	Correlation with the DETS 1–2 Unit 3
1	Students will comprehend concepts related to health promotion and disease prevention to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
1.2.1	Identify that healthy behaviors affect personal health.	Lesson 3
1.2.2	Recognize that there are multiple dimensions of health.	Lesson 1
3	Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
3.2.1	Identify trusted adults and professionals who can help promote health.	Lesson 2
5	Students will demonstrate the ability to use decision-making skills to enhance health	
As a result of health instruction in grades pre-kindergarten through 2, students will		
5.2.1	Identify situations when a health-related decision is needed.	Lesson 4
8	Students will demonstrate the ability to advocate for personal, family, and community health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
8.2.2	Encourage peers to make positive health choices.	Lesson 5

Source: Reprinted with permission, from the American Cancer Society. *National health education standards: Achieving excellence* (2nd ed.). Atlanta, GA: American Cancer Society. 2007, www.cancer.org/bookstore.

Teacher Strategies for Unit 3

Timeline for the Lessons

The timeline provides a guideline for completing the five lessons in Unit 3. The actual amount of class time needed for the unit will reflect the practice of individual teachers. Some classes will spend more time on activities and discussions than others. Depending on the amount of time available, you may need to complete lessons over multiple days.

Lesson 1, *What Does It Mean to Have an Imbalance?*: 30 minutes

Lesson 2, *What Is Disease?*: 50 minutes

Part I, *Signs of Sickness*: 30 minutes

Part II, *Messengers*: 20 minutes

Lesson 3, *Comparing Illnesses*: 50–70 minutes

Part I, *Shape Up: Learning about Diabetes*: 30–40 minutes

Part II, *Organizing What I Know*: 20–30 minutes

Lesson 4, *Lowering the Risk of Getting Diabetes*: two 30–40 minute class periods

Lesson 5, *What I Learned about Diabetes*: 30 minutes

The timeline assumes that you will teach the lessons on consecutive days. If several days separate the lessons, you may need additional time to review the previous lessons. This review will help students make stronger connections between the lessons.

Advance Preparation

2 Weeks Ahead

Begin reviewing lessons.

Invite a person who has diabetes or the school nurse to speak to the class in Lesson 2.

1 Week Ahead

Make photocopies and transparencies.

Gather necessary materials.

Read *Through the Eyes of the Eagle* from the Eagle Book series (see Lesson 4).

Teacher Materials for the Unit

chart paper

markers

transparency pens or markers

tape

1 labeled paper plate

1 small ball of clay



- 1 glue stick
- 8 pennies
- paper strips (sentence strips or adding machine tape)
- 2 hula hoops
- 2 table tents, one labeled “cold” and one labeled “diabetes”
- Eagle Book: *Through the Eyes of the Eagle*
- 1 overhead projector
- 1 transparency of Copymaster 3.3, *Comparing Diseases*
- shapes cut from copies of Copymaster 3.1, *Cold Shapes*, copied onto orange paper
- shapes cut from copies of Copymaster 3.2, *Diabetes Shapes*, copied onto blue paper

Student Materials for the Unit

For each student

- 1 copy of Copymaster 2.1, *Signs of Sickness*

For each team of 3 students

- crayons, markers, or colored pencils
- 1 copy of Copymaster 5.1, *What I Have Learned*

Vocabulary List

diabetes: Diabetes is a disease that occurs when the body does not use sugar (glucose) in the right way.

disease: A disease occurs when a part or parts of the body do not work the way they are supposed to for some length of time.

Monitoring Students’ Progress

Assessing what students have learned during an activity, lesson, or unit is an important part of your role as a teacher. Because assessment can play a different role at different times, Unit 3 has a variety of assessment strategies built in to the procedures.

The Engage lessons often include a mechanism for learning more about the preconceptions that students have before new content material is presented. From research on learning, we know that it is important for students to recall and think about their current knowledge and ideas. Some of this information is likely to be accurate and correct, but often this opportunity enables students to consider what they know, what questions they have, and even what discrepancies they have in their knowledge. Only after considering their prior knowledge will they be ready to add new information or revise incorrect ideas.

Assessment is also important as students progress through the lessons in the unit. In this unit, an icon in the margin denotes an opportunity for assessment. The icon indicates



stages at which you can assess students' understanding of the enduring understandings or major concepts the lesson is designed to convey. Specific strategies for evaluating students' understanding are provided with the icon. Some of the strategies are informal and quick, while others may be more in depth. On the basis of students' understanding at these points, you can modify your teaching practices accordingly.

The Evaluate lesson in the unit provides an opportunity for students to synthesize what they have learned during the previous lessons. By completing the Evaluate lesson, students demonstrate what they have learned and apply their understanding to new situations.



Health Is Life in Balance

Health Is Life in Balance



UNIT 3

DIABETES IS AN

IMBALANCE

IN THE BODY

STUDENT

LESSONS





Health Is Life in Balance



LESSON 1

WHAT DOES IT MEAN TO HAVE AN IMBALANCE?



Health Is Life in Balance

At a Glance

Overview

In Lesson 1, *What Does It Mean to Have an Imbalance?*, students use a model to learn that a person’s body, mind, feelings, and surrounding world all play roles in helping the person stay healthy. If one part of life becomes out of balance, the person may become unhealthy. Students learn the word “disease” and think about their understanding of that term.

Enduring Understandings

- Good health is life in balance.
- Models can help us understand good health.

Teacher Background

For a physical state, balance is shown when an object rests, without tipping, on a smaller, narrower object. In the context of health issues, balance is a state of harmony where nothing is out of proportion or overemphasized at the expense of the rest. Students will begin to understand this concept as they work through the activities in this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. reveal their understanding of balance and good health.

They will reveal their understanding by

- offering their ideas in a class discussion and
- watching a demonstration and responding to questions.

2. begin to make conceptual connections between balance and good health.

They will demonstrate their ability by

- responding to questions as the teacher relates the model to life and
- verbalizing connections in a class discussion.

In Advance

Teacher Materials

chart paper

markers

tape

1 labeled paper plate

1 glue stick

1 small ball of clay

8 pennies

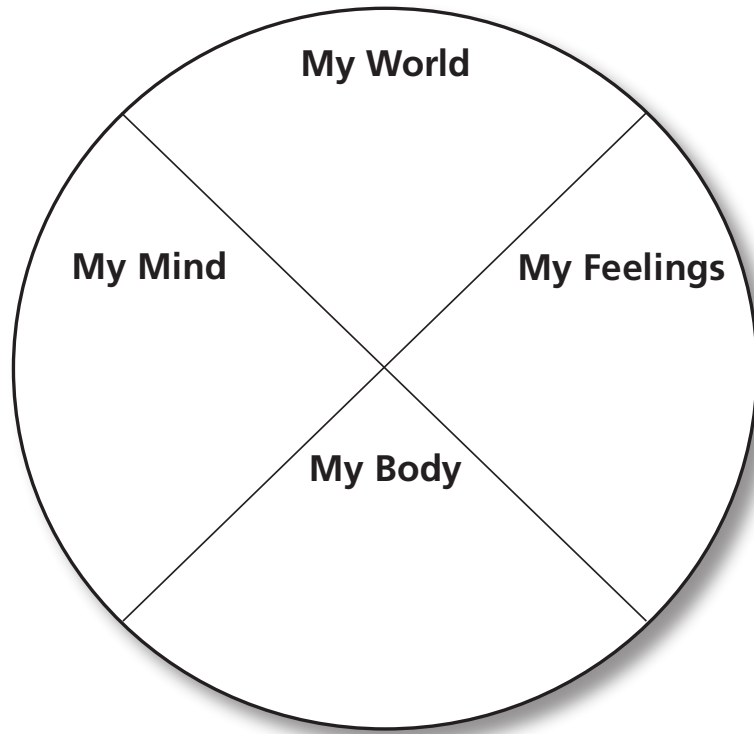
Lesson 1:
What Does It Mean to
Have an Imbalance?
Engage



Preparation

Prepare the paper plate used in the demonstration. Use figure 3.1 as a guide.

Figure 3.1:
Paper plate labeled “My Body,”
“My Mind,” “My Feelings,” and
“My World.”



Note to Teacher: *Some students may have worked with this model before. If so, they should have an understanding of what things would fit into each category. If not, you can ask them some guiding questions such as, “What do I do with my body?” or “What are some examples of feelings?”*

Process and Procedure

1. Hold up the paper plate that is divided into four areas labeled “my world”, “my feelings”, “my body,” and “my mind,” (figure 3.1). Ask students if they have any ideas about why these four categories are important to a person.
Record all reasonable responses on the board or chart paper, but particularly encourage responses that address the idea that all of these areas are important for a person to have a good life.
2. Balance the labeled paper plate on the end of a glue stick that you have secured to the table with a small amount of clay (figure 3.2). Ask students to suggest some healthy things that would fit into each of the four categories. For each positive thing that students name, hold the plate in place and lay a penny in the appropriate part.

Make sure that students think of an equal number of examples for each category. At the end of the discussion, you should have at least two pennies in each quadrant and the same number of pennies in each quadrant so that the plate will balance when you release it in the next step.

Possible responses include

- *My world*: Home, school, family, the earth
- *My feelings*: Respect, pride, happiness, confidence
- *My body*: Rest, drink water, be active, eat healthy foods
- *My mind*: Choices, learning, thinking, knowledge

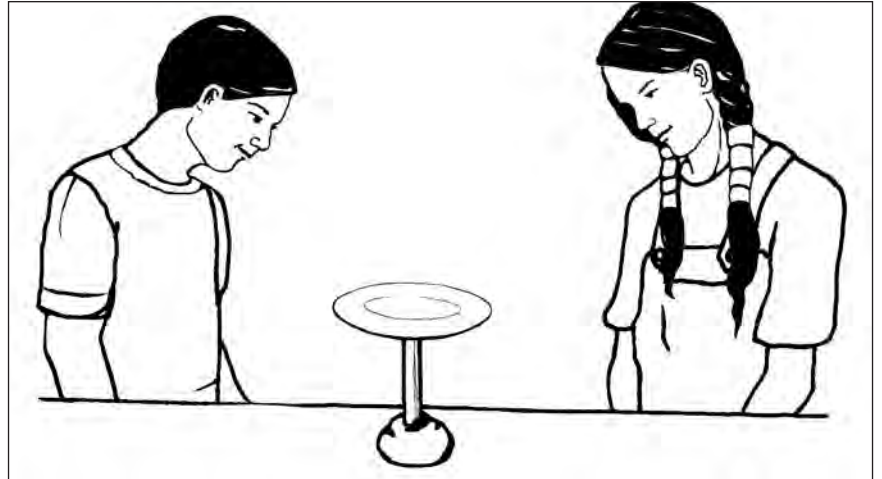


Figure 3.2:
Balancing a plate. Students should balance their plates similar to this.

3. **Still holding the plate in place, ask students what they think will happen when you release the plate.**

Some students may think the plate will tip over, and others will think it will be balanced. Point out the word *balance* and review its meaning. Ask students what must be true if the plate is to balance. Encourage students to connect this model to positive things in all areas of our lives.

4. **Explain to students that in this model, the plate and the four areas of the plate represent a person's life. Ask, "If this is a model for a person's life, what could you say about this person's life?"**

If the plate is balanced and the plate represents a person's life, then students should respond that the person's life is in balance, is even, or is something similar. They may even want to explain it as a good or happy life. If students have a hard time reaching this conclusion, return to the list generated in Step 1 and point out that all four parts are even (e.g., the "my body" area is not heavier than the "my feelings" area).

5. **Ask students to think about what would happen if you removed pennies from one area of the plate as it balances on the stick. After several students have shared their ideas, remove the pennies from the "my body" area of the plate. Did the result match the students' predictions?**

At this point in the demonstration, it doesn't matter from which area of the plate you remove the pennies. Depending on where the pennies are removed, you may get different results. In some cases, the plate tilts to some degree or another. In other cases,



the plate falls off completely. Either outcome is fine for the purpose of this demonstration.

6. After students have seen that the plate becomes out of balance when the pennies are removed, ask them what removing the pennies might represent in a person's life.

If students struggle with this, ask them to concentrate on the "my body" area and remind them what the two pennies represented (eating healthful food and getting exercise). Lead them to see that removing the pennies would represent someone who did not eat healthful food or get enough exercise. Students should see that the unbalanced plate represents a person who may not be healthy.

7. Continue the discussion about a person who is not healthy. Ask students to describe a person who is not healthy. If students do not suggest it, offer the idea that a person who is not healthy is sick. Then ask students, "What makes a person sick?" Let students express their ideas.
8. Ask students what they know about the word "disease." Write the word disease on the board or on chart paper and have students pronounce the word. Write their ideas underneath the word.

Keep this list visible throughout the remainder of the unit.

9. Connect the idea of disease with the plate. Ask students if they think a balanced plate or an unbalanced plate would represent a person with a disease.

Note to Teacher: *Unit 3 focuses on keeping the body in balance and the idea that diabetes represents an imbalance in the body. Refer back to this activity and the model used here as students learn more about diabetes as a disease and about ways they can keep their bodies in balance with healthful food choices and exercise.*



LESSON 2

WHAT IS DISEASE?





Health Is Life in Balance

At a Glance

Lesson 2: What Is Disease? Explore

Overview

Students learn new concepts better when they can connect the new learning with something they already know. Students begin Lesson 2, *What Is Disease?*, by thinking about a common illness, the cold. Using what they already know about a cold, they develop an operational definition of a disease. In the second part of this lesson, students learn more about diabetes by listening to a guest speaker who has diabetes or to the school nurse.

Enduring Understandings

- Our bodies don't work properly if we have a disease.
- Diabetes and a cold are examples of diseases.

Teacher Background

A cold is caused by a virus and is a common illness for children. While you may not have thought of a cold as a disease, in a sense, it is. It is a short-lived, communicable disease. Diabetes, on the other hand, is a disease that can last a lifetime and is not communicable. Refer to the *Overview of Diabetes* section in *Introductory Information* for more background on diabetes.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. recognize that a cold is an example of a disease.

They will demonstrate their ability by

- analyzing different pictures depicting an illness and
- reflecting back on experience with illnesses.

2. use their experiences to develop an operational definition of disease.

They will demonstrate their ability by voicing their ideas about disease to their teacher to develop a written definition.

3. consider whether diabetes is another example of a disease.

They will demonstrate their ability by communicating their ideas about diabetes to their class and teacher.

4. develop inquiry skills.

They will demonstrate their ability by

- developing questions they have about diabetes and
- listening to an expert as they answer their questions about diabetes.



In Advance

Teacher Materials

chart paper

markers

tape

paper plate model from Lesson 1

1 glue stick

1 small ball of clay

Student Materials

For each student

1 copy of Copymaster 2.1, *Signs of Sickness*

Preparation

Invite someone who has diabetes to come and talk to the class about what people with diabetes have to do to control their disease. The guest can show students how people test their blood. The guest can tell the class about the medicines for diabetes and the way people who have diabetes need to watch their diet and go to the doctor regularly. Inform the guest that students will be developing a list of questions about diabetes. Alternatively, ask the school nurse to come and speak to the class. In either case, before the class, discuss with your guest the goals of the unit and what students have learned about diabetes to this point.

Process and Procedure

Part I: Signs of Sickness

1. Remind students of the demonstration in Lesson 1, *What Does It Mean to Have an Imbalance?* Use the paper plate model to remind them of balance and to connect balance to good health. Also call attention to the word disease, which you have written on the board. Tell students that they will learn more diseases in this lesson.
2. Distribute the Copymaster 2.1, *Signs of Sickness*. Have students describe what they see in each picture.

Students should notice that the children are sneezing, coughing, and have a runny nose. One child is taking medicine and another is seeing a doctor.

3. Ask students if they have ever felt like this or have done these same things. Then ask them what the problem was when they had all these symptoms.

Lead the students to recognize that they were sick and that they may have had a cold.

- 4. Continue the discussion by asking them how they felt when they had a cold. Then ask students to raise their hands if they think a cold is a disease. For those students who think a cold is not a disease, ask them what they think a cold is.**

Most students will have had a cold at some point in their lives. Some students will probably think a cold is a disease, and some students will think it is something else. These students may want to label a cold as an illness or a sickness. Explain to students that all of these words really mean the same thing and that during this unit you will call all illnesses and sicknesses “diseases.”

- 5. Explain to the students that they are going to use what they know about a cold to come up with a definition for the word disease as a class. Use these guiding questions to help frame the discussion:**

- “Was your body working the way it is supposed to when you had a cold?”
- “What part or parts of your body were affected by the cold?”
- “When you had a cold, did it last for a few days or did it last a really long time?”

At the end of the discussion, the class should be able to decide on a definition based on the questions you have asked. Their definition should be similar to the following:

Disease: A disease is when a part or parts of the body don’t work the way they are supposed to for some length of time.

Write the class’s definition of disease on a piece of chart paper and post it where students can see it.

- 6. Write the word “diabetes” on the board. Help students pronounce the word and ask if they have heard of diabetes. Have them share what they know about diabetes.**

Students’ responses will vary. Some students may share that they have a family member who has diabetes; they may make statements such as “It makes you sick,” “You have to take medicine,” “You have to go to the doctor,” “People might have to use a machine to check their blood.”

- 7. Ask students if they think diabetes is a disease. Ask students to explain why they think diabetes is or is not a disease.**

Students will likely base their answer on any personal experiences or prior knowledge they have of diabetes. Some students may have never heard of diabetes. Students who have no prior knowledge or experience with diabetes can participate in this part of the discussion. Encourage students to compare their thoughts with the definition of disease that they developed in the previous step.



8. Ask students to come up with some questions that they have about diabetes. Tell them they will have a guest come to the class and answer their questions. Record the questions on chart paper and leave it posted in the room.

Part II: Messengers

1. Introduce the guest to the class and explain to students that the guest will talk about diabetes and then answer questions. Remind students of the questions that they developed earlier.
2. After students have asked all of the questions that they listed earlier, give them a chance to ask any new questions that they may have thought of.
Guide them to ask questions appropriate to the goals of the lesson.
3. In conclusion, have students thank their guest for helping them learn about diabetes. Tell students they will learn more about diabetes in the next lesson.



LESSON 3

COMPARING ILLNESSES





Health Is Life in Balance

At a Glance

Overview

Lesson 3, *Comparing Illnesses*, has two parts. In Part I, students continue thinking about diseases by matching shapes to find answers to questions about colds and diabetes. In Part II, students deepen their understanding about diabetes by completing a Venn diagram to organize facts about both colds and diabetes.

Enduring Understandings

- Colds and diabetes are two examples of diseases.
- Diabetes is a disease that occurs when the body does not use sugar (glucose) in the right way.
- People can do things to reduce the risk of getting diseases.

Teacher Background

Refer to the Overview of Diabetes section in Introductory Information for background about diabetes.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand some characteristics of diabetes and other diseases.

They will demonstrate their understanding by

- actively forming groups with classmates to match shapes and answers to questions about diseases,
- connecting their answers to a question posed about colds and diabetes, and
- reviewing as a class the characteristics of diabetes and colds.

2. compare colds and diabetes.

They will compare these diseases by

- working with their classmates to list things they have learned about colds and diabetes;
- categorizing these knowledge statements into statements about colds, statements about diabetes, or statements that can represent both; and
- using a Venn diagram to organize their knowledge statements according to similarities and differences.

In Advance

Teacher Materials

chart paper

marker



- transparency pens or markers
- paper strips (sentence strips or adding machine paper)
- 2 hula hoops
- 2 table tents, one labeled “cold “and one labeled “diabetes” (see figure 3.5)
- 1 paper plate model from Lesson 1
- 1 overhead projector
- 1 transparency of Copymaster 3.3, *Comparing Diseases*
- shapes cut from copies of Copymaster 3.1, *Cold Shapes*, copied onto orange paper
(see *Preparation*)
- shapes cut from copies of Copymaster 3.2, *Diabetes Shapes*, copied onto blue paper

Preparation

Make copies of Copymaster 3.1, *Cold Shapes*, on orange paper and Copymaster 3.2, *Diabetes Shapes*, on blue paper. Prepare enough copies so that each student will have one shape of one color. Ensure that there are equal numbers of each color and shape. Consider laminating these for future use. Cut the shapes from the paper.

