

Fourth Grade

ALL FOUR KITS

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

As students enter the fourth grade, they have developed their skills in observation, measurement, data collection and analysis, real-world application, and finally presentations of their findings to others. New science processes are not introduced at this level, but it is the intent of the expectations to provide content in which the students can practice and apply their inquiry skills as a process of testing their ideas and logically use evidence to formulate explanations.

Kit: HEAT, ELECTRICITY AND MAGNETISM

Students enter the fourth grade with prior knowledge regarding energy in the context of sound and light as examples of energy. Heat and electricity are introduced as additional forms of energy, as well as describing energy in terms of evidence of change or transfer. Students have intuitive notions that energy is necessary to get things done and that humans get energy from food. Children are not expected to understand the complex concept of energy at this level. By experimenting with light and sound (third grade) and heat, electricity and magnetism in fourth grade, students begin to recognize evidence of energy through observation and measurement of change. Through multiple experiences with simple electrical circuits, heat transfer, and magnetism, students make simple correlations and describe how heat is produced through electricity, identify conductors of heat and electricity, and explain the conditions necessary to make an electromagnet.

Kit: PROPERTIES AND CHANGES OF MATTER

The content expectations for physical science conclude with the study of properties of matter that can be measured and observed, states of matter, and changes in states of matter through heating and cooling.

Kit: RELATIONSHIPS AND REQUIREMENTS OF LIVING THINGS

The role of different organisms and the flow of energy within an ecosystem is the main concept in fourth grade life science. Students explore the life requirements of living organisms and their source of energy for growth and repair. In their investigations, students study individual differences in organisms of the same kind and identify how those differences of organisms may give them an advantage for survival and reproduction. Students conclude their elementary life science exploration by

investigating food chains or webs and how environmental changes can produce a change in the food web and species survival.

Kit: SUN, MOON AND EARTH

The identification and comparison of common objects in the sky begins the study of Earth in space. Through long term observations of the sun and moon, students identify patterns in movement and collect data to summarize information regarding the orbit of the Earth around the sun, and the moon around the Earth. Models and activities provide the tools to demonstrate the orbits and explain the predictable cycle of one month in the phases of the moon, and day and night as the apparent movement of the sun and moon across the sky.

Students explore the history of the Earth through evidence from fossils and compare fossils of life forms with organisms that exist today.

The underlying theme within the physical, life, and earth science is energy and specifically energy from the sun. Students can make connections between the heat and light energy from the sun and the dependency of all living things on the sun.