Matter

7th Grade Science

Standard 1

1. I can describe the structure of matter in terms of atoms and molecules.

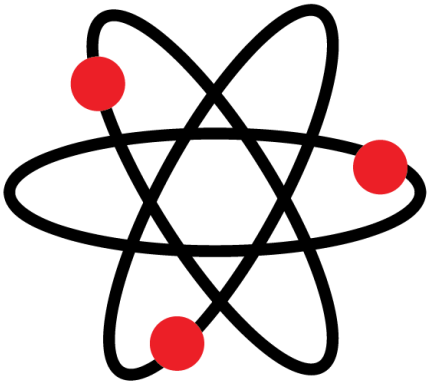
7. 1. a □ I can compare the sizes of atoms and molecules.

7. 1. b □ I can explain that molecules are made of atoms.

7. 1. c □ I can diagram particle arrangement in solids, liquids, and gases.

7. 1. d □ I can explain the limitations of using models to represent atoms.

7. 1. e □ I can describe how models showing the structure of matter have changed over time.



2. I can accurately measure the characteristics of matter in different states.

7. 2. a □ I can correctly measure and record the mass and volume of solids and liquids.

7. 2. b, c, d □ I can correctly predict, calculate, and explain the density of various solids and liquids.

7. 2. e □ I can design a procedure to measure the mass and volume of a gas.

Matter (cont.)

7th Grade Science

Standard 1

3. I can investigate the motion of particles.

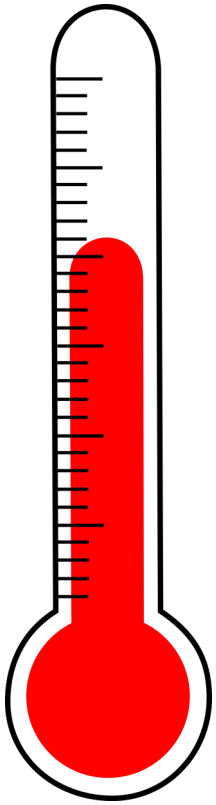
7. 3. a □ I can provide evidence that particles are in constant motion.

7. 3. b □ I can compare how temperature changes particle motion by measuring changes in volume.

7. 3. c □ I can provide evidence that particles spread out evenly over time through diffusion.

7. 3. d □ I can create an experiment to test the relationship between temperature and motion.

7. 3. e □ I can describe how temperature can affect buildings, roads, and other structures.



Earth's Structure

7th Grade Science

Standard 2

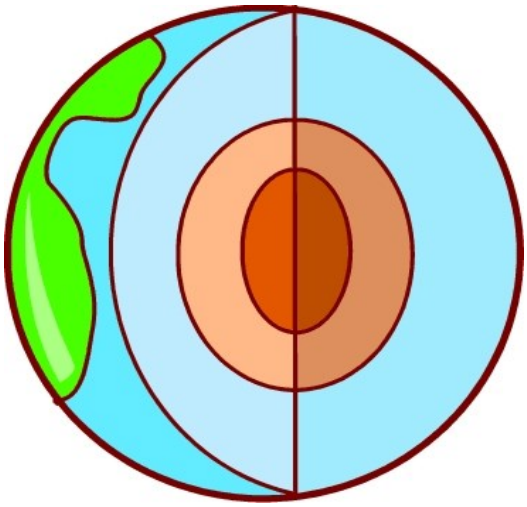
1. I can examine the effects of density and particle size on the behavior of materials in mixtures.

7. 1. a □ I can compare the density of various objects to the density of known Earth materials.

7. 1. b □ I can calculate the density of Earth materials.

7. 1. c, d, e □ I can describe the sorting of Earth's materials in a mixture in nature and through experiments.

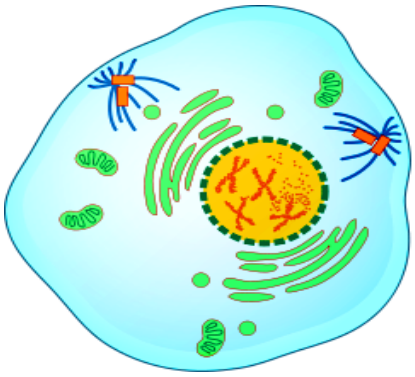
2. I can analyze how density affects Earth's structure.