Process and Procedure

Part I: Shape Up: Learning about Diabetes

1. Ask students what they remember about diabetes from Lesson 2, *What Is Disease?* Tell them they are going to learn more about diabetes today by continuing to compare diabetes with a cold.
2. Explain to students that scientists need to learn facts about things before they can make decisions. Inform students that they will be thinking like scientists to learn about diabetes. They will then use the information to determine whether diabetes is really a disease.
3. Hand each student a shape cut from either Copymaster 3.1, *Cold Shapes*, or 3.2, *Diabetes Shapes*. Tell students to find other students in the class who have the same shape of paper and to stand together.

If you have an odd number of students in the class, take a shape yourself to serve as a match for the unpaired student. Each piece of paper is a specific shape, and each different shape answers one of the questions about colds or diabetes shown on Copymaster 3.3, *Comparing Diseases*, and figure 3.3. The pieces of information should help students understand more about diabetes as a disease.

4. Display a transparency of Copymaster 3.3. Read through the questions with the class.

You can either read the questions to the class or, if appropriate, students can take turns reading the questions aloud.

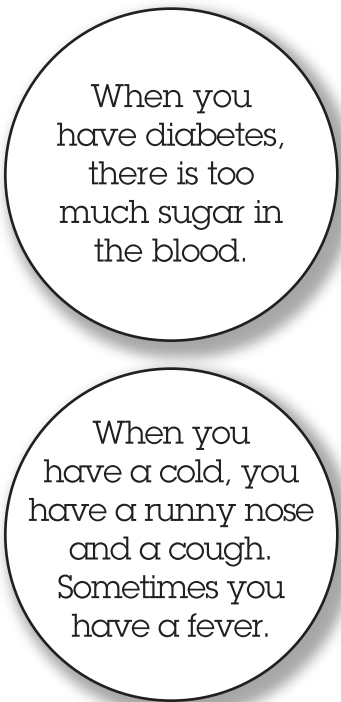


Figure 3.3: Shapes have answers to similar questions. The circle from Copymaster 3.2, *Diabetes Shapes*, and the circle from Copymaster 3.1, *Cold Shapes*, answer the questions “What is diabetes?” and “What is a cold?”

- Have students with matching shapes—for example, squares—come to the front of the class and read the information on their squares. Ask which question their information answers. Write the information for both the cold and diabetes in the appropriate place on the chart.

You may need to help some students with the reading. Even though you posted the word diabetes on the board earlier, some students will still find it confusing when they see it written. Finding the correct question to match the answer will also be difficult for many students. Ask probing questions about both the questions and the answers to help students choose the correct question. Use this opportunity to review shapes with your students.

- Continue this process until all questions have been answered. Review the questions and answers with your students to reinforce their learning. Figure 3.4 shows the shapes matched with the correct questions.









Colds		Diabetes	
What is a cold?		What is diabetes?	
What can you do to not get a cold?		What can you do to not get diabetes?	
Will a cold go away?		Will diabetes go away?	
Can you catch a cold from others?		Can you catch diabetes from others?	

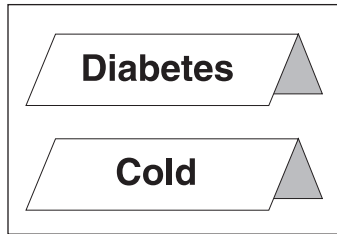
Figure 3.4: Sample answers to the chart on Copymaster 3.3, *Comparing Diseases*.

Note to Teacher: *Emphasize to students that eating healthfully and being active is the best way to keep from getting diabetes and to keep us more in balance if we have diabetes. Eating healthful foods, getting plenty of exercise, and maintaining an appropriate weight lowers the risk for type 2 diabetes, may prevent the onset of type 2 diabetes, may reduce or prevent the complications of diabetes, and helps manage the symptoms of diabetes by keeping blood glucose in balance.*

- After the chart from Copymaster 3.3 is complete, ask students to think back to their definition of disease. Point to the definition they created earlier and go through it with them. Ask students to use the information they have learned in this activity to explain why diabetes is or is not a disease.



Figure 3.5: Table tents for the Venn diagram. Make table tents like these to place on the floor with your hula hoops to form a Venn diagram.



Assessment Opportunities

You can learn a great deal about students' understanding by listening to the facts they give and how they categorize them using the Venn diagram.

Students should see that diabetes is something that affects all parts of the body in a way that is different from normal and that lasts a long time, maybe forever. Because of this, diabetes should be considered a disease.

- 8. Remind students of the balancing plate. Display it again for the class so that it is unbalanced. Ask students if this unbalanced plate could represent a body with diabetes. Tell students that they will learn more about things they can do to help prevent diabetes in the lessons to come.

Part II: Organizing What I Know

1. Use a Venn diagram to compare a cold and diabetes. Use two hula hoops to create the Venn diagram on the floor. Label each circle with a table tent (figure 3.5). Explain that students will put things they know about colds in one circle and things they know about diabetes in the other circle.
2. Have students sit on the floor in a large circle around the Venn diagram. Ask students to name some things they have learned about colds, diabetes, or both. When a student shares an appropriate fact, write it on a strip of paper and ask the class if the fact is true for a cold, diabetes, or both. Place the strip in the appropriate part of the Venn diagram. Once students have mentioned something that relates to both a cold and diabetes, ask them where you could place the strip so that it would be in both circles.

A completed Venn diagram is shown in figure 3.6.

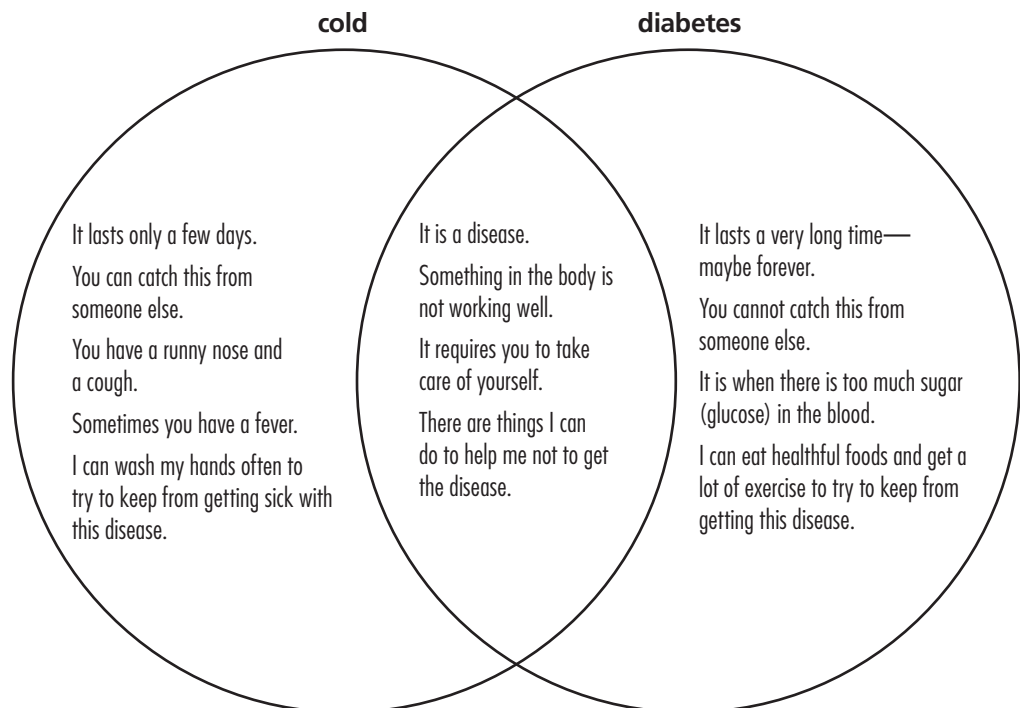


Figure 3.6: Sample answers for the cold and diabetes Venn diagram. If students do not suggest all of these items, write each one on a paper strip and ask the students where to put the strips in the Venn diagram.

3. Wrap up the activity by pointing out that both colds and diabetes are diseases. Students have seen things that are alike and things that are different between them. Inform students that in the next lesson they will learn more about diabetes and the things they can do to stay healthy.

Students will have different personal experiences related to diabetes. Some students may have information that indicates the severe consequences of diabetes. Other students may have information that indicates diabetes is not that bad. If students express fear, reassure them that they will be learning more about how people can either lower their chances of getting it or learn to take care of themselves if they do have it. Comparing diabetes with something as common and short term as a cold should help students understand that a disease is not always something to be scared about.



Health Is Life in Balance



LESSON 4
**LOWERING THE
RISK OF GETTING
DIABETES**



Health Is Life in Balance

At a Glance

Overview

In Lesson 4, *Lowering the Risk of Getting Diabetes*, students listen to a story to learn about how lives have changed over time, including the increased occurrence of diabetes. They also learn things that people can do to reduce their chances of getting diabetes. Students summarize what they learn in a Venn diagram.

Enduring Understandings

- People's lives have changed over time.
- More people have diabetes now than in the past.
- People can do things to lower their chances of getting diabetes.

Teacher Background

Refer to the *Overview of Diabetes* and *Life in Balance* sections of *Introductory Information* for background.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand that people's lives are different now than in the past.

They will demonstrate their understanding by completing a Venn diagram that provides specific examples of how life today is different from before.

2. be able to name things that people can do to make their lives healthier.

They will demonstrate their abilities by adding to a Venn diagram with specific examples of things people can do to lower their chances of getting diabetes.

In Advance

Teacher Materials

Eagle Book: *Through the Eyes of the Eagle*

Preparation

Read the Eagle Book *Through the Eyes of the Eagle* before beginning the lesson. When introducing the book to the students, you may want to tell the story in your own words before reading it to them. This storytelling approach engages the students' attention. The story can be read in small parts to keep the students' interest, just as elders often tell stories in many small parts. The whole book can be read as another activity during reading time.

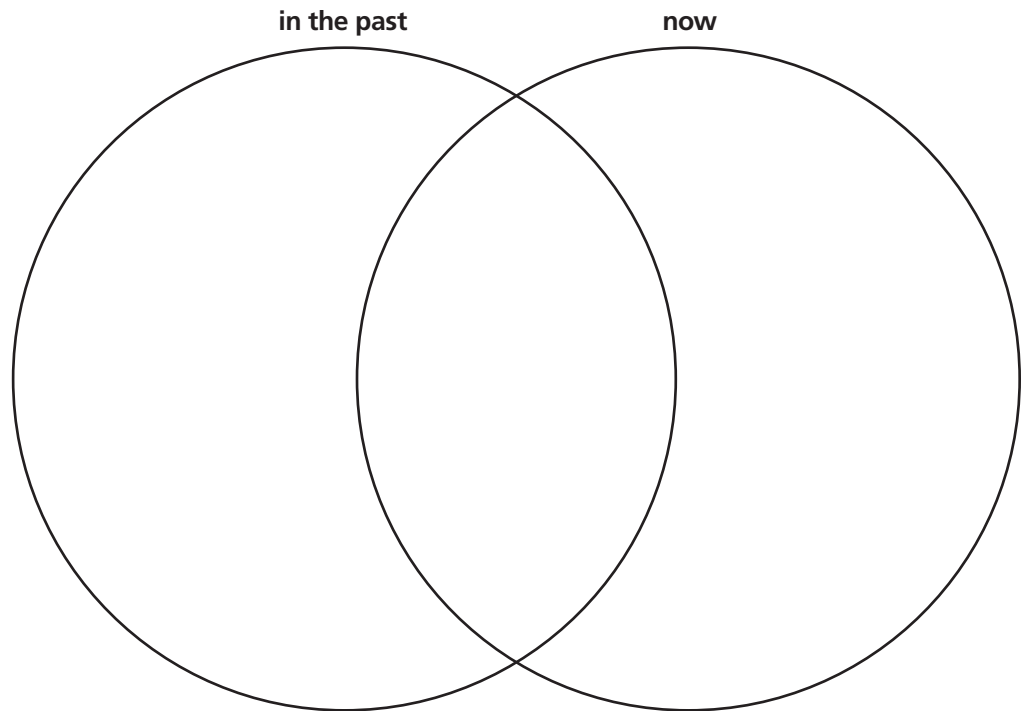
Lesson 4:
Lowering the Risk of
Getting Diabetes
Elaborate



Process and Procedure

1. Remind students that in Lesson 3, *Comparing Illnesses*, they learned that diabetes is a disease. Tell students that they will learn more about diabetes from a story, *Through the Eyes of the Eagle*.
2. Draw a Venn diagram on the board (figure 3.7). Tell students that they will fill in the diagram using what they learn in different parts of the story that they are going to listen to.

Figure 3.7:
Example of a Venn diagram.



3. Read pages 1–20 of the story. As you read, show the pictures to students. When you have finished reading this part of the story, ask students what they have learned from the story. Use the following questions to help guide the discussion:

- “Why is the eagle sad?”
- “What are the things the Old Wise Eagle saw as he flew around that he doesn’t see now?”
- “Were the people that the Old Wise Eagle saw healthy?”

As you summarize this part of the story with students, record in the left side of the Venn diagram the things that the Old Wise Eagle saw.

List all the examples that students can recall. You can show the pictures in the story to the students again to help them remember. For the purposes of the Venn diagram, focus more on what the people were like and how they lived. Some examples are listed:

- Beginning on page 12, Rain That Dances sees a river with plenty of fish.
- On page 14, Old Wise Eagle sees the beauty of the world: mountain peaks, valleys, rivers, and the sun and moon.
- On pages 15–16, the eagle sees bear, buffalo, and deer, he also sees people working together and being active.
- On page 18, the men of the village have strong, healthy bodies because they hunt.
- On page 20, families work together to plant seeds and grow gardens, with the children helping with the work and also stopping to play.

Students should also be able to state that the people in the old times were healthy (did not have diabetes).

4. Continue the story by reading pages 21–24. Ask students to explain more about why the eagle is sad. Ask students what the eagle sees people doing now that is different from what the Old Wise Eagle saw people doing. Record students’ responses in the right side of the Venn diagram (figure 3.8).

The story tells us that the eagle is sad because people have diabetes. The things the eagle sees now that are different from what the Old Wise Eagle saw include the following:

- Children not playing and moving around as much.
- Children eating foods that are not as healthy.
- Some people can’t walk and need wheelchairs.
- Some people cannot see.

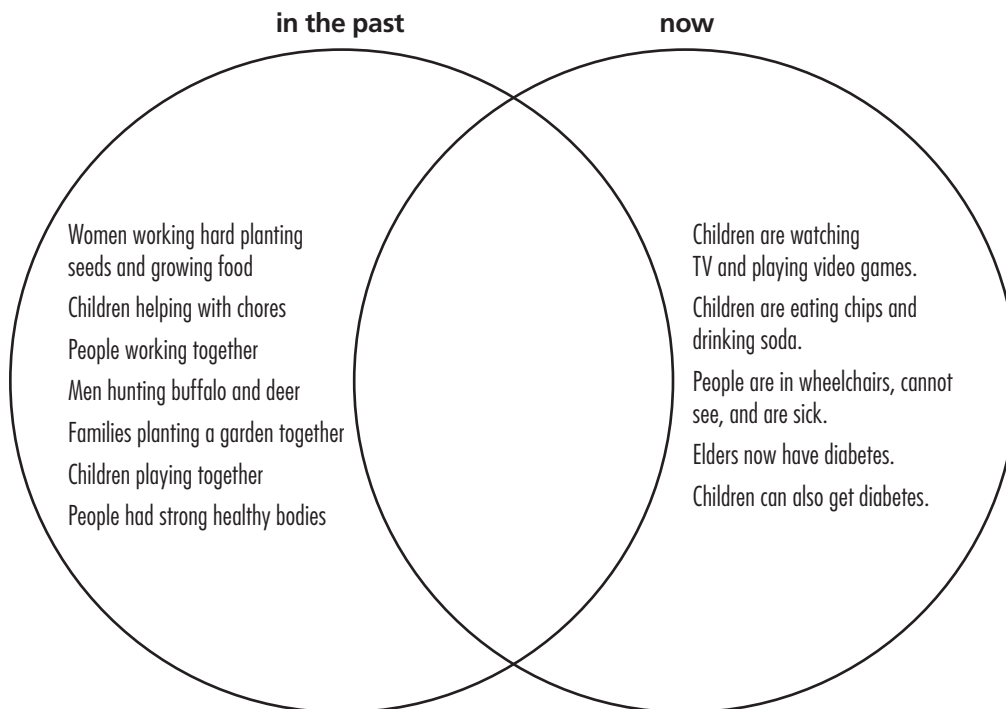


Figure 3.8: Sample of the completed left and right sides of the Venn diagram. The middle of the Venn diagram will remain blank until after both the left and right sides are completed. If students question why the center part is blank, simply tell them that you will explain the center part later.



5. Ask students if they can think of anything else that might be different now than it was for their parents or their elders.

Ideas that students think of may simply be specific detail about things listed in the story. For example, students may suggest that they ride in cars now instead of walking or riding a bicycle. Or they may suggest that they drink soda instead of water. Add any reasonable ideas to the list.

6. Remind students that they learned that both colds and diabetes are diseases. Ask, “What do people do when they have a disease?” Ask students if they think people can do anything if they have diabetes.

Students may suggest a number of different things that people can do if they have a disease. For example, people can go to the doctor, take medicine, get more sleep, or eat healthful foods. Students may or may not have some ideas about what people can do if they have diabetes. If students don’t have any ideas, explain that they will learn more about what a person who has diabetes can do to take care of himself or herself.

7. Finish reading the story to students. When you finish, ask students what Rain That Dances has learned and can share with his people to be strong and healthy once again. Add those things to the middle of the Venn diagram (figure 3.9).

Rain That Dances learned several things that he can share with others, including the following:

- People can do things to stay healthy and not get diabetes.
- Eating traditional foods can help people be healthy.
- Becoming more active helps people stay healthy.

8. After students have discussed the things that Rain That Dances learned, have students complete the middle of the Venn diagram. They should suggest things that the eagle wanted Rain That Dances to share with his people to be strong and healthy once again.



Figure 3.9:
Sample completed Venn diagram.



Health Is Life in Balance



LESSON 5
WHAT I LEARNED
ABOUT DIABETES





Health Is Life in Balance

At a Glance

Overview

In Lesson 5, *What I Learned about Diabetes*, students demonstrate what they have learned in Unit 3. They write a dialogue between the members of a Native American family. This dialogue consists of questions and answers about good health and diabetes.

Enduring Understandings

Sharing information about good health is important.

Teacher Background

There is no new background material for this lesson. Use the previous lessons' background for reference.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to communicate what they have learned about diabetes and good health.

They will demonstrate their ability by

- recalling what they have learned about diabetes and good health,
- writing captions to explain a health messages to accompany cartoons, and
- verbally sharing their message of good health.

In Advance

Student Materials

For each team of 3 students

crayons, markers, or colored pencils

1 copy of Copymaster 5.1, *What I Have Learned*

Process and Procedure

1. Help students remember what activities they have done during this unit.

Students have participated in a number of activities to learn about diseases and diabetes. Specific activities to emphasize include developing a definition for disease comparing diabetes with a cold by using the shape-matching activity, and listening to a story in which students learned that eating healthful foods and getting more activity can help people stay healthy.

2. Divide the class into teams of three students. Give each team a copy of Copymaster 5.1, *What I Have Learned*. Explain to students that they will look at the cartoons and write captions that explain what they have learned in the

Lesson 5:
What I Learned
about Diabetes
Evaluate



Assessment Opportunities

You can learn a great deal about students' understanding by listening to the facts they give and how they categorize them using the Venn diagram.

unit. They can pass on the cartoons to others as good-health messages. Ask students to color their cartoons with crayons, markers, or colored pencils.

Make sure students understand that their task is to complete the captions in a way that provides information about diabetes or disease and is not just for fun.

3. After students have time to complete their captions, circulate around the room and ask teams to explain their ideas to you.

The captions that students write should help you assess their understanding. Asking questions will help guide students to include more information if necessary.

4. Ask teams to share their cartoons with the class. Suggest that all team members participate by reading or acting out their cartoon.
5. Post the students' work on a bulletin board or wall so that other classes will see the message of good health.

After the work has been posted for a while, encourage students to take their work home and share what they have learned with their families.

