

First Grade

ALL FOUR KITS

Science Processes: Inquiry Process, Inquiry Analysis and Communication, Reflection, and Social Implications

Students entering the first grade should have an understanding of the five senses and how the use of their senses help in science observations and investigations. The continued use of high interest subject matter piqued by their natural curiosity will further develop student understanding and skills in making observations, generating questions, planning and conducting simple investigations, meaning-making, and presentation of findings.

In addition to the skills the students acquired in their kindergarten experience, first grade students will recognize the importance of multiple trials in their investigations before drawing conclusions or presenting findings.

The first grade students, in all three science content disciplines, physical, life, and Earth, will be required to make careful and purposeful observations in order to raise questions, investigate, and make meaning of their findings.

Kit: SORTING BY PROPERTIES

The first grade physical science experience is intended to develop the young learners skills in using the senses to sort objects according to their observable physical attributes (color, shape, size, sinking, floating, texture). Young children begin their study of matter by examining and describing objects and their behavior. First grade students will also begin to study states of matter and particularly states of water as found on Earth. They explore water primarily in its liquid state and solid state. The Grade Level Content Expectations do not hold the first grade student responsible for a complete understanding of water in its gaseous state. The introduction of the three states of water on Earth is appropriate at this level, however, developing a complete knowledge base in states of matter requires many experiences over multiple grade levels, providing opportunities to continue children's explorations focused on observations and simple investigations. Elementary students have difficulty understanding that the water they see in a boiling pot evaporates into a gas. A common misconception is that it disappeared or went away. In subsequent grades students will be given the opportunity to conduct simple investigations with heating and evaporation that will help familiarize them with evaporation and gas as a state of matter.

The final area of study in the physical sciences is the observation of magnets and the interaction with magnetic and non-magnetic materials. The study of magnets also provides the opportunity for the young learner to build on their kindergarten experience of pushes and pulls that are required in the motion of an object. The magnets can be used to demonstrate pushes and pulls that are not in direct contact with the moving object, yet provides the force needed for motion.

Kit: ANIMAL LIFE

The first grade life science curriculum builds on the students' prior knowledge of living and nonliving things and the basic needs of all living things. Students are provided with the opportunity to explore and identify the needs of animals and describe the animal life cycle (egg, young, adult; egg, larva, pupa, adult).

Through their study of living things in the classroom, first grade students begin to make connections between young and adult, and are able to make simple identification of characteristics that are passed from parents to young (body coverings, beak shape, number of legs, body parts). They also develop the ability to match young animals with their parent based on similar characteristics (puppies/dogs, kittens/cats, calves/cows, chicks/chickens).

Kit: THE SUN WARMS THE EARTH

The Earth science content expectations for first grade focus on two main ideas. The first concept is the importance of the sun providing the warmth and light necessary for plant and animal life, and how plant and animal life are dependent on a variety of earth materials. The students enter first grade with the basic ability to identify simple earth materials and recognize that some earth materials are necessary to grow plants. Building on their prior knowledge, the students will be given the opportunity to demonstrate and describe the importance of sun, air, and soil to plant and animal life.

Kit: WEATHER

The second main idea in first grade Earth science focuses on the study of weather and how it changes from day to day and over the seasons. The young learners are given the opportunity to observe, record, and measure weather conditions over a period of time. Student understanding of weather can be obtained through observations, descriptions, and finding patterns. The first grade Earth science content expectations also include the study of severe weather events and precautions that should be taken to ensure their safety if severe weather should occur.