7. 2. a □ I can compare the densities of Earth's atmosphere, water, crust, outer core, and inner core.

7. 2. b □ I can relate how the Earth's structure is due to the density of the layers.

7. 2. c □ I can create a model to show the layers of the Earth.



Cells

7th Grade Science

Standard 3

1. I can observe and describe a cell's structure and function.

7. 1. a □ I can use a microscope to observe and describe cells.

7. 1. b □ I can identify and explain the function of the cell wall, membrane, nucleus, chloroplast, and cytoplasm.

7. 1. c □ I can compare and contrast plant and animal cells.

7. 1. d □ I can model and osmosis and diffusion.

7. 1. e □ I can explain how the basic life functions of an organism are carried out within cells.

2. I can identify and describe the function and interdependence of various organs and tissues in the cell.

7. 2. a □ I can put the following in order from most simple to most complex: cell, tissue, organ, organ system, and organism.

7. 2. b □ I can give examples of cells, tissues, organs, organ systems, and organisms.

7. 2. c, d □ I can relate how the structure and function of tissues and organs helps an organism survive.

Heredity

7th Grade Science

Standard 4

1. I can compare how reproduction processes pass genetic information from parents to offspring.

7. 1. a □ I can distinguish between inherited and acquired traits.

7. 1. b □ I can explain the differences between sexual and asexual reproduction.

7. 1. c □ I can give examples of organisms that reproduce sexually and organisms that reproduce asexually.

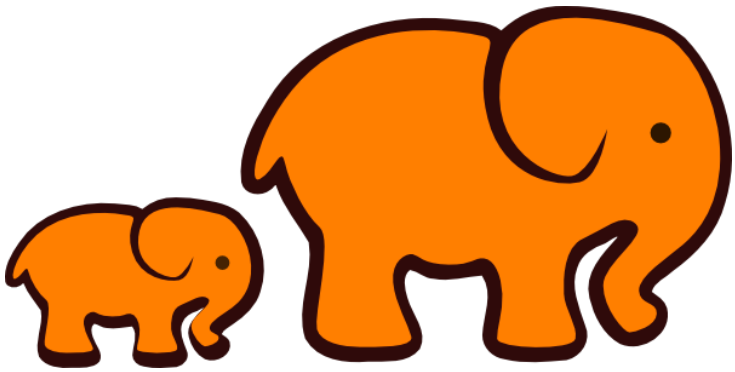
7. 1. d □ I can identify how inherited traits help an organisms survive.

2. I can explain the adaptability of an organism to their environment based on their traits and structures.

7. 2. a □ I can give examples of traits that are helpful in one environment but not in a different one.

7. 2. b □ I can identify genetic traits which are caused by nature and those that are caused by humans.

7. 2. c □ I can relate the structure of specific organs to an organism's ability to survive.



Classification

7th Grade Science

Standard 5

1. I can classify based on observable properties.

7. 1. a □ I can classify non-living objects.

7. 1. b □ I can compare living, once living, and non-living objects.

7. 1. c, d □ I can use and explain different ways to classify objects.

2. I can use and develop simple classification systems.

7. 2. a □ I can use a classification key to identify objects.

7. 2. b □ I can develop a classification scheme based on observed structural characteristics.

7. 2. c, e □ I can explain the rules and patterns of a classification system.

7. 2. d □ I can explain how classification increases scientific knowledge.

3. I can identify organisms based on the kingdom they belong to.

7. 3. a □ I can identify organisms as plants or animals.

7. 3. b □ I can arrange organisms into kingdoms (e.g. plant, animal, monera, fungi, protist)

7. 3. c □ I can use a classification key or field guide to identify objects.

7. 3. d □ I can explain how changes are made to classification keys when new information is discovered.