

Brandon Sullivan
Science Specialist

Science Information for Report Cards

Earth and Space

Grade 1: First graders recognize that water, rocks, soil, and living organisms are found on the earth's surface. Students recognize that the sun supplies heat and light to the earth and is necessary for life. They can identify events around us that have repeating patterns, including the seasons of the year, day and night. Students understand the Sun is the center of the solar system and the moon orbits the Earth and goes through phases.

Grade 2: Students understand that air is a mixture of gases that is all around us and that wind is moving air. They are able to recognize that the sun supplies heat and light to the earth and is necessary for life. Students identify events around us that have repeating patterns, including the seasons of the year, day and night. Students understand the water cycle.

Grade 3: Students are able to give an explanation of what a mineral is and some examples. Students can identify the physical properties of minerals (hardness, color, luster, cleavage, and streak), and able to explain how minerals can be tested for these different physical properties. They can identify the three categories of rocks (metamorphic, igneous, and sedimentary) based on how they are formed, and explain the natural and physical processes that create these rocks. Recognize that the earth is part of a system called the "solar system" that includes the sun (a star), planets, and many moons. Know the earth is the third planet from the sun in our solar system. Able to recognize that the earth revolves around (orbits) the sun in a year's time and that the earth rotates on its axis once approximately every 24 hours. They can make connections between the rotation of the earth and day/night, and the apparent movement of the sun, moon, and stars across the sky.

Grade 4: Students are able to explain and give examples of the ways in which soil is formed (the weathering of rock by water and wind and from the decomposition of plant and animal remains). They can recognize and discuss the different properties of soil, including color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants. Students are able to distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time. Students can describe how water on earth cycles in different forms and in different locations, including underground and in the atmosphere. They can give examples of how the cycling of water, both in and out of the atmosphere, has an effect on climate. Students can give examples of how the surface of the earth changes due to slow processes such as erosion and weathering, and rapid processes such as landslides, volcanic eruptions, and earthquakes.