

NC Essential Standards by Grade (Elementary):

K.P.1.1 Compare the relative position of various objects... using position words...

K.P.2.1 Classify objects by observable physical properties (including size, color, shape, texture, weight and flexibility).

K.P.1.2 Give examples of different ways objects and organisms move...

K.E.1.2 Summarize daily weather conditions noting changes that occur from day to day and throughout the year.

K.E.1.3 Compare weather patterns that occur from season to season.

1.E.1.1 Recognize differences in the features of the day and night sky and apparent movement of objects across the sky as observed from Earth.

1.E.1.2 Recognize patterns of observable changes in the Moon's appearance from day to day.

2.E.1.1 Summarize how energy from the sun serves as a source of light that warms the land, air and water.

2.E.1.3 Compare weather patterns that occur over time and relate observable patterns to time of day and time of year.

3.E.1.1 Recognize that the earth is part of a system called the solar system ...and earth is the third planet from the sun.

3.P.1.3 Explain the effect of earth's gravity on the motion of any object on or near the earth.

3.E.2.1 Compare Earth's saltwater and freshwater features.

3.E.2.2 Compare Earth's land features by using models, pictures, diagrams, and maps.

4.E.1.1 Explain the cause of day and night based on the rotation of Earth on its axis.

4.E.1.2 Explain the monthly changes in the appearance of the moon, based on the moon's orbit around the Earth.

4.P.3.2 Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.

4.E.2.3 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.

5.P.1.1 Explain how factors such as gravity, friction, and change in mass affect the motion of objects.

5.P.1.2 Infer the motion of objects in terms of how far they travel in a certain amount of time and the direction in which they travel.

5.P.2.1 Explain how the sun's energy impacts the processes of the water cycle (including, evaporation, transpiration, condensation, precipitation and runoff).

5.P.3.1 Explain the effects of the transfer of heat that occurs between objects at different temperatures.

5.E.1.3 Explain how global patterns such as the jet stream and water currents influence local weather in measurable terms such as temperature, wind direction and speed, and precipitation.

NC Essential Standards by Grade (Middle):

6.E.1.1 Explain how the relative motion and relative position of the sun, Earth and moon affect the seasons, tides, phases of the moon, and eclipses.

6.E.1.2 Explain why Earth sustains life while other planets do not based on their properties (including types of surface, atmosphere and gravitational force) and location to the Sun.

6.E.2.2 Explain how crustal plates and ocean basins are formed, move and interact using earthquakes, heat flow and volcanoes to reflect forces within the earth.

6.P.2.2 Explain the effect of heat on the motion of atoms through a description of what happens to particles during a change in phase.

6.P.3.1 Illustrate the transfer of heat energy from warmer objects to cooler ones using examples of conduction, radiation and convection and the effects that may result.

6.L.1.2 Explain the significance of the processes of photosynthesis, respiration and transpiration to the survival of green plants and other organisms.

7.P.1.2 Explain the effects of balanced and unbalanced forces acting on an object (including friction, gravity and magnets).

7.E.1.2 Explain how the cycling of water in and out of the atmosphere and atmospheric conditions relate to the weather patterns on earth.

7.E.1.5 Explain the influence of convection, global winds and the jet stream on weather and climatic conditions.

8.E.2.2 Explain the use of fossils, ice cores, composition of sedimentary rocks, **faults**, and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms.

8.L.3.3 Explain how the flow of energy within food webs is interconnected with the cycling of matter (including water, nitrogen, carbon dioxide, and oxygen).