

Earth and Moon

3rd Grade Science

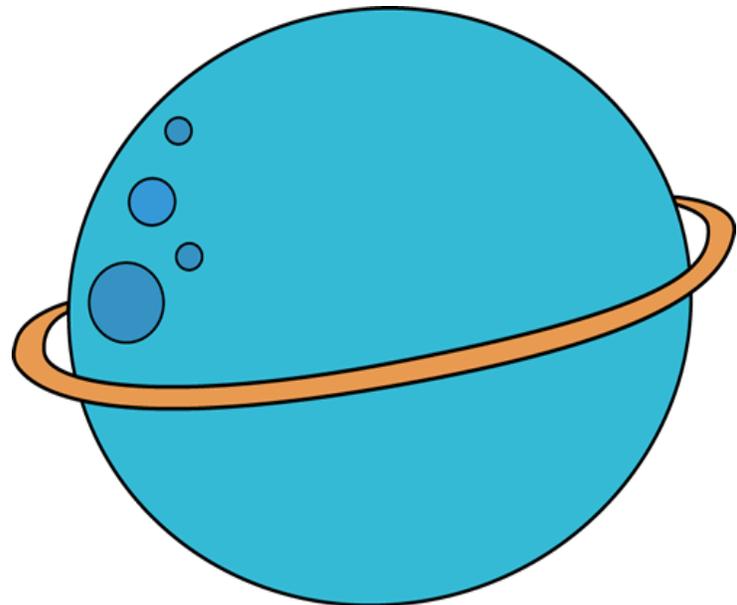
Standard 1

1. I can describe the appearance of the Earth and the moon.

- 1.a I can describe the shape of Earth and the moon as spherical.
- 1.b I can explain that the sun is the source of light that lights the moon.
- 1.c I can list the differences in the physical appearance of Earth and the moon as viewed from space.

2. I can describe the movement of Earth and the moon and the apparent movement of other bodies through the sky.

- 2.a I can describe the motions of Earth. For example: the rotation [spinning] of Earth on its axis, the revolution [orbit] of Earth around the sun.
- 2.b I can use a chart to show that the moon orbits Earth approximately every 25 days.
- 2.c I can use a model of Earth to demonstrate that Earth rotates on its axis once every 24 hours to produce the night and day cycle.
- 2.d I can use a model to demonstrate why it seems to a person on Earth that the sun, planets, and stars appear to move.



Living vs. Nonliving

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Standard 2

1. I can classify living and nonliving things in an

- 1.a I can identify characteristics of living things. For example: growth, movement, reproduction.
- 1.b I can identify characteristics of nonliving things.
- 1.c I can classify living and nonliving things in an environment.



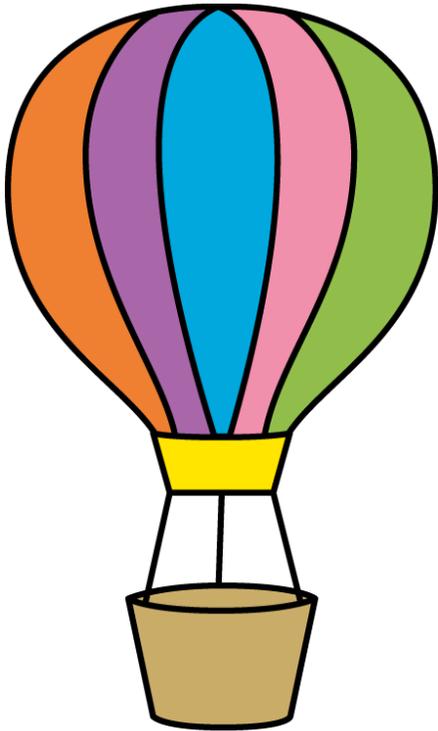
2. I can describe the interactions between living and nonliving things in a small environment.

- 2.a I can identify living and nonliving things in a small environment (e.g. terrarium, aquarium, flowerbed) composed of living and nonliving things.
- 2.b I can predict the effects of changes in the environment (e.g. temperature, light, moisture) on a living organism.
- 2.c I can observe and record the effect of changes (e.g. temperature, amount of water, light) upon the living organisms and nonliving things in a small-scale environment)
- 2.d I can compare a small-scale environment to a larger environment. For example: aquarium to a pond, terrarium to a forest.
- 2.e I can pose a question about the interaction between living and nonliving things in the environment that could be investigated by observation.