Diabetes Is an Imbalance in the Body

UNIT 3

COPYMASTERS

Copymaster 2.1, *Signs of Sickness*

Copymaster 3.1, *Cold Shapes*

Copymaster 3.2, *Diabetes Shapes*

Copymaster 3.3, *Comparing Diseases*

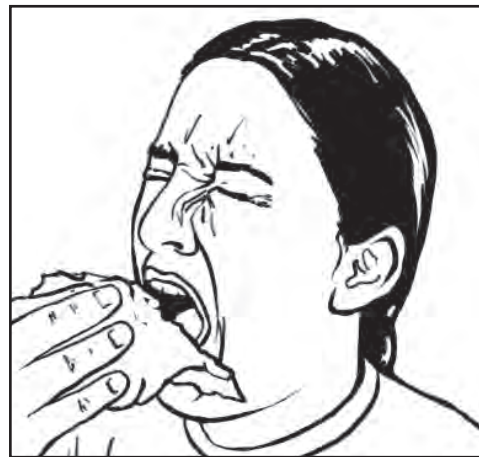
Copymaster 5.1, *What I Have Learned*





2.1

Signs of Sickness





3.1

Cold Shapes

When you have a cold, you have a runny nose and a cough. Sometimes you have a fever.

Yes, you can catch a cold from someone else.

Yes, a cold will go away. It will last only a few days.

Washing my hands often can help me not get a cold.





3.2

Diabetes Shapes

When you have diabetes, there is too much sugar in the blood.

No, you cannot catch diabetes from someone else.

No, diabetes will not go away. Diabetes may last all your life.

Eating healthful foods and getting a lot of exercise can help me not get diabetes.





3.3

Comparing Diseases

Colds	Diabetes
What is a cold?	What is diabetes?
What can you do to not get a cold?	What can you do to not get diabetes?
Will a cold go away?	Will diabetes go away?
Can you catch a cold from others?	Can you catch diabetes from others?





5.1

What I Have Learned







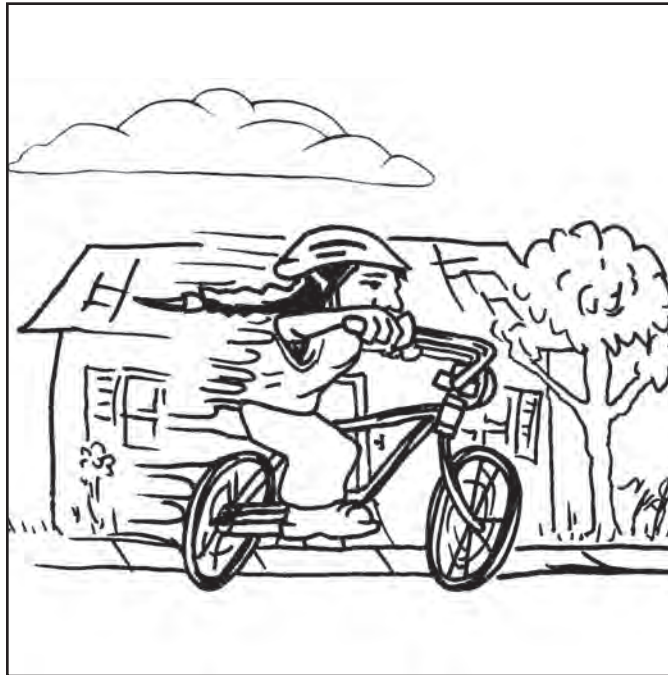
5.1







5.1







5.1







Health Is Life in Balance

Health Is Life in Balance

Grades 1–2

UNIT 4: BALANCING THE BODY'S NEEDS TO PREVENT DIABETES





Unit 4 Overview

The DETS Grades 1–2 Unit 4, *Balancing the Body’s Needs to Prevent Diabetes*, consists of six lessons that will take 11–12 class sessions of 15–45 minutes. Students understand the role of the senses and our minds in making healthy choices of food and physical activity, further developing the theme of health is life in balance. With emphasis on the Circle of Life in four directions, recognized by many indigenous people, the concept of balance is conveyed in four areas of health—food, water, exercise, and rest to prevent diabetes.

Unit 4 Correlation with National Standards

National Science Education Standards

In today's classroom, it is important that curriculum materials help teachers address the standards that have been set for various subject areas. The content of this curriculum unit ties directly to the National Research Council's 1996 *National Science Education Standards*. The chart on the next page indicates which standards are addressed by the different lessons within Unit 4.





Content Standards: Grades K–4

Content Standard A: As a result of activities in grades K–4, all students should develop	Correlation with the DETS 1–2 Unit 4
Abilities necessary to do scientific inquiry	
<ul style="list-style-type: none"> ■ Employ simple equipment and tools to gather data and extend the senses. 	Lessons 1, 3, 5
<ul style="list-style-type: none"> ■ Use data to construct a reasonable explanation. 	Lessons 1, 5
<ul style="list-style-type: none"> ■ Communicate investigations and explanations. 	Lessons 1, 5
Understandings about scientific inquiry	
<ul style="list-style-type: none"> ■ Scientists use different kinds of investigations depending on the questions they are trying to answer. Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting). 	Lessons 1, 3, 5
<ul style="list-style-type: none"> ■ Scientists develop explanations using observations (evidence) and what they already know about the world (scientific knowledge). Good explanations are based on evidence from investigations. 	Lessons 1, 2, 5
Content Standard C: As a result of activities in grades K–4, all students should develop understanding of	
The characteristics of organisms	
<ul style="list-style-type: none"> ■ Each plant or animal has different structures that serve different functions in growth, survival, and reproduction. For example, humans have distinct body structures for walking, holding, seeing, and talking. 	Lessons 1, 3, 5
<ul style="list-style-type: none"> ■ The behavior of individual organisms is influenced by internal cues (such as hunger) and by external cues (such as a change in environment). Humans and other organisms have senses that help them detect internal and external cues. 	Lessons 1, 3, 5
Content Standard F: As a result of activities in grades K–4, all students should develop understanding of	
Personal health	
<ul style="list-style-type: none"> ■ Individuals have some responsibility for their own health. Students should engage in personal care—dental hygiene, cleanliness, and exercise—that will maintain and improve health. 	Lessons 2, 4
<ul style="list-style-type: none"> ■ Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat. 	Lessons 2, 4

Source: Reprinted with permission from *National Science Education Standards*. © 1996 by the National Academy of Sciences, National Academies Press, Washington, D.C.

National Health Education Standards

The content of Unit 4 also meets several of the *National Health Education Standards*, as outlined in the chart below.

This unit also addresses standards in the areas of language arts, math, and social studies (see appendix A).

Standards and Performance Indicators: Pre-Kindergarten–Grade 2.

Standard Number	National Health Education Standard	Correlation with the DETS 1–2 Unit 4
1	Students will comprehend concepts related to health promotion and disease prevention to enhance health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
1.2.1	Identify that healthy behaviors affect personal health.	Lessons 4, 5
1.2.2	Recognize that there are multiple dimensions of health.	Lessons 4, 5
7	Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
7.2.1	Demonstrate healthy practices and behaviors that maintain or improve personal health.	Lessons 2, 5
8	Students will demonstrate the ability to advocate for personal, family, and community health.	
As a result of health instruction in grades pre-kindergarten through 2, students will		
8.2.2	Encourage peers to make positive health choices.	Lesson 5

Source: Reprinted with permission, from the American Cancer Society. *National health education standards: Achieving excellence* (2nd ed.). Atlanta, GA: American Cancer Society. 2007, www.cancer.org/bookstore.



Teacher Strategies for Unit 4

Timeline for the Lessons

The timeline provides a guideline for completing the six lessons in Unit 4. The actual amount of class time needed for the unit will reflect the practice of individual teachers. Some classes will spend more time on activities and discussions than others. Depending on the amount of time available, you may need to complete lessons over multiple days.

Lesson 1, *The Secret Box*: 50–70 minutes

Part I, *Our Senses*: 20–30 minutes

Part II, *Our Senses as Tools*: 30–40 minutes

Lesson 2, *Healthy Choices We Make Every Day*: 70 minutes

Part I, *A Healthy Role Play*: 40 minutes

Part II, *My Senses in Healthy Activities*: 30 minutes

Lesson 3, *Healthy Choices and My Senses*: 60 minutes

Part I, *Multiple Senses Are Better Than One*: 15 minutes

Part II, *Can You Sense It?*: 45 minutes

Lesson 4, *Learning from MyPyramid for Kids*: 80 minutes

Part I, *MyPyramid for Kids and Food Choices*: 40 minutes

Part II, *MyPyramid for Kids and Physical Activity*: 40 minutes

Lesson 5, *A Body in Balance*: 60 minutes

Part I, *Body Clues*: 40 minutes

Part II, *Story Time*: 20 minutes

Lesson 6, *The Journal of My Learning*: 40 minutes or several shorter sessions

The timeline assumes that you will teach the lessons on consecutive days. If several days separate the lessons, you may need additional time to review the previous lessons. This review will help students make stronger connections between the lessons.

Advance Preparation

2 Weeks Ahead

Begin reviewing lessons.

Send out a request for parents or helpers in Lesson 3. You will need at least one helper for each station. Parents or the school kitchen workers might also help purchase and prepare the foods for the stations.

Check for any food allergies or sensitivities that students may have. Select foods for the activity with this information in mind.

1 Week Ahead

Make photocopies and transparencies.

Familiarize yourself with the background reading in *Introductory Information* and Copymaster 4.1, *The New Food Guide Pyramid*.

Prepare sense cards and secret boxes (see Lesson 1).

Prepare science journals for each student (see *Preparation* in Lesson 1).

Teacher Materials for the Unit

chart paper

markers

tape

1 stapler

glue or tape

1–3 shoe boxes

1–3 old socks

1 hot glue gun and glue

2–6 rubber bands

1–3 cups of day-old popped popcorn

1 microwave oven

microwave popcorn (fat free and low sodium)

paper cups

5 craft sticks or note cards

1 apple

1 onion

selection of foods of different sizes, smells, and textures, such as lemons, pears, bananas, peppers, grapes, peaches, kiwis, grapefruits, carrots, lettuce, broccoli, potatoes, raisins, bread, popcorn, pickles, turnips, pretzels, and cereals

small plastic containers or paper cups for food

magazines with food pictures

several empty toilet paper rolls (inside cardboard core)

1 clock or watch with second hand

1 mirror

stethoscopes (optional)

1 color copy of *MyPyramid for Kids* poster from the TRCD

Eagle Book: *Tricky Treats*

Eagle Book: *Knees Lifted High*

1 overhead projector



- 1 copy of Copymaster 6.1, *Scoring Rubric for the Journal of My Learning*
- 1 copy of Copymaster 1.1, *My Senses*
- 1 copy of Copymaster 4.1, *The New Food Guide Pyramid*
- 1 copy of Copymaster 4.2, *Portion Sizes*

Student Materials for the Unit

For each student

- 5 craft sticks or note cards
- scissors
- crayons, markers, or colored pencils (including red, blue, green, orange, yellow, and purple)
- 1 pencil
- glue or tape
- 1 copy of Copymaster 1.1, *My Senses*
- 1 journal made from pages of Copymaster 1.2, *My Science Journal*, stapled together

For each team of 3–4 students

- 1 piece of chart or poster paper
- crayons, markers, or colored pencils
- 1–2 copies of Copymaster 1.1, *My Senses* (optional)

Vocabulary List

diabetes: Diabetes is a disease in which the body cannot use the food we eat in the normal way, and the result is too much sugar (glucose) in the blood.

exercise: Exercise refers to keeping fit, being active, or working out.

observation: People observe, or find out, about things by using all their senses.

physical activity: A physical activity is any activity in which the body is moving.

senses: Senses are the parts of the body used to observe, or find out, about objects and their properties: nose—sense of smell, eyes—sense of sight, ears—sense of hearing, tongue—sense of taste, hand—sense of touch.

Monitoring Students' Progress

Assessing what students have learned during an activity, lesson, or unit is an important part of your role as a teacher. Because assessment can play a different role at different times, Unit 4 has a variety of assessment strategies built in to the procedures.

The Engage lessons often include a mechanism for learning more about the preconceptions that students have before new content material is presented. From research on learning, we know that it is important for students to recall and think about their current knowledge and ideas. Some of this information is likely to be accurate and

correct, but often this opportunity enables students to consider what they know, what questions they have, and even what discrepancies they have in their knowledge. Only after considering their prior knowledge will they be ready to add new information or revise incorrect ideas.

Assessment is also important as students progress through the lessons in the unit. In this unit, an icon in the margin denotes an opportunity for assessment. The icon indicates stages at which you can assess students' understanding of the enduring understandings or major concepts the lesson is designed to convey. Specific strategies for evaluating students' understanding are provided with the icon. Some of the strategies are informal and quick, while others may be more in depth. On the basis of students' understanding at these points, you can modify your teaching practices accordingly.


The Evaluate lesson in the unit provides an opportunity for students to synthesize what they have learned during the previous lessons. By completing the Evaluate lesson, students demonstrate what they have learned and apply their understanding to new situations.





Health Is Life in Balance

Health Is Life in Balance



UNIT 4
BALANCING THE
BODY'S NEEDS TO
PREVENT DIABETES
STUDENT
LESSONS





Health Is Life in Balance



LESSON 1
THE SECRET
BOX



Health Is Life in Balance

At a Glance

Lesson 1: The Secret Box Engage

Overview

In Lesson 1, *The Secret Box*, students learn about their senses and how senses can be used to make observations. Students become scientists as they use their senses as tools to gather information about popcorn. While not seeing or tasting the popcorn, students gather data with their senses to predict and hypothesize about the contents of a box. The box contains popcorn, and students learn that our senses help us gather important information about the world around us. Students begin a science journal in this lesson and add to their journals as they complete each lesson in Unit 4.

Enduring Understandings

- We can use our senses to gather information about the world around us.
- Often, our ideas change when more information is available.

Teacher Background

No special background information is required for teaching this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. identify observations they can make using their senses.

They will demonstrate their ability by

- sharing in a class discussion the knowledge that they use their noses, eyes, tongues, hands, and ears as tools to observe smell, sight, taste, touch, and sound;
- using their senses individually to identify popcorn; and
- identifying which sense and body part they are using to make observations.

2. develop their inquiry skills.

They will demonstrate their ability by

- suggesting a scientific question about a secret substance in a box,
- using their senses as tools to make observations,
- making predictions and hypotheses to answer the question,
- revising the prediction based on new information or evidence, and
- recording their ideas in a science journal.

In Advance

Teacher Materials

chart paper

markers

tape



- 1 stapler
- glue or tape
- 1–3 shoe boxes
- 1–3 old socks
- 1 hot glue gun and glue
- 2–6 rubber bands
- 1–3 cups of day-old popped popcorn
- 1 microwave oven
- microwave popcorn (fat free and low sodium)
- paper cups
- 5 craft sticks or note cards
- 1 copy of Copymaster 1.1, *My Senses*

Student Materials

For each student

- 5 craft sticks or note cards
- scissors
- crayons, markers, or colored pencils
- 1 pencil
- glue or tape
- 1 copy of Copymaster 1.1, *My Senses*
- 1 journal made from pages of Copymaster 1.2, *My Science Journal*, stapled together

Preparation

Prepare a set of sense cards by cutting out the pictures on Copymaster 1.1, *My Senses*, and gluing or taping each card to a craft stick or note card.

Prepare 1 secret box (or several) from a shoe box and old sock. Cut a hole on one side of the box big enough for a student's hand. Use an old sock to make a "sleeve" for the hole and glue it to the outside of the box, as shown in figure 4.1. Cut the toe out of the sock to make a tube. Place about a cup of day-old popped popcorn in the box and secure the lid with rubber bands. Using old popcorn will reduce the chance that students can identify the popcorn by smell.

Prepare a science journal for each student using Copymaster 1.2, *My Science Journal*. This copymaster is several pages long. Make two-sided copies to save paper. Staple the journals along the left side to make a booklet.

Secure a microwave to use in your class.

Purchase several bags of low-sodium, fat-free microwave popcorn. Purchase enough so that each student can enjoy a small portion.

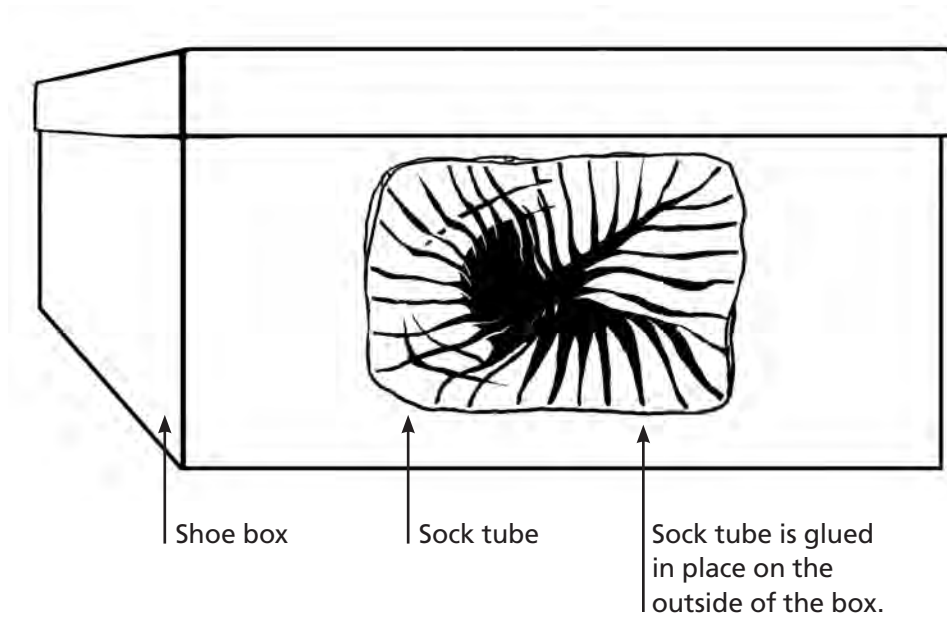


Figure 4.1: Secret box.

Prepare one to three secret boxes for this activity.

If appropriate or required by your school, send information home with students informing parents of the different foods that students will be tasting during this lesson. Make sure you are aware of any food allergies or sensitivities that students may have.

Process and Procedure

Part I: Our Senses

1. Before beginning the lesson, draw a chart on the board or chart paper that has three columns and five rows. Label the columns “picture,” “part of the body,” and “sense.”

Students will fill in the chart during the next step.

2. Show students a set of sense cards. Ask students to name the parts of the body shown on each card. Then ask students, “What do we do with each of these?” Allow students to share their ideas until they have identified each body part card with its sense. Tape the cards to the appropriate place on the chart.






Students should be able to say that we hear with our ears, see with our eyes, smell with our noses, taste with our tongues, and touch or feel with our hands (figure 4.2, on next page).

3. Pass out Copymaster 1.1, *My Senses*, to each student along with five craft sticks or note cards. Have students color and then cut apart the pictures. Ask students to glue each picture onto a craft stick or note card.

Students could use note cards instead of craft sticks to create their sense cards. They could also use tape instead of glue to attach the cards to the craft sticks or note cards.



Figure 4.2:
Sample answers for the sense chart from Step 2. After going through the class discussion, you will complete a chart similar to this.

Picture	Part of the Body	Sense
	eye	sight or seeing
	nose	smell
	ear	hearing
	tongue	taste
	hand	touch

Part II: Our Senses as Tools

1. Tell students that you have a secret box that contains something healthy inside. Tell them that they are going to act like scientists today and try to figure out what is in the secret box by using their senses. Ask students to give examples of the type of information they can learn using each of their five senses.

If students are not familiar with the word “observation,” then these examples will help them develop an operational definition of the word. Help students get started naming these observations and record their ideas on chart paper. Sample student responses are shown in figure 4.3.






See	Smell	Hear	Taste	Touch
				
color	good/bad	loud/soft sounds	sweet	smooth
size	stinky	high/low sounds	salty	rough
shape	fruity	musical sounds	good/bad	hot/cold
shiny/dull	smelly	crashing sounds	yummy	soft/hard

Figure 4.3:
Sample student responses to the sense observations in Step 1. Record students' ideas on chart paper.

