

Students will be able to: SKILLS IN INQUIRY-BASED LEARNING

- Ask questions and make predictions that can be tested.
- Select and use appropriate tools and technology (*ruler, meter sticks, thermometers, hand lenses, and balances*) to gather data and extend observations.
- Keep accurate records while conducting simple investigations or experiments.
- Conduct multiple trials to test a prediction. Compare the result of an investigation or experiment.
- Recognize patterns in data to create a reasonable explanation for the results of an investigation or experiment.
- Record data and communicate findings to others using graphs, charts, maps, models, and oral and written reports.

Students will be able to: LIFE SCIENCE

- Recognize that producers (*plants that contain chlorophyll*) use the sun's energy to make sugars through a process called photosynthesis.
- Give examples of ways in which organisms interact and have different functions within an ecosystem that enable the ecosystem to survive.
- Classify organisms into currently recognized kingdoms according to characteristics that they share. Be familiar with organisms from each kingdom.
- Recognize that all organisms are composed of cells and that many organisms are single-celled (*unicellular*), for example bacteria, yeast. In these single-celled organisms, one cell must carry out all of the basic functions of life.
- Recognize that within cells, many of the basic functions of organisms (*extracting energy from food and getting rid of waste*) are carried out. Recognize the way in which cells function is similar in all living organisms.
- Describe the hierarchical organization of multi-cellular organisms from cells to tissues to organs to systems to organisms.
- Explain the roles of producers, consumers, and decomposers in the process of energy transfer in a food web.
- Explain how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.

Students will be able to: PHYSICAL SCIENCE

- Differentiate between volume and mass. Define density.
- Recognize that heat is a form of energy and temperature change results from adding or taking away heat from a system.
- Give examples of how heat moves in predictable ways, from warmer to cooler objects until equilibrium is reached.
- Explain the effect of heat on particle motion through a description of what happens to particles during a change of phase.

*Students will be able to:*

*EARTH SCIENCE*

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- Recognize, interpret, and be able to create models of the earth's common physical features.
- Describe the layers of the solid earth, including the lithosphere, the hot convecting mantle, and the dense metallic core.
- Describe how the movement of the earth's crustal plates causes both slow changes in the earth's surface (*formation of mountains and ocean basins*) and rapid ones (*volcanic eruptions and earthquakes*).
- Describe and give examples of ways in which the earth's surface is built up and torn down by natural processes, including deposition of sediments, rock formation, erosion, and weathering.
- Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through the earth's system.