Ohio Science - Extended Learning Standards

Grade 2

Earth and Space Science

1 The atmosphere is primarily made up of air. 2.ESS.1

- Identify landforms found on Earth that have been affected by wind (e.g. sand dune, rock formations, worn down statue). 2.ESS.1.A
- Demonstrate that wind can impact Earth's landforms (e.g., build a pile of sand and use a fan to simulate wind). Record changes observed. 2.ESS.1.B
- Recognize that air movement can result in violent storms (e.g., hurricanes, tornadoes, thunderstorms). 2.ESS.1.C
- Recognize the relationship between temperature changes and wind (e.g., monitor weather conditions and track how temperature changes impact wind). 2.ESS.1.D
- Identify that wind movement can change (e.g., measure the direction and speed of wind outside on different days). 2.ESS.1.E
- Identify that changes in air temperature create wind. 2.ESS.1.F
- Recognize that air has mass (e.g., compare the mass of a balloon with and without air by hanging on two ends of a ruler). 2.ESS.1.G
- Recognize that air takes up space (e.g., compare a balloon with and without air). 2.ESS.1.H
- Use a simple instrument (e.g., pinwheel, windsock, flag, wind chimes) to measure the relative speed of wind). 2.ESS.1.I
- Recognize that wind blows at different speeds. 2.ESS.1.J

2 Water is present in the atmosphere. 2.ESS.2

- Collect data on weather conditions in the school yard, chart and compare data and discuss the relationships between temperature, cloud cover and precipitation. 2.ESS.2.A
- Recognize that different types of clouds cause different weather. 2.ESS.2.B
- Recognize that water vapor in the air can condense to form clouds, fog, or dew (e.g., observe condensation on the outside of a cold beverage). 2.ESS.2.C
- Recognize that temperature can affect how quickly water evaporates (e.g., compare dishes of water inside the classroom and in the hot sun). 2.ESS.2.D
- Recognize that water can evaporate (e.g., place water in a dish and put it in a sunny window). 2.ESS.2.E
- Recognize that clouds are moved by wind. 2.ESS.2.F
- Identify water in its many forms and relate to weather (rain, sleet, hail, snow, fog). 2.ESS.2.G

3 Long and short term weather changes occur due to changes in energy. 2.ESS.3

- Recognize that different parts of Earth heat up at different rates (e.g., investigate the warming of land, water and air by using a sunlamp to heat equal containers of water, soil and air). 2.ESS.3.A
- Compare the number of daylight hours to the temperature (the higher number of daylight hours usually means warmer temperature; the lower number of daylight hours usually means cooler temperatures). 2.ESS.3.B
- Use weather data (temperature, wind speed and direction, air pressure) to explain changes before, during and after a storm . 2.ESS.3.C
- Track the temperature during the change seasons and note the increase or decrease of temperature and how it impacts the weather (cooling in the fall transitioning into winter, warming in the spring transitioning to summer). 2.ESS.3.D
- Recognize that some types of severe weather occur only in certain regions (e.g., Ohio will not be directly hit by a hurricane). 2.ESS.3.E
- Recognize that some weather changes happen quickly and some are more long term. 2.ESS.3.F
- Give examples of energy changes affecting the environment (e.g., the sidewalk gets hot in the sun, a sailboat moves with the wind) 2.ESS.3.G

Life Science

1 **Living things cause changes on Earth.** 2.LS.1

- Document the effect on an environment caused by a living thing (e.g., humans not recycling, worms composting). 2.LS.1.A
- Given images or video of changes to an environment, determine if the change was fast or slow. 2.LS.1.B
- Sort changes in an environment by whether they were caused by living or non living things. 2.LS.1.C
- Identify a change to an environment that was caused by a living thing. 2.LS.1.D
- Choose from a set of pictures the ones that show changes human have made to the environment (e.g., making a road cut, factory polluting, mining, trash on ground, construction). 2.LS.1.E
- Sort pictures into before and after (e.g., sidewalk with and without cracks with weeds, stream with and without a beaver dam, ground with and without an ant hill, lake without and with algal bloom). 2.LS.1.F

2 **Some kinds of organisms become extinct when their basic needs are no longer met or the environment changes.** 2.LS.2

- Understand that organisms alive today sometime resemble extinct organisms (e.g., use pictures or media to compare and contrast organisms alive today and extinct organisms). 2.LS.2.A
- Identify some common types of fossil imprints (e.g., tracks, molds, casts). 2.LS.2.B
- Identify some common types of fossil remains (e.g., shells, bones, scat, eggs). 2.LS.2.C
- Recognize that fossils are the remains of animals that once lived. 2.LS.2.D
- Identify some types of organisms that lived in the past no longer exist (e.g. Saber tooth cat, trilobite, Dodo bird, sigillaria tree). 2.LS.2.E
- Recognize that changes in environments affect survival of living things. 2.LS.2.F
- Describe ways that environments can change. 2.LS.2.G
- Describe how environments provide materials and resources that relate to various basic needs. 2.LS.2.H
- Recognize that basic needs include food/energy, water and temperature. 2.LS.2.I

Physical Science

1 **Forces change the motion of an object.** 2.PS.1

- Show that other noncontact forces (forces that can pull or push without touching the object) can change motion by demonstrating with magnets and static electricity (balloons rubbed on hair). Magnetic and static forces can both pull and push. 2.PS.1.A
- Identify the force that makes things fall as gravity, notice that gravity works without touching the object. Gravitational force only pulls. 2.PS.1.B
- Recognize that all objects fall to the ground when dropped. 2.PS.1.C
- Demonstrate a variety of changes to motion (e.g., make something stop moving, make something start moving, make something speed up or slow down, make something change its direction). 2.PS.1.D
- Describe how different size forces change motion (e.g., kick a ball lightly then kick it harder). 2.PS.1.E
- Identify that a pull or a push is called a force. 2.PS.1.F
- Identify examples of pulls and pushes (e.g., wind blowing, pulling a wagon, tossing a beanbag). 2.PS.1.G
- Note: The first grade PS.2 learning progression can be a precursor to this standard for those students who need an early point of entry. 2.PS.1.H