- Tell students that during the next steps of the lesson they are to be very quiet and not talk until you ask them to. They are to use their senses only and not talk aloud.
- Pass around the secret box, and have students place a hand in the box and feel the contents. Remind students that they are not to talk during this part of the lesson.
- Ask students what sense they used to learn about what is in the box. Ask students to hold up the card for that sense.

Students should hold up the hand card identifying the sense of touch. If some students hold up a card other than the hand card, ask them to explain how they are using the other sense. For example, if a student heard the contents of the secret box sliding around in the box, he or she may select the ear card for the sense of hearing. Explain that you want them to select the card that represents the sense they used when they put their hands into the box. All students should choose the hand card for the sense of touch.

- Tell students that they can now talk as you ask questions, but remind them not to share their guesses about what is in the box yet. Ask students to describe how the contents of the box felt to them. Record their responses on the board or chart paper.
- Tell students that they gathered information using their sense of touch. Explain that scientists gather information to answer questions. Ask them to share their ideas for a good question that describes what they were trying to find out. Write their ideas for questions on the board.

Allow students to share until they come up with the question, "What is in the box?"

- Give each student a science journal. Tell students that they will have an opportunity to color the front cover later and that they will be working with



their journals for the rest of the unit. Make sure students record their names on the front of the journals.

In later steps, students will record in their journals their ideas about what is in the box.

- 8. Tell students to write their question, “What is in the box?” on page 1 of their journals. The heading on that page reads “The Secret Box.” Ask students to think about what they felt in the secret box. If they want to guess what is in the box, have them record their ideas in their journals. Remind them that they are not to talk during this step.**

Use your professional judgment about introducing the word “hypothesis.” If your students are familiar with the term or are ready to use this word, introduce the term here. Tell students that scientists make observations and then make a hypothesis (or an educated guess) when they are trying to answer a question.

- 9. Instruct students to make observations again without talking. Inform students that you are going to do a demonstration that will give them some hints about what was in the secret box. Explain that when they make an observation using one of their senses, they should hold up that sense card. They can then put the card down, and if they make another observation, they should hold up the appropriate card. Tell the class that they will be observing to try to answer the question, “What was in the secret box?” Remind them to think about the answer and not to share their guesses aloud.**

Give students some examples of things like sounds or smells and ask them to hold up the appropriate sense card. Practice this so that you will know that they understand their task.

- 10. Without allowing students to see what you are doing, place a bag of popcorn in the microwave. Set the timer for the popcorn and start the cooking process. Remind students to use their senses as this demonstration gives them clues about what was in the secret box. Also remind them not to guess aloud but to keep their ideas a secret. When they have used one of their senses to observe, remind them to hold that sense card in the air.**

Students will likely hear popping first, then smell the popcorn.

- 11. When the popcorn is finished cooking, open the door of the microwave. Do not show the popcorn to the students. Remind them to keep their ideas a secret and not to talk aloud. Open the bag of popcorn but leave it in the microwave oven.**

This will allow the smell of popcorn to reach all students in the class. All students should be able to smell the popcorn and raise their nose sense card to indicate that they are using their sense of smell.

12. Ask students if they would like to make another guess about what was in the secret box. Tell them that the material in the secret box is the same thing that was in the microwave. Again, remind them not to share their ideas aloud. Have students write their ideas in their science journals.

If students made a guess earlier and their ideas have changed, ask them to draw one line through the first guess, but not to erase their first guess. This way, you can see how your students' ideas are changing.

Take this opportunity to discuss with the class that scientists often change their ideas when they get more information. Scientists are always revising their ideas based on new data.

13. Ask students what sense they have not used so far to answer the question, "What was in the secret box?" Students should say that they have not used their sense of taste and maybe not their sense of sight. Ask them if they would like to use these senses to see if their guesses were correct.

Serve some plain popcorn to students in small cups.

14. As students are enjoying their healthful snack, ask them to hold up a card that shows a sense they are using. They may hold up the ear because they hear everyone crunching on popcorn, the nose because they can smell the popcorn, the eye because they can see the popcorn, the hand because they can feel the popcorn, or the tongue because they can taste the popcorn. Tell them that they will learn more about their senses in the next lessons. They will also learn how they can use their senses to make healthy choices.



Health Is Life in Balance



LESSON 2

HEALTHY CHOICES WE MAKE EVERY DAY





Health Is Life in Balance

At a Glance

Overview

In Lesson 2, *Healthy Choices We Make Every Day*, students illustrate and role-play healthy activities that they do at different times of the day. Teams of students plan short skits about healthy activities. The class then tries to guess what the students are acting out. Students think about the role their senses play in making these healthy decisions. Along the way, students record their ideas in their science journals.

Enduring Understandings

We use our senses and our minds to make healthy decisions.

Teacher Background

No special background information is required for teaching this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. reflect on things they do to stay healthy.

They will demonstrate their ability by

- illustrating, in their science journals, healthy activities for specific times during the day and
- role-playing these healthy activities for the class.

2. relate their five senses to healthy choices.

They will demonstrate their ability by

- illustrating or describing what senses they use during healthy activities and
- explaining how they use senses in each activity.

3. realize that they use both their senses and their minds to make healthy choices.

They will demonstrate their ability by engaging in a class discussion about healthy choices.

In Advance

Teacher Materials

chart paper

markers

tape

Student Materials

For each student

1 science journal from Lesson 1

1 pencil

crayons, markers, or colored pencils

Lesson 2:
Healthy Choices We
Make Every Day
Explore



For each team of 3–4 students

1 piece of chart or poster paper
crayons, markers, or colored pencils

Process and Procedure

Part I: A Healthy Role Play

1. Divide the class into four teams. Assign each team a time period: before school, during school, after school, and evening or nighttime.

If this makes the teams too large, consider making eight smaller teams with two teams for each time period. If you use this alternative, have teams work with other teams so they do not focus on the same activities.

2. Begin by explaining that students are going to think about what they do at specific times during the day to stay healthy. Ask students to think about this question: “What do you do before, during, and after school and at night to help keep you healthy and strong?”

It might help to give students an example: in the evening, a healthy activity could be reading a book to improve their minds. Try to choose examples that students are not likely to think of and would want to do for their skit.

3. Tell each team they are to think of an activity they do to stay healthy at their assigned time of day. Have students open their science journals to page 2. The title on that page reads “Healthy Choices All Day.” Point out where students should write the time of day that they were assigned.
4. Explain to students that they should think of an activity that they might do to stay healthy during their assigned time of day. Ask them to draw a picture in their science journals to show that activity.

As teams work, circulate among them to monitor their progress. Each team member may illustrate or describe a different activity for the time period. If teams have trouble getting started, give them hints such as eating healthful meals, brushing their teeth, walking to school, playing at recess or during PE class, resting or sleeping, drinking water, and washing their hands or bodies.

5. Instruct teams to choose two or three ideas to act out for the class. Tell them that when it is their team’s turn, they will act out the activities and the other teams will try to guess what they are acting out.
6. As teams act out their ideas, have the other teams try to guess the activity they are acting out. Record the activities on chart paper under the title “healthy choices we make every day.” Display the students’ ideas in the classroom.

7. Wrap up this part of the lesson with a discussion about things students noticed that were part of the role plays.

The types of activities that should be part of the skits include eating healthful foods, doing activities that promote good health and safety, engaging in physical activity, and learning. Emphasize the concept of balance as conveyed in four areas of health—food, water, exercise, and rest.

Part II: My Senses in Healthy Activities

1. Ask students to work in the same teams as in Part I. Give each team a piece of poster paper or chart paper. Remind them of the time of day that they worked on in Part I. Tell them they are going to illustrate on the paper one or two of the healthy activities from their assigned time of day.
2. Once students have illustrated their activities, have them think about which senses they use during their chosen activities. Ask students to draw something on their posters to show which senses they use. Inform students that they will need to be able to explain how they use their senses in the activities.

It is likely that not all five senses will be involved in each activity. However, most activities will include several different senses. Some examples of students' answers would be that they use their sense of taste as they taste their healthful breakfast or they hear the crackling of the cereal as milk is poured over the top. They may see a car coming and then stop before they cross the street on their way to school. They may feel the moisture on their heads as they are sweating after recess. They may smell dinner cooking when they are doing their homework at night. They may smell fresh sheets as they go to bed and get needed rest at the end of the day.

3. End this lesson by discussing healthy choices with the class. The students have illustrated healthy activities that they do at different times of the day. Remind them that when they do an activity or eat something, they have a choice. We use our senses along with our minds to make healthy choices. Discuss the choices they make at different times of the day and include both healthy choices and unhealthy choices so that students can compare them.

For example, at breakfast they can choose a breakfast cereal high in sugar or one sweetened with milk and fruit. They can choose to stay up late at night watching television or go to bed early and get the rest that they need. They can choose a snack during the day that is a candy bar and soda or they can choose water and fruit. Students can choose to watch television and play video games after school or play outside.



Assessment Opportunities

You can assess students' understanding through discussions with the teams during their planning phase for their skits and by watching the skits. You can also gauge students' understanding by noticing how well students are able to guess the activities that other teams are acting out.



Assessment Opportunities

Make sure students make appropriate connections between the activities they illustrate and the senses involved.



Health Is Life in Balance

An illustration in a light orange color featuring an eagle with its wings spread on the left and a teepee on the right. The teepee has a sun-like symbol on its front and is set on a circular base. The text is overlaid on this illustration.

LESSON 3
HEALTHY CHOICES
AND MY SENSES



Health Is Life in Balance

At a Glance

Overview

In Lesson 3, *Healthy Choices and My Senses*, students continue learning about their senses and how they use their senses to learn about the world. The idea that the mind and senses work together to make healthy choices is reinforced in this lesson. In Part II, students explore different foods with their senses. Students use their senses to make a guess (hypothesis) about what they think they are sensing with one sense, and then use other senses (evidence) to find out if they were right.

Enduring Understandings

- It is often easier to make good decisions about our food by using multiple senses.
- We use our minds and our senses to make healthy decisions about the food we eat.
- The senses work together to help us explore our world.

Teacher Background

No special background information is required for teaching this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to develop their observation skills.

They will demonstrate their ability by

- using each sense individually to make, describe, and write observations about different foods and
- using one sense to make a prediction and another sense to gather more evidence that will enable them to determine if the prediction is correct.

In Advance

Teacher Materials

secret boxes from Lesson 1 (optional)

1 apple

1 onion

selection of foods of different sizes, smells, and textures, such as lemons, pears, bananas, peppers, grapes, peaches, kiwis, grapefruits, carrots, lettuce, broccoli, potatoes, raisins, bread, popcorn, pickles, turnips, pretzels, and cereals (see *Preparation*)

small plastic containers or paper cups for food

Eagle Book: *Tricky Treats*



Student Materials

For each student

1 science journal from Lesson 1

Preparation

Read the Eagle Book *Tricky Treats* before beginning the lessons. When introducing the book to the students, you may want to tell the story in your own words before reading it to them. This storytelling approach engages the students' attention. The story can be read in small parts to keep the students' interest, just as elders often tell stories in many small parts. The whole book can be read as another activity during reading time. During the lesson, you can open the book to particular pages to illustrate a point.

Find out if students have any allergies or sensitivities to the foods you will use in this lesson. If necessary, alter the foods that you bring into the classroom. For example, peanut butter could pose a problem for some students. Even having it in the room could cause problems for a student with a peanut allergy.

Read the activity in advance and determine what foods you will use. A list of suggested foods is provided in the materials list, and you can choose any number of these. Consider asking parent volunteers to supply some of the food items.

Arrange in advance to have parents or school personnel attend class to facilitate the five stations.

Prepare the five stations. Mark each station with the sense and the picture of the body part used for that sense. This will help students identify the correct station when recording in their science journals.

Place the secret boxes from Lesson 1 in the touch station. Make additional secret boxes if necessary.

Before class begins, cut an apple and an onion into pieces.

Process and Procedure

Part I: Multiple Senses Are Better Than One

Note to Teacher: *Students should wash their hands before this activity and before handling any food.*

1. Ask the students if they have ever noticed that food tastes different when they have a cold.

Some students may state that food lost some of its taste or tasted funny if their noses were stuffed up.

2. Give each student a piece of apple. Instruct students to hold the apple until you ask them to taste it. Tell them you are also going to give them another kind of food. But students need to close their eyes and keep them closed before you hand out the other food.
3. After students have closed their eyes, hand each student a piece of onion. Instruct them to hold the new food up to their noses and smell it while eating the piece of apple. Ask students to describe what the apple tastes like.

Students will likely say that the apple tastes funny or bad. They will discover that the nose is responsible for part of the flavor of food.

4. Explain that you are going to bring out some other foods and that students should use their senses of smell and hearing to try to figure out what those foods are. Ask students to close their eyes again.

Circulate among students and let them smell the food you are holding. After each round, students can open their eyes and give their ideas about what they thought the food was based on what they could smell and hear. Write their guesses on the board. Repeat this two or three times with different foods. You might want to use one food that has a distinct smell (e.g., a cut lemon), one food that doesn't have much smell but makes a sound in a container (pieces of dry cereal), and one that might be difficult to figure out because it doesn't have a strong odor or make noise.

5. Ask students how they could get more information that would help them identify the foods they smelled or find out if their guesses were correct.

If students don't suggest it, ask them if their other senses would help. For example, they could use their sense of touch to feel the shape of the lemon. They could use their sense of touch or taste to find out more about the cereal pieces. They could use their sense of touch to feel the smoothness (or the chunkiness) of peanut butter.

6. Ask students to close their eyes again. This time, explain that they should hold their noses closed and use just their tongues to identify what they are eating.

Give them something like a pear or an apple slice. They may have trouble telling what it is until they open their noses. Emphasize the senses while opening several interesting fruits and vegetables that are good for us—see the color, smell the goodness, touch the texture, taste the flavor, hear the crunch!

Ask students to name the five senses and the body part associated with each sense. Guide students to discuss being a scientist and how we can use all of our senses to observe the world around us. Ask the students to reflect on their five senses and how they use them. Encourage several students to give their responses and ideas.



Part II: Can You Sense It?

1. Divide the class into five groups to rotate through five centers. Have each group stand near one of the five centers. Explain that the adult at the center will explain what they are supposed to do there.

Have students take their science journals and a pencil with them to each station. Make sure you brief the adult facilitators before class on their role and what students should focus on at each station. Also make sure the adults are aware that students should be writing in their science journals at each station (and that they know which page students should be using).

You or a helper will need paper and pencil to keep a tally of what choices the students make at their stations and to record their comments. (Have the foods in closed containers so students cannot see the objects in advance.)

You will need to signal when the groups rotate and oversee the whole process, making sure they have enough time at each center.

Note to Teacher: *Students will not go through the stations in the same order. Make sure students are recording their ideas on the correct page of their science journals. Icons of the senses are used on the journal pages to help students.*

The Five Stations

The following list provides information about what students will do at each of the five stations and the types of food that would be appropriate examples at the stations.

1. Touch: At this station, students handle foods with their eyes closed or blindfolded (no eating). Alternatively, you can put the foods in several secret boxes (from Lesson 1). After feeling all the choices, students write their descriptions in their science journals on the “Touch” page (page 3 of their journals). They can either illustrate the foods or describe them. Examples of appropriate foods at this station are slices of potato, raisins, bread, and pretzel sticks.

2. Taste: Have small samples of foods of different tastes (sweet, sour, and salty). As students sample the foods, ask them to draw a picture of the food in their science journals and give a word describing the taste. Students should draw their pictures and write their descriptive words on page 4 of their science journals. Examples of foods and their taste are apple or pear (sweet), lemon or dill pickle (sour), and popcorn or pretzels (salty).

Note to Teacher: *Have this station near a sink or hand sanitizer. Tell students that they should wash their hands or use hand sanitizer (if they washed them earlier) before doing this station.*

3. Smell: Have students close their eyes and use only their sense of smell to gather information. After smelling all the choices, ask them to predict what they think the food item is and write down their guesses (they can also illustrate their ideas). The appropriate science journal page is 5. Examples of foods for this station are onion, apple, and carrot.

4. Sight (vision): Have students use only their sense of sight to make observations. Clearly number the examples at the station. Use examples that might not be easy to identify by sight alone. These may include slices of turnip, potato, and apple or a food that students may not have seen before, such as star fruit, kiwi, jicama, kohlrabi, celery root, or a chunk of cheese. Ask students to illustrate or describe the three examples on page 6 of their science journals.

5. Hearing: At this station, students use their sense of hearing to gather information about foods. Have students turn their backs to the facilitator, or put up a barrier between the student and the facilitator. See if students can identify the foods. Have them record their ideas in their science journals (page 7). Use foods that make noise (dry cereal shaking in a cup, milk or water pouring into a cup, carrots being broken in half, or crackers being broken).

It might be interesting to students to eat one food that is at each station. For example, pretzels have a distinct feel and taste. We can hear them breaking and we can see their distinct shape. They do not have a strong scent, however. In this way, students could use this example as a way for most of their senses to provide information about a single food.

Note to Teacher: *If this lesson is too long for your class time, consider doing two stations on the first day and completing the lesson on a second day.*

2. Wrap up this station activity by bringing the whole class together and discussing each station. Begin by asking students if it was easy to identify each item using only one sense or if it would be easier to use more than one sense.
3. Continue this discussion about how we use both our senses and our minds to make healthy decisions.



Assessment Opportunities

Monitor students' work as they go through the five stations to see if they are using their senses appropriately and gathering evidence that helps them understand the role of our senses.



For example, if we only used our senses, then we may only eat foods that have our favorite tastes or flavors. If we used only our senses to make decisions, then we may only eat chocolate. Our minds learn from our elders and from school that we must make good decisions in order to help us stay healthy. A balance between our minds and our senses helps us seek out healthful foods that are pleasing to us.

4. During reading time, read the Eagle Book *Tricky Treats* to the class.

This story will support the activities in this lesson and reinforce important concepts.



LESSON 4
LEARNING FROM
MY PYRAMID
FOR KIDS





Health Is Life in Balance

At a Glance

Overview

In Part I of Lesson 4, *Learning from MyPyramid for Kids*, students think about foods they have eaten that day. They use *MyPyramid for Kids* to categorize their foods. Then students think about the choices they can make during the rest of the day. They consider foods that are “missing” from their food diaries for the day based on the recommended allowance. Then they plan foods to eat for the rest of the day based on what they learned.

In Part II, students consider the importance of physical activity in a healthy lifestyle. Students develop a list of their favorite activities and learn about what makes them exercise. Students learn that much of their playtime is great physical exercise. Students also participate in exercise, complete with a warm-up and a cooldown phase. In each part of the lesson, students add their ideas to their science journals.

Enduring Understandings

- *MyPyramid for Kids* can help us use our minds to make healthful food choices.
- Daily exercise or physical activity is important for good health.
- Exercise can be fun.

Teacher Background

Information to share with the students includes the following:

- Regular physical activity strengthens hearts, lungs, muscles, and bones.
- Physical activity can help people avoid becoming overweight.
- Eating healthful foods in balance gives people energy and enables them to do physical activities.
- It is important to do physical activity in a safe sequence: warm-up, vigorous activity, and cooldown.
- Safety is important—allow enough room to move, do the activity on a proper surface to avoid injury, and be in a safe area.
- Use equipment to stay safe and healthy. Always wear a helmet when you are riding a bike, skating, or skateboarding. Use proper knee and elbow pads.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. analyze the *MyPyramid for Kids* food guide for information about healthful eating.

They will demonstrate their ability by

- coloring the food guide and explaining the significance of the colored bands and their different widths and

Lesson 4: Learning from MyPyramid for Kids Explain



- making sense of the symbolism related to physical activity that is included on *MyPyramid for Kids*.
2. use *MyPyramid for Kids* to make healthy decisions.
- They will demonstrate their ability by
- analyzing the foods they have eaten on that day,
 - categorizing these foods into food groups as shown on *MyPyramid for Kids*, and
 - making choices based on *MyPyramid for Kids* about foods to eat for the remainder of the day.
3. begin to understand the importance of daily physical activity.
- They will demonstrate their understanding by
- analyzing *MyPyramid for Kids* for information about physical activity,
 - expressing their understanding in a discussion about physical activity,
 - discussing the proper sequence of exercise that includes warm-up and cooldown, and
 - participating in an activity that includes the proper sequence of safe physical activity.

