

# Fantastic Plastics Core Content

## Elementary School

**SC-E-1.1.1** Objects have many observable properties such as size, mass, shape, color, temperature, magnetism, and the ability to react with other substances. Some properties can be measured using tools such as metric rulers, balances, and thermometers.

**SC-EP-1.1.2** *Students will understand that objects have many observable properties such as size, mass, shape, color, temperature, magnetism, and the ability to interact and/or to react with other substances. Some properties can be measured using tools such as metric rulers, balances, and thermometers.*

**SC-E-1.1.3** *Materials can exist in different states--solid, liquid, and gas. Some common materials, such as water, can be changed from one state to another by heating or cooling*

### **SC-04-2.3.1 Students will:**

- classify earth materials by the ways that they are used;
- explain how their properties make them useful for different purposes.

Earth materials provide many of the resources humans use. The varied materials have different physical and chemical properties that can be used to describe, separate, sort, and classify them. Inferences about the unique properties of the earth materials yield ideas about their usefulness. For example, some are useful as building materials (e.g., stone, clay, marble), some as sources of fuel (e.g., petroleum, natural gas), or some for growing the plants we use as food. DOK 2

**SC-E-3.1.1** Things in the environment are classified as living, nonliving, and once living. Living things differ from nonliving things. Organisms are classified into groups by using various characteristics (e.g., body coverings, body structures).

**SC-E-3.1.2** Organisms have basic needs. For example, animals need air, water, and food; plants need air, water, nutrients, and light. Organisms can survive only in environments in which their needs can be met.

## Middle School

### **PL-06-3.1.4**

Students will describe consumer actions (reuse, reduce, recycle) and explain how these actions impact the environment (e.g., conserving resources, reducing pollution, reducing solid waste, conserving energy).

### **PL-07-3.1.4**

Students will describe consumer actions (reuse, reduce, recycle) and explain how these actions impact the environment (e.g., conserving resources, reducing pollution, reducing solid waste, conserving energy).

DOK 2

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**PL-08-3.1.4**

Students will describe consumer actions (reuse, reduce, recycle) and explain how these actions impact the environment (e.g., conserving resources, reducing pollution, reducing solid waste, conserving energy).

DOK 2

**High School****SC-HS-1.1.8**

Students will explain the importance of chemical reactions in a real-world context; justify conclusions using evidence/data from chemical reactions. Chemical reactions (e.g., acids and bases, oxidation, combustion of fuels, rusting, tarnishing) occur all around us and in every cell in our bodies. These reactions may release or absorb energy.

**SC-HS-3.5.1**

Students will:

- predict the impact on species of changes to 1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, or (4) natural selection;
- propose solutions to real-world problems of endangered and extinct species.

Species change over time. Biological change over time is the consequence of the interactions of (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life and (4) natural selection. The consequences of change over time provide a scientific explanation for the fossil record of ancient life forms and for the striking molecular similarities observed among the diverse species of living organisms. Changes in DNA (mutations) occur spontaneously at low rates. Some of these changes make no difference to the organism, whereas others can change cells and organisms. Only mutations in germ cells have the potential to create the variation that changes an organism's future offspring.

**SC-HS-4.7.2**

Students will:

- evaluate proposed solutions from multiple perspectives to environmental problems caused by human interaction;
- justify positions using evidence/data.

Human beings live within the world's ecosystems. Human activities can deliberately or inadvertently alter the dynamics in ecosystems. These activities can threaten current and future global stability and, if not addressed, ecosystems can be irreversibly affected.

**SC-HS-4.7.3**

Students will:

predict the consequences of changes to any component (atmosphere, solid Earth, oceans, living things) of the Earth System;

propose justifiable solutions to global problems.

Interactions among the solid Earth, the oceans, the atmosphere and living things have resulted in the ongoing development of a changing Earth system.

**SC-HS-4.7.5**

Students will:

- predict the consequences of changes in resources to a population;
- select or defend solutions to real-world problems of population control.

Living organisms have the capacity to produce populations of infinite size. However, behaviors, environments and resources influence the size of populations. Models (e.g., mathematical, physical, conceptual) can be used to make predictions about changes in the size or rate of growth of a population.