Force and Motion

3rd Grade Science

Standard 3



1. I can demonstrate how forces cause changes in speed or direction of objects.

- 1.a I can show that objects at rest will not move unless a force is applied to them.
- 1.b I can compare the forces of pushing and pulling.

2. I can demonstrate that the greater the force applied to an object, the greater the change in speed or direc-

- 2.a I can predict and observe what happens when a force is applied to an object (e.g. wind, flowing water).
- 2.b I can compare and chart the relative effects of a force of the same strength on objects of different weight. For example: the breeze from a fan will move a piece of paper but may not move a piece of cardboard.
- 2.c I can compare the relative effects of forces of different strengths on an object. For example: strong wind affects an object differently than a breeze.
- 2.d I can conduct a simple investigation to show what happens when objects of various weights collide with one another (e.g. marbles, balls)
- 2.e I can show how these concepts apply to various activities (e.g. batting a ball, kicking a ball, hitting a golf ball with a golf club) in terms of force, motion, speed, direction, and distance (e.g. slow, fast, hit hard, hit soft).

Gravity

3rd Grade Science

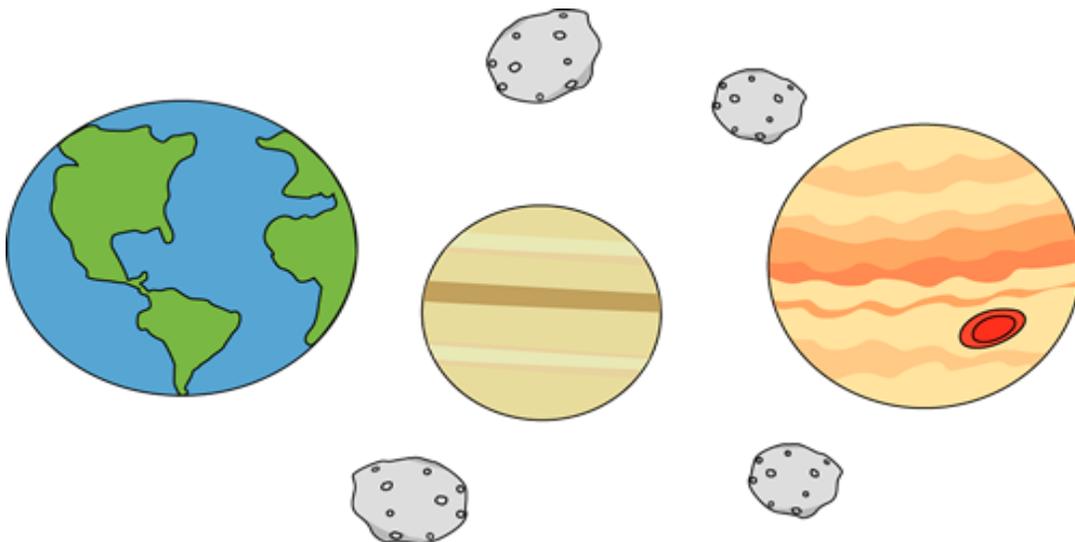
Standard 4

1. I can demonstrate that gravity is a force.

- 1.a I can demonstrate that a force is required to overcome gravity.
- 1.b I can use measurement to demonstrate that heavier objects require more force than lighter ones to overcome gravity.

2. I can describe the effects of gravity on the motion of an object.

- 2.a I can compare how the motion of an object rolling up or down a hill changes with the incline of the hill.
- 2.b I can observe, record, and compare the effect of gravity on several objects in motion (e.g. a thrown ball and a dropped ball falling to Earth).
- 2.c I can pose questions about gravity and forces.



Heat and Light

3rd Grade Science

Standard 5

1. I can provide evidence showing that the sun is the source of heat

- 1.a I can compare temperatures in sunny and shady places.
- 1.b I can observe and report how sunlight affects plant growth.
- 1.c I can provide examples of how sunlight affects people and animals by providing heat and light.

1.d I can identify and discuss as a class some misconceptions

2. I can demonstrate that mechanical and electrical machines produce heat and sometimes light.

- 2.a I can identify and classify mechanical and electrical sources of heat.
- 2.b I can list examples of mechanical or electrical devices that produce light.
- 2.c I can predict, measure, and graph the temperature changes produced by a variety of mechanical machines and electrical devices while they are operating.

3. I can demonstrate that heat may be produced when objects are rubbed against one another.

- 3.a I can identify several examples of how rubbing one object against another produces heat.
- 3.b I can compare relative differences in the amount of heat given off or force required to move an object over lubricated/non-lubricated surfaces and smooth/rough surfaces. For example: waterslide with and without water.