In Advance

Teacher Materials

chart paper

markers

tape

magazines with food pictures

1 color copy of the *MyPyramid for Kids* poster from the TRCD

1 copy of Copymaster 4.1, *The New Food Guide Pyramid*

1 copy of Copymaster 4.2, *Portion Sizes*

Student Materials

For each student

1 science journal

1 pencil

crayons, markers, or colored pencils (red, blue, green, orange, yellow, and purple)

glue or tape

scissors

Preparation

Become familiar with the teacher background material from Copymaster 4.1, *The New Food Guide Pyramid*, and Copymaster 4.2, *Portion Sizes*.

Arrange a place, either outdoors or in the gym, for a physical activity.

Process and Procedure

Part I: MyPyramid for Kids and Food Choices

1. Remind students of what they learned in the previous lesson: we use our senses and our minds to make healthy decisions about the foods we eat and the activities we do each day.
2. Tell students that they are going to think first about foods they eat in one day, and later they will think about their activities. Have students draw, list, or cut out from magazines the foods they have eaten today.

Students should do this in their science journals on page 8, “Food for a Day.” If the students are cutting pictures from magazines, they may glue or tape them on the page. If you are doing this activity before lunch, have students include food they brought for lunch. Check the cafeteria menu for those who eat in the cafeteria.

3. Display the *MyPyramid for Kids* poster and discuss *MyPyramid for Kids* with students. Have students turn to “*MyPyramid for Kids* Coloring Page” on page 9 in their science journals. Ask students to color the pyramid with the colors shown on the poster.
4. Lead the discussion by pointing out important features of *MyPyramid for Kids* and asking questions such as:
 - “What do you think the pictures of foods mean at the bottom of the pyramid?”
 - “Do you notice that all of the colored bands are not the same size?”
 - “What do you think that means?”

During the discussion, point out that the colored bands on *MyPyramid for Kids* are wider at the bottom and narrower at the top. This indicates that some foods in the food group are healthier than other foods. Ask students to think of another food that may not be as high in sugar as the toaster pastry that would also be in the grains and fruit group. Whole-wheat toast and unsweetened fruit spread belong in these groups. These foods would be represented at the bottom (wider section of the colored band), and the toaster pastry would be at the top.

You do not need to discuss the stairs and child running up the stairs at this time. Students will think about what this represents in Part II.

5. Ask students to work in pairs and try to decide where their food pictures would belong on *MyPyramid for Kids*. Ask students to group their foods according to the food groups represented on *MyPyramid for Kids* by circling or coloring them with the same colors. For example, foods that they think belong in the grains food group should be colored or circled in orange.

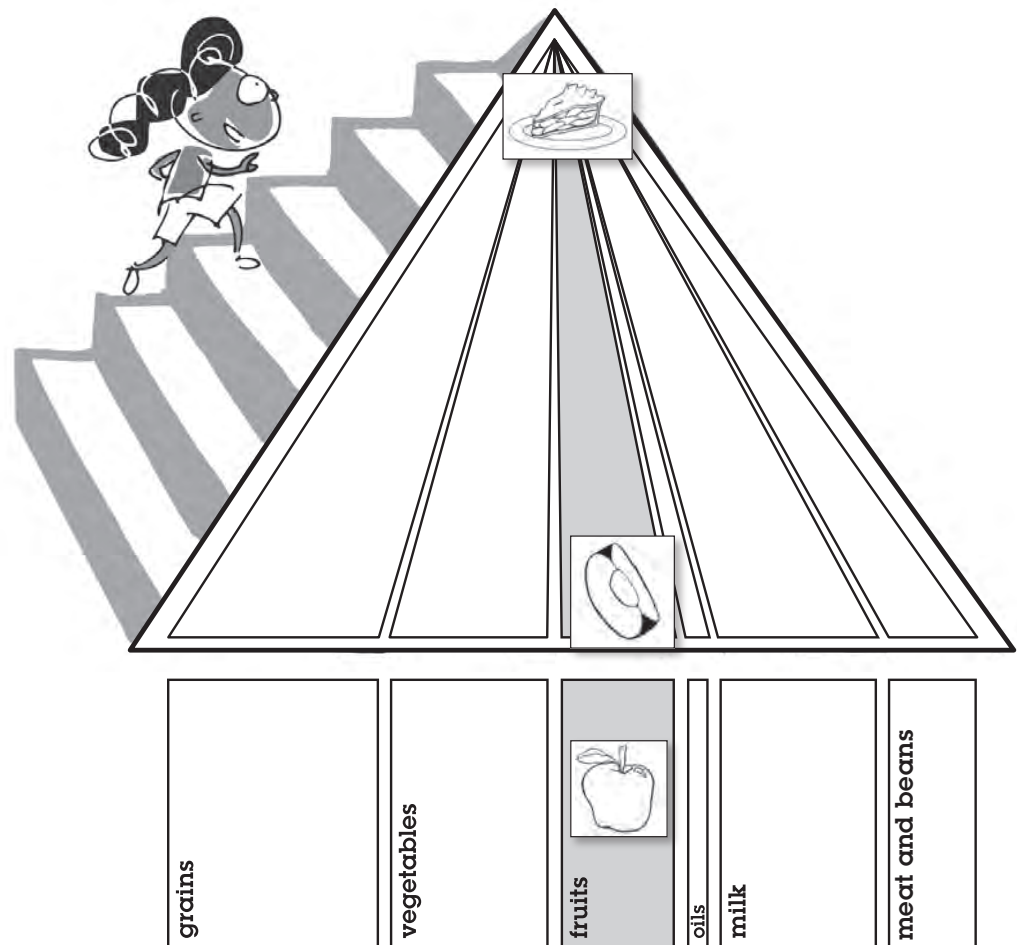


Some foods will belong in multiple groups, and you may have to help students make a decision as to which group it belongs to. This will be a good opportunity to discuss the high sugar and fat content of some foods. For example, a student who had a fruit toaster pastry for breakfast will have to decide if the pastry goes into the grains category or the fruit category.

Ask students what they think the position on *MyPyramid for Kids* means. It means that we should eat more of the healthier grains and fruits such as whole-wheat breads and fresh or unsweetened fruit (figure 4.4).

Figure 4.4:

Sample answer for the food choices in Step 5. Foods such as fruit come in many forms. Fresh fruit is the healthiest choice and appears at the bottom (widest) part of the pyramid. Apple pie is high in sugar and appears at the top (narrowest) part of the pyramid, showing that we should limit our choices that are high in sugar and fat.



6. Discuss with students their food choices for the rest of the day. Remind students that we use both our senses and our minds to help us make healthy decisions. Ask them how they choose the foods they eat each day.

Responses will include that students eat things that taste good and those that are available. Tell students that scientists have developed *MyPyramid for Kids* to help us use our minds to make healthy choices and that students will also use their senses to make these choices.



7. Ask students to look at the *MyPyramid for Kids* poster and select foods that they enjoy eating and that would help them complete their requirements for healthful food for the day. Use the information included in Copymaster 4.1, *The New Food Guide Pyramid*, and Copymaster 4.2, *Portion Sizes*, to help students make their decisions. Have students make a plan for the rest of the day and record their ideas on p. 10 in their science journals. The heading on that page is “Food Choices for the Rest of the Day.”

They can either illustrate their ideas or describe them. Students may not know what they are having for dinner that night. But encourage them to think about foods that they like and that are healthful and complete the requirements from *MyPyramid for Kids*. Ask them to share their ideas with the class and to take their ideas home and share them with their families.

Part II: MyPyramid for Kids and Physical Activity

1. Engage the students in a discussion about physical activity (exercise).

Ask each student in turn to say aloud one favorite activity he or she likes to do. Accept all answers and make sure each student has the chance to list at least one favorite activity. Students will list some very energetic and some very sedentary activities.

2. Ask students other questions about physical activity:

- “Why is being active important to the body?” Answer: Explain that exercise is a positive health habit that helps strengthen the heart and keeps muscles and bones strong. It also helps to use the fuel that our food provides. These habits can help a person stay healthy for years, often lowering the chances of contracting diseases such as diabetes.

- “Can exercise be fun?” Answer: When students are playing, they are exercising, too. Emphasize the fun and the joy of being outside, smelling the clean earth, seeing the panoramic beauty, stomping and playing on the earth, hearing the sounds of birds, and feeling our arms and legs move.

- “How often do we need to have physical activity?” Answer: We all need to make exercise a daily health habit to keep our bodies in balance.

3. Review the *MyPyramid for Kids* poster and lead students in a discussion about the importance of physical activity in keeping our bodies in balance. Ask students to look at the poster and to name parts of the poster that the class has not discussed.

Students should note the child running up the steps on the side of the pyramid. Ask students what they think this represents. Guide the students to learn that this represents physical activity and that they should get exercise every day.



4. Ask students to describe what they know about the benefits of physical activities such as sports, games, and outdoor activities.

Answers to reinforce for the students include these:

- Making physical activity a part of your daily lives is an important way to decrease the risk for health problems like diabetes.
- Regular participation in physical activity during childhood contributes to a lifelong healthful lifestyle.
- Exercise is fun and it is good for you, too!

5. Discuss the proper sequence of exercise: warm-up, vigorous activity, and cooldown:

- *Warm-up*: To prevent injury, it is important to warm up before physical activity. This should include about five minutes of light activity, such as walking, jumping jacks, knee lifts, and stretching.
- *Exercise*: After warming up, we should do 60 minutes of physical activity on most days. This can include fast walking; riding a bicycle; running; swimming; jumping rope; and playing soccer, hockey, baseball, basketball, or football.
- *Cooldown*: To prevent injury, it is also important to cool down after physical activity. Like the warm-up, this should include about five minutes of light activity, such as walking, jumping jacks, knee lifts, and stretching.

6. In the gym or outdoors, lead students through a warm-up, physical activity, and a cooldown.

Make exercise fun. It can be jumping rope, tag, relays, hopscotch, kickball, a cheerleading sequence, or even the Chicken Dance.

7. Discuss with students that in addition to nutritious foods and physical activity, an important part of health is the feeling of safety and security that comes from family and community.

For example, in the Ojibwa culture, this is expressed as the “Seven Gifts”:

- Love/caring
- Honesty/truth
- Humility/modesty
- Courage/bravery
- Respect/honor
- Trust/loyalty
- Wisdom/knowledge

Other cultures may have different ways of expressing these qualities.

(Optional) If you are familiar with how they are expressed in the culture of your local tribe, or you have a resource person who is, this is a good time to present that cultural material, and, if desired, the Native-language vocabulary for it.

Students exchange ideas about things they are thankful for in life with others in the class and discuss their experiences.

- 8. Guide students to develop a list of enjoyable activities that promote good exercise and good health. Encourage students to list traditional games or activities that they do with their families that reflect their culture. Instruct students to record their lists in their journals (page 11, “My Favorite Activities”).**

Ask the students what types of physical activities are fun. List the responses of the students on the board or chart paper. Then ask the students if all physical activities on the list “count” as exercise. Allow students time to consider the list and discuss what it really means to exercise. For example, if the game hide-and-seek is on the list, help students consider what parts of the game are exercise (seek), and what parts are sitting still (hide).

- 9. Wrap up this lesson by connecting the two parts of the lesson about healthy food choices and physical activity. If students have completed the earlier units, remind them of what they have learned in those units about lowering their risk of getting diabetes.**

Eating healthy, maintaining a proper weight, and exercising every day are choices they can make to stay healthy.

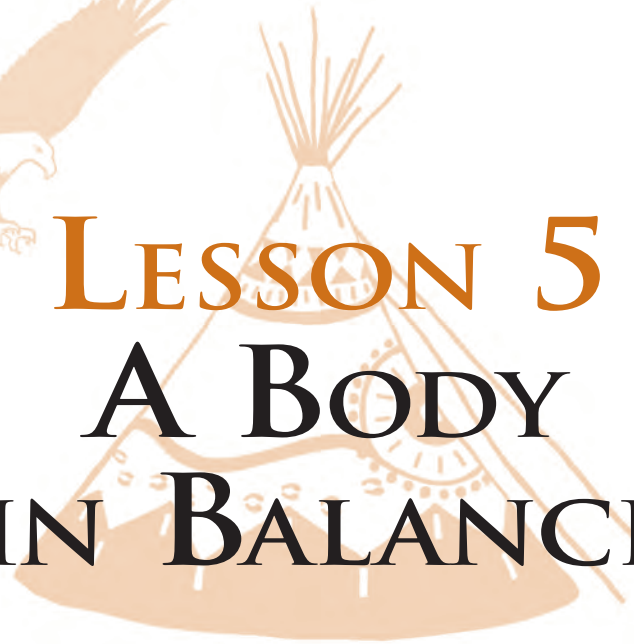




Health Is Life in Balance



LESSON 5
A BODY
IN BALANCE





Health Is Life in Balance

At a Glance

Overview

In Lesson 5, *A Body in Balance*, students become familiar with how the body feels while performing physical activities. Students use their senses to observe their faces, heart rate, breathing, and temperature both before exercise and after exercise. Students listen to the story *Knees Lifted High* from the Eagle Book series.

Enduring Understandings

- We can use our senses to note changes in our bodies during exercise.
- Our bodies give us clues about exercise and the need for food and drink.
- Our bodies respond to our activities to keep it in balance.

Teacher Background

No special background information is required for teaching this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. begin to understand that their bodies respond to exercise.

They will demonstrate their understanding by

- using their senses to make observations of their bodies (heartbeats, breathing rate, facial color, and temperature) before and after exercise;
- analyzing the differences between their observations before and after exercise; and
- relating body responses to the body's ability to maintain balance.

2. develop their listening skills.

They will demonstrate their ability by

- listening to a story read by the teacher,
- retelling portions of the story to reinforce their understanding, and
- relating the story to what they have learned in Unit 4.

In Advance

Teacher Materials

several empty toilet paper rolls (inside cardboard core)

1 clock or watch with a second hand

1 mirror

stethoscopes (optional)

Eagle Book: *Knees Lifted High*



Student Materials

For each student

- 1 science journal
- 1 pencil
- crayons, markers, or colored pencils

Preparation

Read the Eagle Book *Knees Lifted High* before beginning the lessons. When introducing the book to the students, you may want to tell the story in your own words before reading it to them. This storytelling approach engages the students' attention. The story can be read in small parts to keep the students' interest, just as elders often tell stories in many small parts. The whole book can be read as another activity during reading time. During the lesson, you can open the book to particular pages to illustrate a point.

Process and Procedure

Part I: Body Clues

1. Have students sit very still or lie on the floor. Tell them that they are going to use their senses to make observations about their bodies. Ask them to feel their faces and describe how their faces feel. Ask them to write the words describing the feel of their faces on p. 12 of their science journals. The title on the page is "Exercise and My Senses."

Words that students may use to describe their faces include "dry," "wet," "warm," and "cool."

2. Explain to students that you are going to time them for 15 seconds. Have students count the number of times they take a breath during that time.

This exercise is another way for students to learn about their bodies.

3. When students have completed their counting, have them write the number of breaths they took in their science journals. Point out that students should write their information in the "before exercise" column.
4. Ask students to use a toilet paper roll as a tool to help them hear the heartbeat of a classmate. Instruct students to put one end of the roll around their ear and the other end on the chest of one of their classmates. Tell students to use their sense of hearing to hear the heart beating. After all students can hear the heartbeat of a classmate, start timing 15 seconds. Call out when to start and stop counting. Students should then switch roles. Students should record the number of heartbeats of their heart (not the number they counted for their classmate) in their science journals.

Note to Teacher: *Students may have trouble counting or hearing heartbeats. If so, you may want to use a stethoscope to record a few students' heartbeats during this time. Allow students to hear the heartbeats with the stethoscope and note the differences in the number of beats in this step and the number of beats (from the same student) in the next steps.*

5. Tell students that they will compare the information about their bodies while sitting still with the information they collect after they exercise. Tell students they will be doing an activity and that they should be using their senses to notice how their bodies feel. Explain to students that they will march in place for one minute when you say "go." When you say "stop," students will stand still. When you call "time," they will stop and rest for 15 seconds. Students will then march again by lifting their knees high and quickly for another minute. They will complete the marching by cooling down for 30 seconds.

Make sure students understand the instructions and then give them a signal to begin marching. Time the activity for one minute, and then tell students to stop and rest until you tell them to begin again. Then have the students stop and rest for 15 seconds.

Next, have the students march again in place for one minute; this time encourage them to lift their knees high as they march. As a cool down, have students slow their march for 30 seconds after the one minute of vigorous marching. Tell students to immediately sit in their seats once they have finished marching.

6. Help students identify how the body feels after performing exercise. Have students record the number of breaths they are taking for 15 seconds. They should record their observations in the "after exercise" column in their science journals. Immediately have students use the toilet paper rolls to count the number of heartbeats of a classmate, as they did before. Again, instruct the students to record their own heartbeats in their journals.
7. Have students use their sense of touch to feel their faces and describe what they feel. Allow time for students to record all of these observations in their science journals.

Students may now describe their faces as warm or damp. To gather additional information, students can use their sense of sight by looking in a mirror or at a classmate's face to see if there are any changes that can be observed using the sense of sight.

Guide the students to recognize that body clues are all natural, normal, healthy feelings that we may feel when doing physical activities. Body clues happen after we have been physically active for a while.



Note to Teacher: *Allow students to get a drink of water after this activity.*

8. Ask students why their faces feel damp. Continue the discussion to include sweating and explain that this is how the body balances its temperature. Then ask students if they have ever played so hard that they sweated and then felt very thirsty. This should lead to a discussion of another way our bodies work to maintain balance—sweating and then thirst so we replenish our bodies with needed water.

After playing hard, we often need to rest, drink water, and eat healthful foods. These are the ways we learn to balance our bodies' needs. With emphasis on the Circle of Life in four directions, recognized by many indigenous people, this concept of balance is conveyed in four areas of health—food, water, exercise, and rest.

9. Wrap up this part of the lesson with a discussion of all the “body clues” that students noticed after exercise. Discuss how this is a way our bodies keep us in balance when we are active.

Part II: Story Time

1. Ask students to sit in a reading circle to enjoy the story from the Eagle Book *Knees Lifted High*.

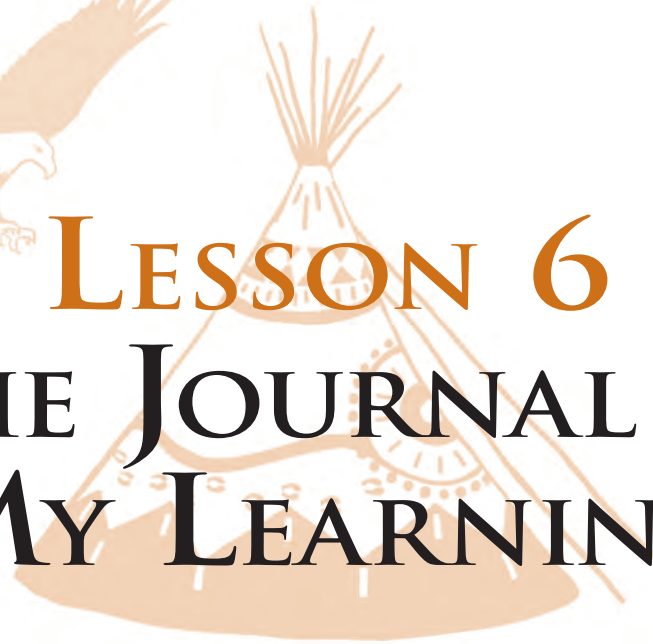
While showing the pages to the students as you read, ask them to retell parts of the story. This will keep students engaged and listening.

2. When you finish reading the story, have students participate in the activity described in the book on pages 24–27. Reread these pages and have students act out the motions as you read.



LESSON 6

THE JOURNAL OF MY LEARNING





Health Is Life in Balance

At a Glance

Overview

Students have been adding to their science journals during each lesson. To evaluate their learning, they once again add to their journals. In Lesson 6, *The Journal of My Learning*, students use their understanding of the value of physical activity to plan a class activity to do during recess. Then students demonstrate their understanding of healthful food choices to plan a meal for home. Students are encouraged to share this meal plan with their families and help prepare the meal. They note the senses they would use during the preparation and eating of the meal.

Enduring Understandings

Because this is the Evaluate lesson for Unit 4, no new concepts are introduced.

Teacher Background

No new information is needed for this lesson.

Outcomes and Indicators of Success

By the end of this lesson, students should be able to

1. understand the value of physical activity for good health.

They will demonstrate their ability by

- planning a physical activity for the class,
- including safe physical activity practices such as a warm-up phase and a cooldown phase, and
- participating in physical activities designed by the class.

2. understand the value of food choices for maintaining good health.

They will demonstrate their ability by

- planning a healthful meal using information from *MyPyramid for Kids* and
- assisting in the preparation of a healthful meal.

3. understand how we use our senses to make observations.

They will demonstrate their ability by noting the senses they used and the observations they made while

- participating in a physical activity,
- preparing a healthful meal, and
- eating a healthful meal.

In Advance

Teacher Materials

- 1 overhead projector
- 1 copy of Copymaster 6.1, *Scoring Rubric for the Journal of My Learning*



Student Materials

For each student

- 1 science journal
- crayons, markers, or colored pencils

Preparation

Review Copymaster 6.1, *Scoring Rubric for the Journal of My Learning*. The rubric includes points for carrying through with their meal plans at home and helping prepare the meal. This may not be feasible for all students to do. If so, you could delete this category from the rubric or give extra credit points. Modify the rubric as appropriate.

Process and Procedure

1. Tell students that in Lesson 6 they will demonstrate what they have learned about healthful eating and physical activity during the unit.
2. Explain that students will have two primary tasks for this lesson:
 - Planning a healthy meal
 - Planning a physical activity session
3. Briefly brainstorm with students about what they have learned during this unit and the types of information that they should include in their plans.

Students should recall general principles about using the *MyPyramid for Kids* to help make better decisions about food choices, using their senses when making food choices, and getting adequate physical activity every day.

4. Have students turn to pages 13–15 in their science journals. For each page, explain how students should write or draw pictures to describe their plans. Allow students time to complete their plans.

Students should write or draw pictures for their physical activity plan on page 13 in their journals. Page 14 provides space for students to consider how they can use their senses to observe body clues, and page 15 is for students to develop their plan for a healthy meal. Circulate around the room as students work to answer questions, probe for understanding, and monitor progress.

Consider allowing students to work in teams to plan the physical activity. Then allow them to conduct this activity at recess. You can break the class into smaller groups (enough for the activity) and perhaps get several activities done at one recess. This will encourage students to take leadership roles as they organize the class in an activity.

Consider breaking the tasks into multiple class times or homework for each task.

5. If students' projects are to include helping prepare a meal at home, explain how they should use page 16 in their science journals. Inform students when they need to finish that page.

Point out that students should write or draw pictures about what they did to help prepare a meal at home and how they used their senses while preparing the meal.

6. Allow time for students to share their ideas about their meal plans and physical activities. Display their completed science journals for other classes and students to see their work.





Health Is Life in Balance

Balancing the Body's Needs to Prevent Diabetes

UNIT 4

COPYMASTERS



Copymaster 1.1, *My Senses*

Copymaster 1.2, *My Science Journal*

Copymaster 4.1, *The New Food Guide Pyramid*

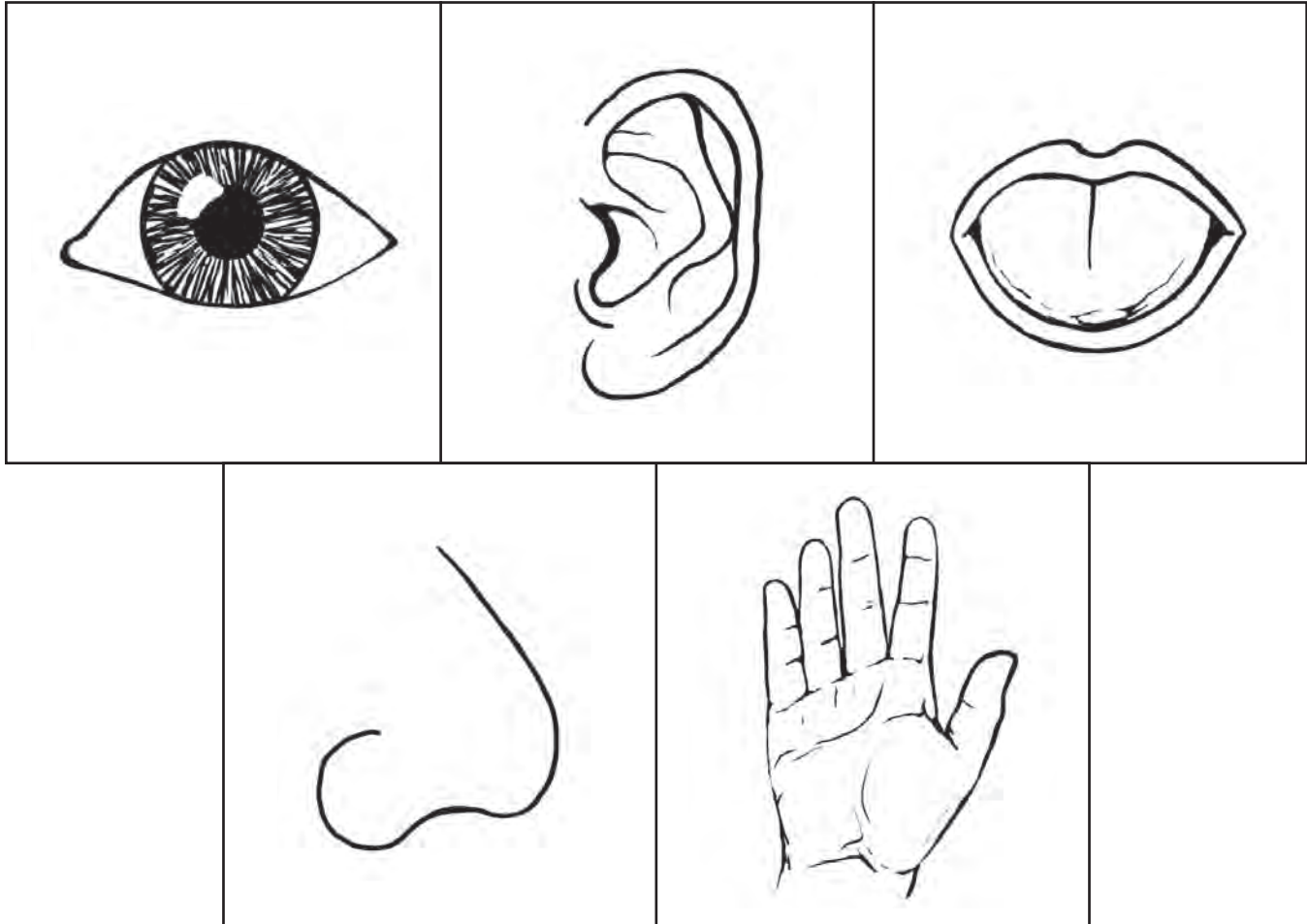
Copymaster 4.2, *Portion Sizes*

Copymaster 6.1, *Scoring Rubric for the Journal of My Learning*

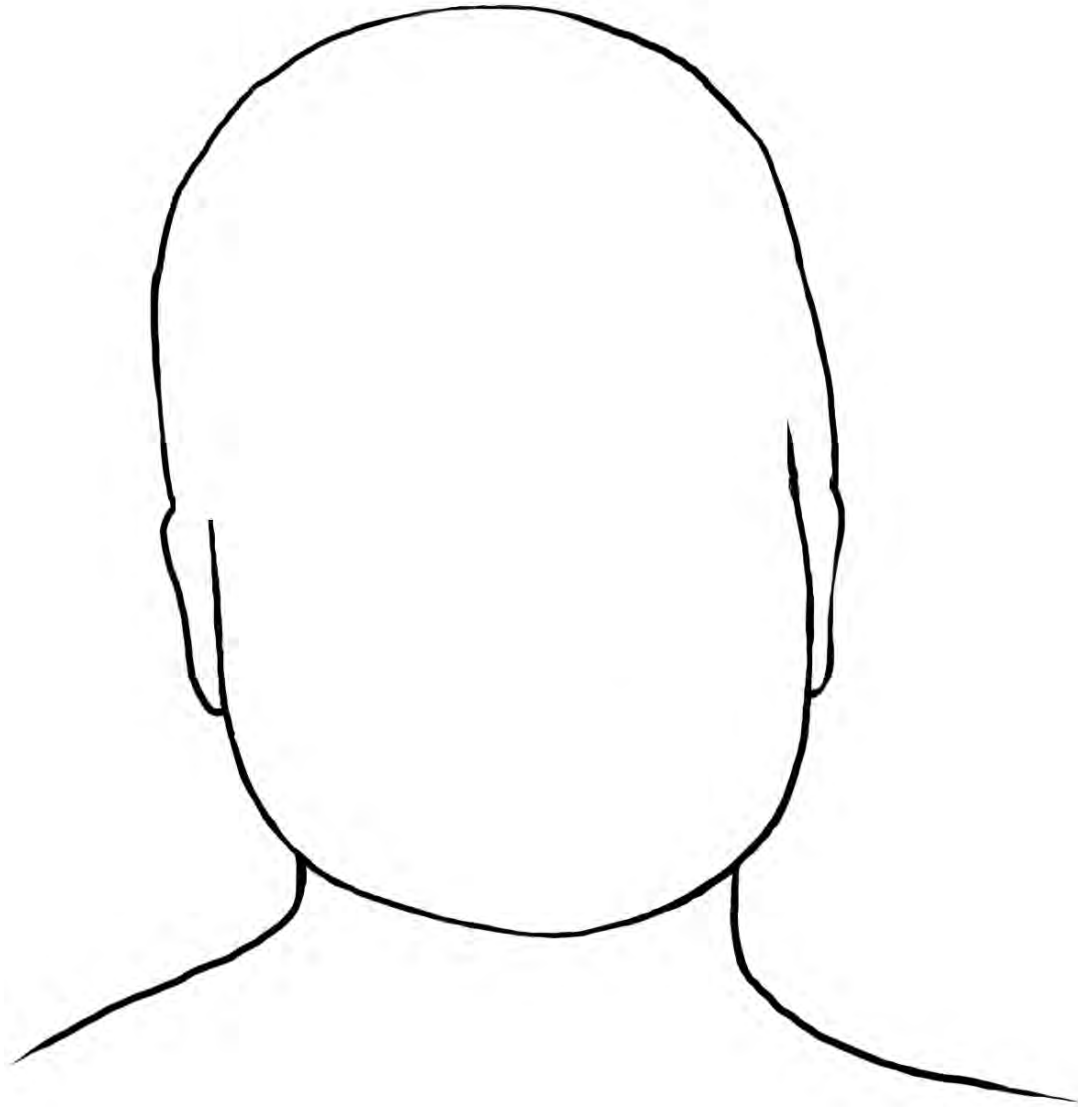


1.1

My Senses



My Science Journal



Name _____

The Secret Box

My question:

Healthy Choices All Day

Time of day:



Touch



Taste

Directions: Draw pictures of the foods you tasted here.

1.

a. sour

2.

b. salty

3.

c. sweet



Smell



Sight

1.

2.

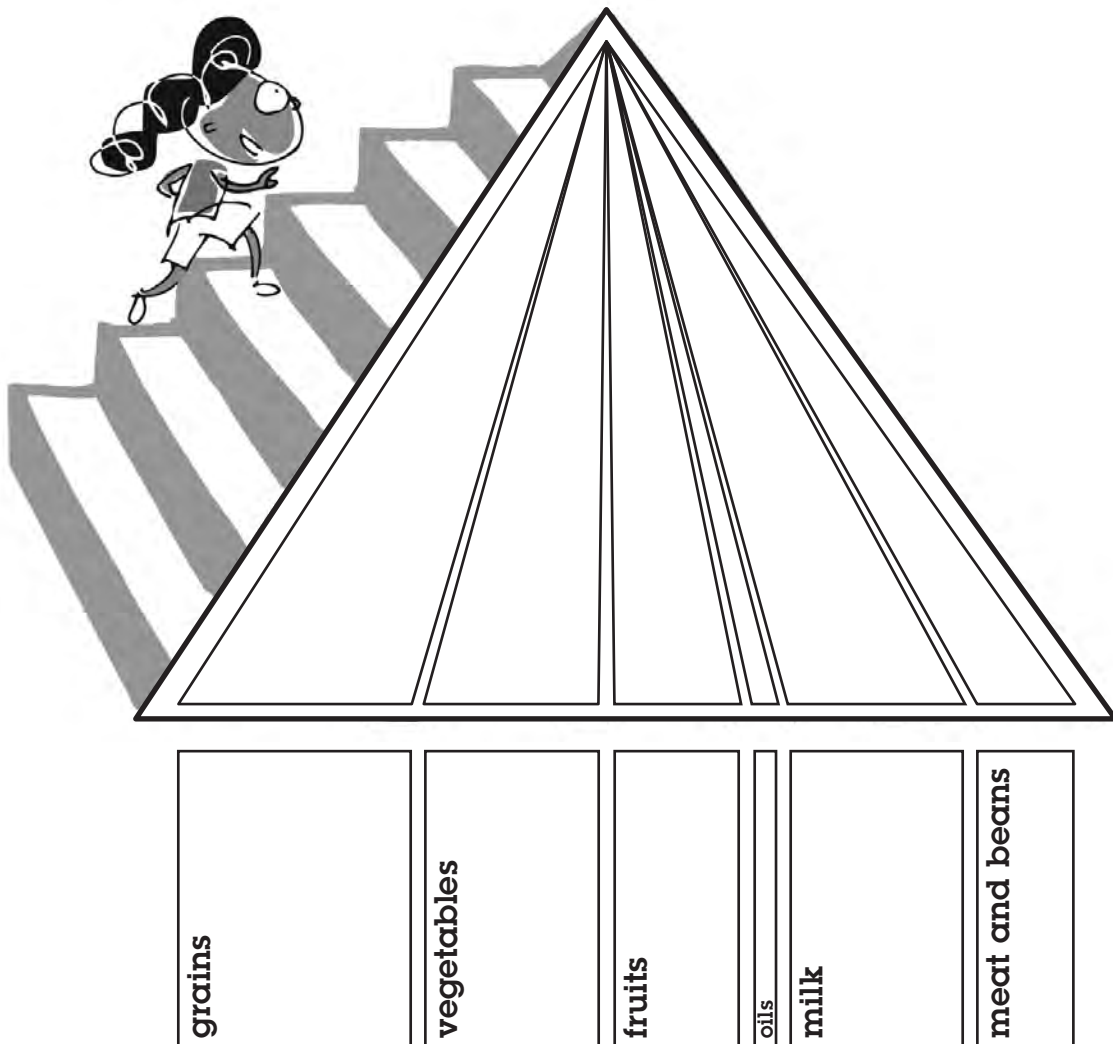
3.



Hearing

Food for a Day

MyPyramid for Kids Coloring Page



Food Choices for the Rest of the Day

My Favorite Activities

Exercise and My Senses

	Before Exercise	After Exercise
What did your face feel like?		
Number of breaths		
Number of heartbeats		

My Plan for an Activity

Warm-up:

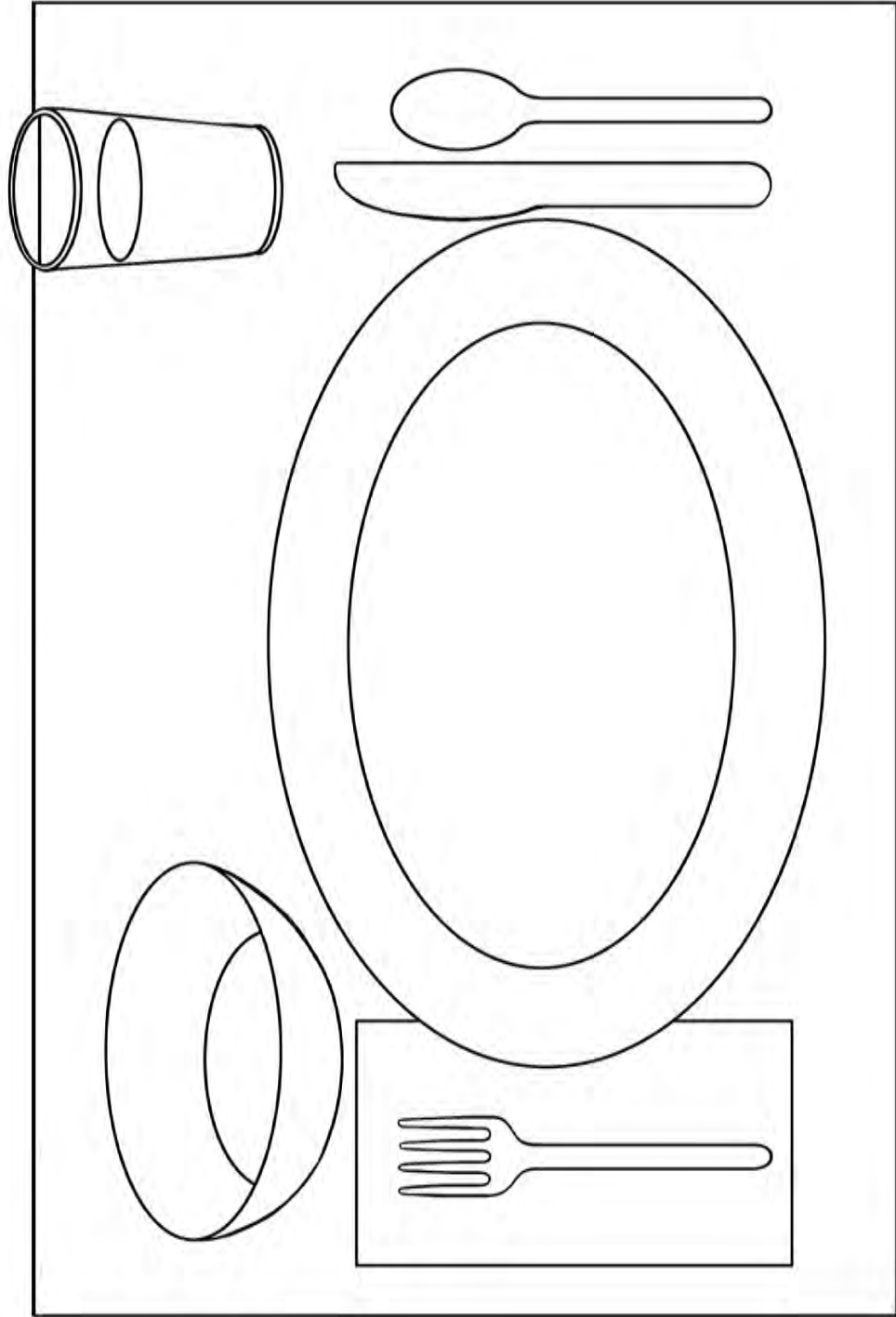
Activity:

Cooldown:

How I Used My 5 Senses to Observe Body Clues



My Meal Plan



How I Helped Prepare the Meal

How I Used My Senses













4.1

The New Food Guide Pyramid

The Food Guide Pyramid is one way for people to understand how to eat healthy. A rainbow of colored, vertical stripes represents the five food groups plus fats and oils. Here's what the colors stand for:

- orange — grains
- green — vegetables
- red — fruits
- yellow — fats and oils
- blue — milk and dairy products
- purple — meat, beans, fish, and nuts

The U.S. Department of Agriculture (USDA) changed the pyramid in 2005 because they wanted to do a better job of telling Americans how to be healthy. The agency later released a special version for kids. Notice the girl climbing the staircase up the side of the pyramid? That's a way of showing kids how important it is to exercise and be active every day. In other words, play a lot! The steps are also a way of saying that you can make changes little by little to be healthier. One step at a time, get it?





4.1

The Pyramid Speaks

Let's look at some of the other messages this new symbol is trying to send:

Eat a variety of foods. A balanced diet is one that includes all the food groups. In other words, have foods from every color, every day.

Eat less of some foods, and more of others. You can see that the bands for meat and protein (purple) and oils (yellow) are skinnier than the others. That's because you need less of those kinds of foods than you do of fruits, vegetables, grains, and dairy foods.

You also can see the bands start out wider and get thinner as they approach the top. That's designed to show you that not all foods are created equal, even within a healthy food group like fruit. For instance, apple pie would be in that thin part of the fruit band because it has a lot of added sugar and fat. A whole apple — crunch! — would be down in the wide part because you can eat more of those within a healthy diet.

Make it personal. Through the USDA's MyPyramid website, people can get personalized recommendations about the mix of foods they need to eat and how much they should be eating. There is a kids' version of the website available too.





4.1

How Much Do I Need to Eat?

Everyone wants to know how much they should eat to stay healthy. It's a tricky question, though. It depends on your age, whether you're a girl or a boy, and how active you are. Kids who are more active burn more calories, so they need more calories. But we can give you some estimates for how much you need of each food group.

Grains

Grains are measured out in ounce equivalents. What the heck are they? Ounce equivalents are just another way of showing a serving size.

Here are ounce equivalents for common grain foods. An ounce equivalent equals:

- 1 slice of bread
- ½ cup of cooked cereal, like oatmeal
- ½ cup of rice or pasta
- 1 cup of cold cereal
- * 4- to 8-year-olds need 4–5 ounce equivalents each day.
- * 9- to 13-year-old girls need 5 ounce equivalents each day.
- * 9- to 13-year-old boys need 6 ounce equivalents each day.





4.1

And one last thing about grains: Try make at least half of your grain servings whole grains, such as 100% whole-wheat bread, brown rice, and oatmeal.

Vegetables

Of course, you need your vegetables, especially those dark green and orange ones. But how much is enough? Vegetable servings are measured in cups.

- * 4- to 8-year-olds need 1½ cups of veggies each day.
- * 9- to 13-year-old girls need 2 cups of veggies each day.
- * 9- to 13-year-old boys need 2½ cups of veggies each day .

Fruits

Sweet, juicy fruit is definitely part of a healthy diet. Here's how much you need:

- * 4- to 8-year-olds need 1-1½ cups of fruit each day.
- * 9- to 13-year-olds need 1½ cups of fruit each day.

Milk and Other Calcium-Rich Foods

Calcium builds strong bones to last a lifetime, so you need these foods in your diet.

- * 4- to 8-year-olds need 2 cups of milk (or another calcium-rich food) each day.
- * 9- to 13-year-olds need 3 cups of milk (or another calcium-rich food) each day.





4.1

If you want something other than milk, you can substitute yogurt, cheese, or calcium-fortified orange juice—just to name a few.

Meat, Beans, Fish, and Nuts

These foods contain iron and lots of other important nutrients. Like grains, these foods are measured in ounce equivalents.

An ounce equivalent of this group would be:

- 1 ounce of meat, poultry, or fish
- $\frac{1}{4}$ cup cooked dry beans
- 1 egg
- 1 tablespoon of peanut butter
- $\frac{1}{2}$ ounce (about a small handful) of nuts or seeds
- * 4- to 8-year-olds need 3–4 ounce equivalents each day.
- * 9- to 13-year-olds need 5 ounce equivalents each day.

Whoa! That's a lot to swallow. The good news is that your mom, dad, and the other grown-ups in your life will help you eat what you need to stay healthy. There's more good news — you don't have to become a perfect eater overnight. Just remember those stairs climbing up the side of the new pyramid and take it one step at a time.







Source: This information was provided by KidsHealth, one of the largest resources online for medically reviewed health information written for parents, kids, and teens. For more articles like this one, visit www.KidsHealth.org or www.TeensHealth.org. ©1995-2008. The Nemours Foundation





4.2

Portion Sizes

Amount of food	Types of food	Size of one serving (the same size as:)
3 ounces	meat, chicken, turkey, or fish	the palm of a hand 
1 cup	cooked vegetables salads casseroles or stews, such as chili with beans milk	an average-sized fist 
1/2 cup	fruit or fruit juice starchy vegetables, such as potatoes or corn pinto beans and other dried beans rice or noodles cereal	half of an average-sized fist 
1 ounce	snack food	one handful 
1 Tablespoon	salad dressing	the tip of a thumb 
1 teaspoon	margarine	a fingertip 

Note: The hand size shown is for adults but the same proportion is valid for child-sized hands. However, the amount of food listed in the first column should be adjusted for children.





6.1

Scoring Rubric for the Journal of My Learning

Higher levels of performance



Weight	Task	3	2	1
40%	Student plans for physical activity during recess.	<p>The student</p> <ul style="list-style-type: none"> plans an activity using what he or she has learned in the unit and records the plan in the science journal, includes a warm-up and a cooldown, ensures that everyone is active, and records how 5 senses are used to notice body clues after the activity. 	Three of 4 items are complete.	Only 1 or 2 items are complete.
40%	Student plans for healthful meal.	<p>The student</p> <ul style="list-style-type: none"> uses <i>MyPyramid for Kids</i> to make balanced food choices, chooses foods that are low in sugar and fat, illustrates and labels the healthful meal on the place mat in the science journal, and includes a healthful drink. 	Three of 4 items are complete.	Only 1 or 2 items are complete.
20%	Student helps prepare meal at home.	<p>The student</p> <ul style="list-style-type: none"> helps in the preparation of the meal at home lists the way the 5 senses are used when preparing and eating the meal. 	Only 1 item is complete or both items are partially complete.	Neither item is complete or both are partially complete.



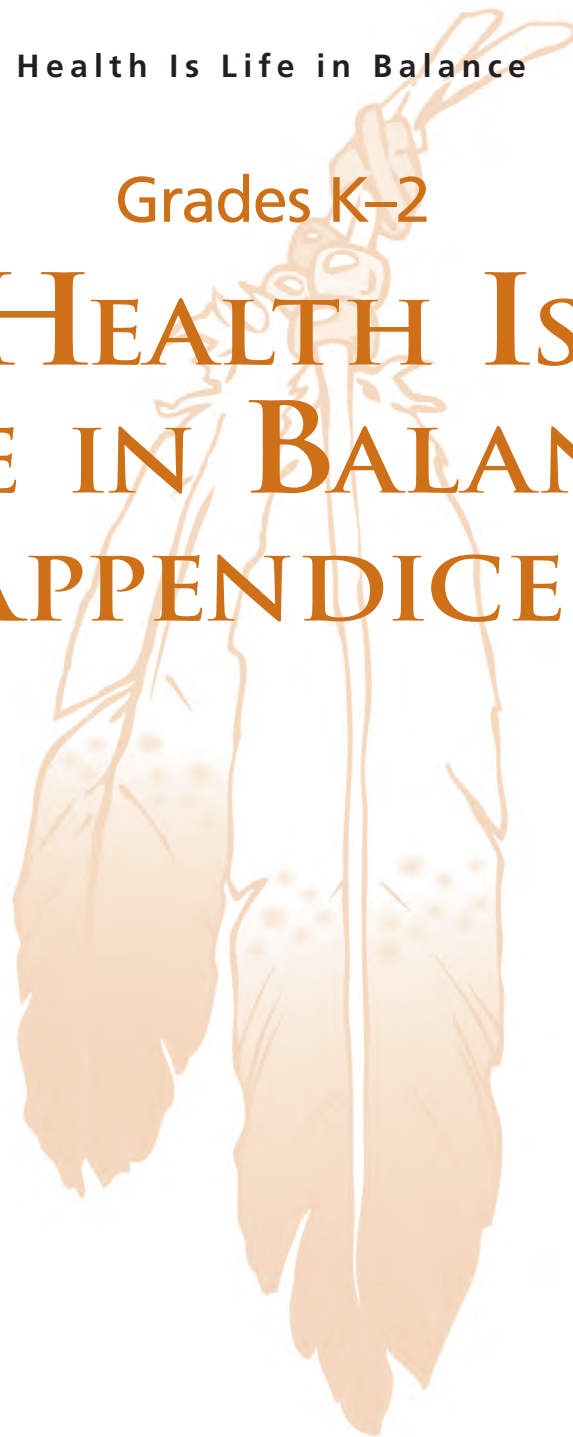


Health Is Life in Balance

Health Is Life in Balance

Grades K–2

HEALTH IS
LIFE IN BALANCE
APPENDICES





Health Is Life in Balance

Appendix A: Contents of Grades K–2 Individual Units

The table on the following page shows a summary of each unit’s content along with the books or stories used, the physical activities conducted, and the content standards addressed.



Grades K–2	Eagle Books and Stories	Physical Activity	Content Standards		
			Science	Language Arts	Social Studies
<p>Exploring a Healthy Balance Recommended for Kindergarten or Pre-K</p>					
Students participate in active learning exercises to develop a concept of health and being healthy. They explore the varieties of healthy foods and the ideas of food groups and eating appropriate quantities.	<p><i>Through the Eyes of the Eagle</i> <i>How the Faun Got its Spots (optional)</i></p>	Round Dance	A, C, F, G	3, 5	
<p>Grades 1–2</p>					
<p>Unit 1, What Is a Healthy Balance? Recommended for Grade 1</p>					
Students build their understandings of health through a comparison exercise, then explore the idea of health is life in balance using a plate-balancing model that identifies areas of life which need to be in balance and shows how too much or too little in one area unbalances the whole. Students identify and illustrate messengers who help them stay healthy and apply the concepts of health and balance to a story of a child's everyday activities.	<p><i>Through the Eyes of the Eagle; Milo Tatanka (optional)</i></p>	Round Dance	A, C, F, G	3, 5	I, II, IV, V, VII, VIII
<p>Unit 2, Exploring the Food Groups Recommended for Grade 1</p>					
Students will identify and sort foods and explain how they are alike. Students will explore the foods groups on the <i>MyPyramid for Kids</i> and compare their food groups to the scientists' food groups. Exploring each color of <i>MyPyramid for Kids</i> will reinforce the importance of eating foods from all food groups everyday and to choosing more from some groups than others and remind students to be physically active every day and make healthy food choices.	<p><i>Plate Full of Color</i> <i>The Heartberry Story (optional)</i></p>	Round Dance	A, C, F, G	1, 5, 7, 11, 12	I, II, IV, V, VII, VIII
<p>Unit 3, Diabetes Is an Imbalance in the Body Recommended for Grade 2</p>					
Students will participate in a number of activities to learn about diseases and diabetes. Specific activities to emphasize include developing a definition for disease, comparing diabetes to a cold as two types of bodily imbalance, and the story in which students learned that eating healthy foods and getting more activity can help people stay healthy.	<p><i>Through the Eyes of the Eagle</i></p>	being active to prevent diabetes	A, C, F	1, 5, 7, 11, 12	I, II, IV, V, VII, VIII
<p>Unit 4, Balancing the Body's Needs to Prevent Diabetes Recommended for Grade 2</p>					
Students will understand that nutritious food and water and a balance of rest and physical activity are linked with growth. Through physical and sensory activities, they explore how body clues help us recognize when we need food, water, rest, and exercise for balance. They listen to and discuss stories to identify messengers who give them scientific and cultural knowledge to maintain healthy balance.	<p><i>Knees Lifted High, Tricky Treats</i> <i>The Nokomis Story (optional)</i></p>	Knees Lifted High activity; warm-up exercise, cooldown activity	A, C, F, G	1, 5, 7, 11, 12	I, IV, V, VII, VIII

Appendix B: The Round Dance

The Round Dance goes by many names for different tribes: *Kahomni*, 2-Step, Owl Dance, Friendship Dance, and Rabbit Dance. It is a social dance that often is a part of Native American powwow activities. A powwow is a celebration where people gather to sing Native American songs, dance, see family and friends, conduct honorings such as giveaways, and engage in singing and dancing competitions.

Powwows take place all over the United States and Canada. During the summer months, there is usually a powwow every weekend in different areas of the United States. Contact the tribe in your area and find out when their annual celebration or powwow takes place. Take your family to the powwow and participate in the intertribal dancing and round dancing. Powwows are social events that are open to the public (some powwows may require an admission fee). You will find that a powwow is well attended by Native American and non-Indian people alike.

Listen to the master of ceremonies (MC), who is the official who lets everyone in attendance know the activities and events that are taking place during a powwow. The MC will let the audience know when the dances are taking place where anyone is welcome to participate. These dances are called Intertribals; the MC will call for the Round Dance.

You can find more powwow information on the Web site www.powwows.com.

The CD *Round Dance Songs Volume 2*, from the Native American Heritage series released by Arbor Records (www.arborrecords.com), has a good assortment of suitable music for Round Dances. The selections are performed by drum groups from a range of tribes and areas. From the liner notes:

A popular dance for non-Indians during an intertribal song is the Round dance. It is an easy dance to follow as everyone joins hands inside the dance area forming a big circle moving clockwise. If there are many people participating, another circle is formed inside the first circle that moves in the opposite direction. The Round dance creates a simple and fun activity that brings both cultures together for positive interaction.

In celebrating this circle of life, it is no coincidence that the structure of all Powwows is a circle. The dance area, known as the Arbor, is located in the center of the designated area. It can be either outdoors or indoors. The Arbor is blessed prior to the Powwow starting and is considered sacred ground during the entire celebration. The Arbor is treated with the same respect as would be given to a church.

Today the Round Dance still continues to be the most entertaining dance style to the masses.



Appendix C: Guidelines from the American Indian Library Association

The following information is taken from the American Indian Library Association Web site publication *"I" Is Not for Indian: The Portrayal of Native Americans in Books for Young People*:

Over the years, the most frequently asked questions by librarians concerning books on Native Americans have centered around the ideas of "How can I personally tell good books on Indians from bad?" and "Where can I find reliable reviews?" Neither of these are as simplistic as they sound. Reviews abound in the usual sources for books dealing with Native peoples, but most are written from a literary angle, or from a children's/YA [young adult] literature perspective. There are plenty of "good" books—well-written, exciting, from respected authors, much-loved by their readers, with well-developed characters—that are terrible when examined with the criteria of whether the Native American(s) depicted in them are accurately or even humanly portrayed. For the most part, this criticism is directed at fictional works, where the greatest stereotypes and wildest imaginings about Indians still hold sway. Nonfiction has been improving greatly in recent years, but there is often still a tendency to oversimplify to the point of distortion, especially in titles for the youngest readers.

Perhaps even more difficult is the question of being able to judge as librarians whether a book is harmful or not. We are nearly all products of the public school systems in this country. As most Native Americans can remind you, Indians are not even mentioned in American history classes much after the middle grades. And when we are mentioned, it is always in terms of Pilgrims and Thanksgiving, and sometimes as adversaries to be overcome in the "settling" of the West. As far as most Americans learned in school, Indians pretty well ceased to exist after 1890. So there are very good reasons why librarians feel somewhat at a loss when it comes to recognizing accuracy in books about Indian peoples.

Add to this lack of education the very pervasive and subtle dehumanizing stereotypes that are ingrained as part of American popular culture, and you've got a lot to overcome before you can identify these things in children's books. It should also be pointed out that these

stereotypes and misperceptions are commonly held by all Americans of all races, often, tragically, by Indian children themselves.

Think of the following images that are prevalent in American culture today, and then transfer the image to any other ethnic group (or your own). How does it feel to you? Why do Native Americans alone receive these images? In other words, there are certain kinds of deeply rooted images that do not have equivalents among other minority groups. For example, there are derogatory terms for all ethnic and minority groups, but why are Indians the only ones with sports teams named after them? Why do we have the Washington Redskins, but not the Pittsburgh Darkies or the Dallas Rednecks or the San Francisco Coolies? Why do these hypothetical teams sound so offensive or shocking, but the Atlanta Braves and Cleveland Indians, complete with Chiefs Nok-A-Homa and Wahoo, do not?

Why are hideous caricatures of Native American men available as Halloween masks right up there with vampires, witches and other monsters? Even more to the point, why does the average American see nothing wrong with purchasing that mask and dressing up her child as “AN INDIAN” for Halloween, but would never think to masquerade as another ethnic group, although I have seen “Arab” costumes at times. What does this say about our perceptions of Native Americans as human beings?

These are just two examples of the cultural baggage that we as Americans carry around that make it difficult for us as librarians to know where to start in identifying bias-free books for our libraries. Recognizing that these images exist is a big step in the right direction. But subconscious images of what Indians are comprise a very deep part of the American psyche, and you may be surprised at how uncomfortable you feel when asked to give up these images, no matter how you feel about them intellectually.

For example, *The Indian in the Cupboard* and its sequels are much-loved books by librarians and their patrons. But for Indian people, these are some of the worst perpetrators of the most base stereotypes. The miniature toy Indian (Indians portrayed as objects or things) is described as an Iroquois warrior, but is dressed as a movie western version of a generic plains Indian “chief”, complete with eagle feather headdress. The warrior is described in the most stereotypical terms and speaks in subhuman grunts and partial sentences. He is manipulated by a more



powerful white child, fostering the image of the simple and naive Indian whose contact with the white man can only benefit him and his people.

Despite the fine writing and exciting plots, these books foster continuations of classic blatant stereotypes. Yet it has been our experience that a disturbing number of librarians greatly resist criticism of these titles. It is our hope that the following bibliography and suggestions for evaluating books on Native Americans for young people will assist you in evaluating your collections and serving your patrons. There will be a great opportunity to educate young people over the next two years particularly, as interest in things “Indian” will increase with the coming of the five hundredth anniversary of the Columbus invasion of the Americas.

Selective Bibliography

The following bibliography is broken down into four sections: recommended titles, titles not recommended, sources of reviews and information on recognizing stereotypes, and sources for obtaining books. The first two sections of book titles are necessarily selective and somewhat random. The aim was not for comprehensiveness at this time, but rather to present a sample evaluation of what’s out there. Also, we were not concerned with developing a list of good books, but rather with commenting on titles being published. The authors of this bibliography looked at titles from two different perspectives. Naomi Caldwell-Wood surveyed titles in her local school and public libraries, resulting in reviews of older titles and of those, perhaps, in your own libraries. Lisa Mitten looked at mostly new titles that she reviews and recommends for Carnegie Public Library of Pittsburgh, and for which you have probably read recent reviews for in the review journals. Annotations are provided for most of the titles.

1. Recommended titles:

American Indian Stories / Herman Viola (general editor). Milwaukee: Raintree Publishers, 1990. (Grades 3–5) I saw seven titles in this series, which, despite the title, are biographies (not stories) of well-known and less well-known leaders in the Indian world. The people written about so far are Sarah Winnemucca, Jim Thorpe, Carlos Montezuma, John Ross, Geronimo, Sitting Bull, and Hole-in-the-day. They are well-done, with excellent illustrations.

American Indian Tribes / Marion E. Gridley. New York: Dodd, Mead & Co., 1974. (Grades 5–9) Given the enormity of covering all of the American

Indian tribes, Gridley has written one of the better books on this subject. She divided the tribes into twelve categories and has only listed tribes considered to be distinct. Each tribe is discussed in terms of its past and current condition. Numerous photographs can be found. Biographical information about notable individuals in each tribe has been included. Religion was not addressed in any detail.

Atariba & Niguayona / Consuelo Mendez. San Francisco: Children's Book Press, 1988. (Grades 1–3). One of this publisher's bilingual Fifth World Tales, this is a retelling of a Taino Indian tale from Puerto Rico. All titles in this series are highly recommended.

Dancing Teepees: Poems of American Indian Youth / selected by Virginia Driving Hawk Sneve. New York: Holiday House, 1989. (All ages) A thoughtful and sensitive collection of poems from the oral traditions of Native Americans and contemporary tribal poets compiled by a Lakota woman who grew up on the Rosebud Sioux reservation. The illustrations accurately reflect traditional Native American art forms and serve the text well. A welcome addition to any poetry collection.

The First Americans: Tribes of North America / Jane Werner Watson. New York: Pantheon, 1980. (Grades K–3) A very easy-to-read and understandable book which introduces the major Native American regional groups: plains, woodlands, Inuit, northwest and southwest. The short glimpses into each of the groups [are] handled by providing factual information about dwellings, duties of adults and children, and respect for religious rites and ceremonies. Illustrated with pen and ink sketches.

Happily May I Walk: American Indians and Alaska Natives Today / Arlene B. Hirschfelder. New York: Scribner's, 1986. (Grades 5+) Excellent summary of Native American life and activities today. Very up-to-date, going far towards lifting Indian people out of the nineteenth century where they've been stranded in many books. Very useful for adults, too, and as a reference tool.

Houses of Bark / Bonnie Shemie. Montreal: Tundra Books, 1990. (Grades 3–5) Well-illustrated survey of traditional house types of the northeast. However, the final illustration unaccountably shows a Plains girl working on a piece of bark, for some reason.

Iktomi and the Ducks / Paul Goble. New York: Orchard Books, 1990. (Picture book; all ages) All of Paul Goble's books are highly recommended, especially the Iktomi stories, which perfectly convey the lessons and spirit



of trickster stories. Goble flawlessly captures the flavor of Indian humor and the easy blend of cultures so common in contemporary Indian America, and so lacking in the works of other authors.

Indian Chiefs / Russell Freedman. New York: Holiday House, 1987. (Grades 5+) Freedman has accomplished a well-balanced collective biography of six western Indian chiefs: Red Cloud (Oglala Sioux), Satanta (Kiowa), Quannah Parker (Comanche), Washakie (Shoshone), Joseph (Nez Perce), and Sitting Bull (Hunkpapa Sioux). The short biographies of twenty pages each contain actual quotes by the various chiefs within an accurate historical setting. Freedman was careful in his use of terminology. He prefaces the book by providing information on how the term “chief” was determined and used by the white settlers and government and how various tribes distinguished the many levels of leadership. This indexed book is illustrated with numerous sketches and photographs and is made complete with a bibliography of sources for further study.

Indian Summer / Barbara Girion. New York: Scholastic, 1990. (Grades 5–8) An excellent novel of the cultural adjustments Joni must make when she finds herself living on a modern “Woodlands” (i.e. Iroquois) reservation with her family in upstate New York one summer. Also manages to touch on a number of issues important to contemporary Iroquois, without being preachy. Girion does a fine job.

Keepers of the Earth: Native American Stories and Environmental Activities for Children / Michael J. Caduto and Joseph Bruchac. Golden: CO: Fulcrum, 1988. (All ages) Superbly written and illustrated presentation of Native American philosophies about the environment. Joseph Bruchac has compiled a number of collections of myths and legends of the Abenaki and Iroquois peoples, all of them excellent. He is also a well-known storyteller; a librarian can feel secure about purchasing anything he has written or is associated with.

The Last Buffalo: Cultural Views of the Plains Indians: The Sioux or Dakota Nation / W.E. Rosenfelt. Minneapolis: T.S. Denison & Co., 1973. (Grades 4–6) Rosenfelt collaborated with Ed McGaa, Oglala Sioux, and as a result we have a straightforward and sensitive text which strives for honesty. Unfortunately, illustrations are very mediocre pen and ink drawings; the text would have been much better served by photographs. Although the title implies an end to the Lakota Nation, Rosenfelt points out

that the culture is very much alive. The section on religion is especially well-done. Highly recommended.

North American Indian Medicine People; North American Indian Survival Skills; North American Indian Sign Language / all by Karen Liptak. New York: Franklin Watts, 1990. (Grades 4–7) Watts has been putting out several fine nonfiction titles in series on American Indians, including a series on different tribes for younger readers. These surveys of cultural traits are representative, providing a balanced look at these areas of Native American knowledge.

The People Shall Continue / Simon Ortiz. San Francisco: Children's Book Press, 1988. (Grades 3–6) Ortiz, a Pueblo poet, has written the best treatment available for young children in this succinct recounting of the interactions between the Native and non-native peoples of North America from Columbus to the present day. Illustrations are vibrant and bold, and the text is honest and clear. An important acquisition for the upcoming Columbus Quincentenary!

Pueblo Storyteller / Diane Hoyt-Goldsmith. New York: Holiday House, 1991. (Grades 3–6) Ten-year old April of Cochiti Pueblo takes the reader on a photographic visit through the pueblo, introducing him to her family, traditional methods of bread-baking, pottery-making and drum-making. She participates in a Buffalo Dance and tells the reader her favorite creation story. An excellent title to introduce children to the world of the contemporary reservation child. A superb complementary title, from a boy's perspective, is ***Pueblo Boy: Growing Up in Two Worlds*** / Marcia Keegan. New York: Dutton, 1991.

The Rain Dance People: The Pueblo Indians, Their Past and Present / Richard Erdoes. New York: Alfred A. Knopf, 1976. (Grades 6+) This book is an excellent example of detailed research of both documented print sources and personal interviews, photographs and sketches. Erdoes traces the history of the Pueblo Indians from prehistoric times to the mid-1970s and provides information about their unique lifestyle and how they have struggled to maintain it. His straightforward retelling of how the west was "won" serves to [dispel] the myth of the winning of the wild west as a glamorous event. Careful and detailed coverage is given to the invasion of missionaries who traveled to Pueblo land to stamp out the ancient native religion. Readers are informed of the boarding schools that young Pueblo



children were required to attend where they were forbidden to speak “Indian”. The strengths of the Pueblo communal and governmental structures are examined in great detail. Throughout the book Erdoes weaves an explanation of the significance of art in Pueblo culture. An extraordinary work. Highly recommended.

The Shadow Brothers / A.E. Cannon. New York: Delacorte Press, 1990. (Grades 6–10) A well-done novel of a Navajo teen as told by his adoptive (non-Indian) brother. Henry Yazzie has been sent to live with his father’s white friend’s family so that he can attend good schools. An excellent student and athlete, the arrival of a second Native boy to the school has Henry questioning his identity as a Navajo. Deals with issues many Indian kids face as novelties in their schools.

Sweetgrass / Jan Hudson. New York: Philomel, 1989. (Grades 5–8) A superb first book about a Blackfoot girl in the days just before heavy interaction with settlers by a Canadian author who has recently died. Dawn Rider, 1990, was a disappointing second work.

The Tingit / Alice Osinski. Chicago: Children’s Press, 1990. (Grades 1–3) An entry in the New True series on American Indian tribes. Like the other titles in this series, these are superb introductions to the histories and cultures of the different peoples they treat. Of particular value is the care taken in each book to positively show each tribe and its people and culture as survivors in the late 20th century. These books are well illustrated with photographs whenever available, avoiding the often culturally loaded images present in reproductions of paintings and drawings.

The Story of Squanto, First Friend to the Pilgrim / Cathy East Dubowski. New York: Dell Yearling, 1990. (Grades 4–8) Of the many books for children on Squanto and the Pilgrims, we finally get a historically accurate biography of the Wampanoag survivor of the village of Patuxet who was so critical in the survival of this early group of colonials. New research being done in the Massachusetts coastal area lends detail and authenticity to the Indians/Pilgrims/ Thanksgiving story that is typically couched in mythology and legend, especially in accounts for children. Nanepashemet, a Wampanoag Research Associate at Plimouth Plantation, also lent his expertise. A very well-balanced, realistic and entertaining biography.

Who Was Who in Native American History / Carl Waldman. New York: Facts on File, 1990. (Grades 6–adult) This is a reference work that is more properly a who’s who of Indian-white history—i.e. it doesn’t include pre-Columbian people, giving the tired impression that Indian history doesn’t begin until 1492, and it only includes people who were significant because of their interactions with white people, not those who are important to their own people. Also, the listings stop with 1900, relegating Indians to the remote past once again. Nevertheless, useful for what it does include, and cross references are very good.

A Woman of Her Tribe / Margaret A. Robinson. New York: Scribner’s, 1990. (Grades 5–8) Low-key story of Annette, whose white mother moves the two of them from Annette’s deceased father’s Nootka village to attend a private school in Vancouver where she’s received a scholarship. Annette’s transition to the city and the school is handled with sensitivity and understanding. The last third of the novel deals with Annette’s return to her village over the Christmas break, where she realistically confronts her confusion over being both Nootka and white, and makes decisions about where she belongs.

2. Titles to avoid:

A,B,C’s: The American Indian Way / by Richard Red Hawk. Sacramento: Sierra Oaks. 1988. (Grades K–3) An unfortunate attempt to “Indianize” the usual ABC book. This version comes out over-simplified often to the point of confusion.

Black Elk: A Man with a Vision / Carol Greene. Chicago: Children’s Press, 1990. (Grades 3–5) Although consistent with the material in ***Black Elk Speaks***, this retelling of Black Elk’s vision is so oversimplified that it sounds ridiculous and muddled. The illustrations, mostly period artwork, are poorly chosen and often have nothing to do with the text.

Drift / William Mayne. New York: Dell Yearling, 1985. (Grades 4–7) A stranded-in-the-wilderness tale about white teen Rafe and Indian teen Tawena. Indian characters are grunting savages, even though Mayne has attempted to present a “sympathetic” treatment of the Indians and their concept of nature. Time period, place and Indians involved are unknown, and the storyline is rather murky. Mr. Mayne and the author of ***Indian in the Cupboard*** are from England. In general, books featuring Native



peoples written by British authors tend to be full of quaint stereotypes and misperceptions.

False Face / Welwyn Wilton Katz. New York: M.K. McElderry Books, 1988. (Grades 6–9) An exciting and well-told story of a white female teen (Lonny) and a mixed-blood male teen (Tom) who accidentally unearth an old Iroquois false face mask. However, the portrayal of the Iroquois and nonsense presented about the mask are way off base and very insulting. The author is obviously familiar with the locale of the story, and places on the Six Nations Reserve in Ontario are accurately described. However, this is a clear example of the phrase “a little knowledge is a dangerous thing”. Katz conjures up a ridiculously evil power that is supposed to inhabit the false face mask and alter the personalities of characters who attempt to possess the mask. This goes beyond the wild fantasies of a creative author. False face masks are an integral part of traditional Iroquois religion practiced today on the very reserve that Katz describes so well. Her description of the mask as an absolute evil amounts to religious intolerance and goes far in fostering the conception of native, non-Christian religions as savage pagan rituals. A very harmful book.

Full Moon: Indian Legends of the Seasons / Lillian Budd. Chicago: Rand McNally, 1971. (Grades 4–6) Budd has written these legends apparently without consulting any Native Americans. The stories are contrived and do not distinguish themselves as being from any particular culture let alone of general Native American origin.

Indian Campfire Tales: Legends about the Ways of Animals and Men / W.S.

Phillips. New York: Platt & Munk, 1963. (Grades 3–5) This is an example of the legion of collections of generic “Indian legends” that have been published over the years. What Phillips has compiled is a mishmash of tales of unknown origin. No effort was made to identify the source of the stories or the people who created them. The reader is led to believe that one “Indian” legend is about the same as any other. This is why children come in to libraries looking for information on “Indians” instead of on the Lakota or the Oneida or the Choctaw. The illustrations are based largely on pictographs and rock paintings that have no relation to the stories being told. The introduction claims that “the stories are histories of the tribes”, which makes no sense in the context of this book.

Indian in the Cupboard / Lynn Reid Banks. Garden City, NY: Doubleday, 1980. Also the sequels *Return of the Indian* and *The Secret of the Indian*. To repeat the criticisms of the introduction, these are classic examples of highly acclaimed books riddled with horrendous stereotypes of Native Americans. Banks has created her “Indian” character from the mixed bag of harmful clichés so common among British authors. These books are perfect examples of what to avoid.

The Legend of Jimmy Spoon / Kristiana Gregory. San Diego: Harcourt Brace Jovanovich, 1990. (Grades 4–8) Based on a true incident, this novel of a twelve year old Mormon boy taken to be the adopted brother of historical Chief Washakie is a mixture of historical accuracy and silly stereotype and ignorance. Use of the word “papoose” is constant, and Jimmy is continually harassed by the Shoshone about being white, even after two years of living with these people. This flies in the face of accounts of actual treatment of white adoptees. Several incidents of violence towards women and children have no basis in tribal cultures, and ring very false, as does much of the dialogue, which careens between “noble savage” stereotypes and modern English. Guess who speaks which?

The Night the White Deer Died / Gary Paulsen. New York: Delacorte Press, 1990. (Grades 6–10) A rather murky, New Age type of story about Janet, a loner who dreams of a highly romanticized encounter with a handsome young Indian hunter (the “Noble Savage” stereotype) shooting a white deer. She comes to realize that the old drunken Indian she has seen in the marketplace is the man in the dream. Although beautifully written, especially the imagery and descriptions of the town and the surrounding geography, the Indian man and a Chicano schoolmate are very shallowly drawn.

Ten Little Rabbits / Virginia Grossman. San Francisco: Chronicle Books, 1991. (Picture book) A twist on the counting book theme featuring rabbits dressed as “Indians” and involved in “Indian” activities. Although the illustrations are beautiful, the messages conveyed are confusing. Each page shows the rabbits/Indians dressed in the manner of a different tribe, but this isn’t explained until the end of the book, in an afterward. The impression given is one of generic “Indianness”, and once again animals “become” Indians simply by putting on certain articles of clothing, relegating an entire race to the status of a role or profession.



Wigwam and Warpath: Minute Stories of the American Indian /

Isabel Jurgens. New York: Grosset & Dunlap, 1936. (Grades 5–8) Although this book provides biographical sketches of lesser known Native Americans, it is laden with condescending overtones and inaccurate information. Clearly not written by someone close to the subject. ...

4. Where to find books on Indians:

This is really a two-part issue, dealing with Indian publishers and authors, and with distributors who carry a large inventory of “Indian” titles. The latter can often carry the bad as well as the good, but their catalogs are useful for selection and acquisition. Also, unless specifically indicated, books are generally for an adult audience, but often have a section of children’s books. Again, this is only a sampling.

Akwesasne Notes, Mohawk Nation, via Rooseveltown, NY 13683. This is the longest running Indian newspaper around today, covering indigenous issues of the Americas and the world. They have published several books, and carry a small number of titles from other publishers. Occasional book reviews. The newspaper itself is worth a subscription.

Canyon Records, 4143 North 16th Street, Phoenix, AZ 85016. Although there are a number of sources for Indian music, Canyon Records is by far the largest, with a huge inventory. They also have a pretty large list of books for distribution.

Children’s Book Press, 1461 Ninth Avenue, San Francisco, CA 94122. Harriet Rohmer publishes a book series called Fifth World Tales, featuring strikingly illustrated bilingual stories for children from the different ethnic groups in this country. Several Latin American Native peoples are represented, such as the Miskito of Nicaragua, but the book to get is Simon Ortiz’ *The People Shall Continue*, already discussed above.

Indian Historian Press, 1493 Masonic Avenue, San Francisco, CA 94117. Formerly publishers of the only magazine for children by Native Americans, “The Weewish Tree”, the newspaper “Wassaja” and the scholarly journal “The Indian Historian” (all defunct), this Indian-run educational publishing house features materials for children.

Iroqrafts, RR#2, Ohsweken, Ontario, Canada N0A 1M0. This is an Iroquois-run craft mail order house that carries a very large inventory of titles on Native peoples, with an emphasis on the Iroquois and other eastern Canadian groups. They even do their own reprinting of important works.

Native American Authors Distribution Project, The Greenfield Review Press, 2 Middle Grove Road, P.O. Box 308, Greenfield Center, NY 12833.

This project, run by Joseph Bruchac, combines both parts of this issue: all of the books are by Native authors, and the Project is a distributor for many small presses.

Oyate, 2702 Mathews Street, Berkeley, CA 94702. These folks are the publishers of Books Without Bias, and sell many of the books recommended in that bibliography. Write for their price list of available titles.

Theytus Books, Ltd., Box 218, Penticton, British Columbia V2A 6K3 Canada. A Canadian Native-run publishing house, featuring children's and young adult novels.

Western Trading Post, P.O. Box 9070, 32 Broadway, Denver, CO 80209. A very large craft house of materials used by Indian people, run by non-Indians. They have quite a large section of books and music in their catalog.

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Appendix D: References and Resources

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Additional Internet Resources

1. Nutrition Fun for Kids

<http://nutritionforkids.com/kidactivities.htm>

2. American Diabetes Association Virtual Grocery Store

http://vgs.diabetes.org/homepage.jsp?WTLPromo=NUTRITION_vgs&vms=196528892522

The Virtual Grocery Store provides information about healthful food choices and meal planning.

3. American Library Association: Serving Native American Youth

<http://www.ala.org/ala/alsc/alscresources/forlibrarians/servingnatamer/servingnative.htm>

Provides information resources on serving Native American and First Nation youth populations in libraries.



4. Captive Kids: A Report on Commercial Pressures on Kids at School

<http://www.consumersunion.org/other/captivekids/index.htm>

This follow-up report looks at the growing stream of commercial messages reaching today's children at school.

5. Smart-Mouth.org

<http://www.cspinet.org/smartmouth/index1.html>

Smart-Mouth.org has games with a disintegrating face, a slick character that exposes how the food industry's drive for profit affects what we eat, a calorie meter that helps us see how our favorite foods stack up, and other surprising information about what we eat.

6. Science: Through Native American Eyes

<http://www.cradleboard.org/2000/cd.html>

Students and teachers now can learn unexpected things about America's first cultures at the same time as doing their required science lessons, applying their computer skills, and having fun.

7. My Body: Digesting Food

<http://www.kidcyber.com.au/topics/bodydigest.htm>

8. Healthy Habits for Healthy Kids: A Nutrition and Activity Guide for Parents

<http://www.eatright.org/ada/files/wellpoint.pdf>

9. Media-Smart Youth: Eat, Think, and Be Active

<http://www.nichd.nih.gov/msy/>

Media-Smart Youth: Eat, Think, and Be Active! is an interactive after-school education program for young people ages 11 to 13. It is designed to help teach them about the complex media world around them, and how it can affect their health—especially in the areas of nutrition and physical activity.

10. Food Smarts: Understanding Food Labels

<http://pbskids.org/itsmylife/body/foodsmarts/article4.html>

11. The ABC's of Teaching Nutrition to Your Kids

<http://www.askdrsears.com/html/4/T040200.asp>

Appendix E: About the Artists

About the Artist and Illustrator Cory Fontaine

Cory Fontaine is a member of the Keweenaw Bay Indian Community and a student at Keweenaw Bay Ojibwa Community College. He also studies as a *Mide* initiate and has served as firekeeper for the Mide Lodge and Keweenaw Bay Pow Wow. He says, "My main reason for attending college here was to learn about my heritage and culture. Whenever possible, I extend my knowledge to the community, in most cases by using my abilities as an artist. For example, while working with the Keweenaw Bay Indian Community Youth Center, I involved our area youth in the arts. One of our projects was painting a mural in the youth center to show the Ojibwe and English names of animals, and the kids had their hands in painting everything."

Cory has enjoyed drawing and painting as long as he can remember. Although he's been able to use his artistic talent in the community, finding a career as an artist has been more challenging. Cory's work illustrating the traditional stories used in *Health Is Life in Balance* has been one of the experiences that helped him find a path toward that goal.

Cory plans to start work toward a bachelor of fine arts degree in illustration at Northern Michigan University. He will be taking a minor in Native American studies. After college, he envisions working in concept design or storyboarding. Cory hopes to continue to serve as a role model for youth in the community, encouraging them to develop their talents and pursue their dreams: "After designing imaginative creations for the community, and local businesses, and friends, I have decided to work more to further my abilities in the arts. The possibilities are endless when restrictions are only created by imagination."

About the Artist and Illustrator Loren Youngman

Loren is a 23-year-old male who lives in Poplar, Montana. He is of Sioux Indian descent from the Fort Peck Assiniboine and Sioux Tribes in Northeastern Montana. Loren was raised by his grandparents, Floyd and Coretta Youngman, and learned his Sioux language in the home. His grandfather, Floyd, was a well-respected medicine man who practiced his traditional ways and conducted Sun Dance ceremonies for many years on the reservation. From his grandfather, Loren was taught his cultural ways of living and his artwork reflects insight into that upbringing.

From his grandmother, Coretta, Loren acquired the gentleness and affection for his family as well as an inherent responsibility to support them. Although his grandparents



have passed to the other side, Loren continues his traditional ways of living and keeps his obligations to his family.

Since the age of 8 years Loren knew he wanted to be an artist and his talent flourished within him during his early school years. He's known locally for his beautiful drawings and paintings among his tribal membership on the Fort Peck Indian Reservation. His goal was, and still is, to attend an art institute, but his commitment to his family is his highest priority. Loren has utilized his natural gift to help support his family and presently chooses to stay home where he raises his child until such time as he and his family can leave the reservation so that he can attend an art school.