



CC Unit Science 2

STRAND	EARTH AND SPACE SCIENCE (2.ESS)		Report Card Language
TOPIC: The Atmosphere			
POWER OBJECTIVE #1	Describe the properties of the atmosphere which is primarily made up of air. (2.ESS.1-2)	Describe the properties of the atmosphere.	
SUPPORTING INDICATORS	2.ESS.1.a Identify the properties of air which can be observed and measured (mass, volume, may contain water...)		
	Complexity A - Identify landforms found on earth that have been affected by wind (e.g., sand dune, rock formations, worn-down statue). - 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. - Recognize that air movement can result in violent storms (e.g., hurricanes, tornadoes, thunderstorms). - Recognize the relationship between temperature changes and wind (e.g., monitor weather conditions and track how temperature changes impact wind).	Complexity B - Identify that wind movement can change (e.g., measure the direction and speed of wind on different days). - Identify that changes in air temperature create wind. - Recognize that air has mass (e.g., compare the mass of a balloon with and without air by hanging it on two ends of a ruler). - Recognize that air takes up space (e.g., compare a balloon with and without air).	Complexity C - Use a simple instrument (e.g., pinwheel, windsock, flag, wind chimes) to measure the relative speed of wind. - Recognize that wind blows at different speeds.
	2.ESS.2.b Investigate and explain how water is present in the air. Water is present in the atmosphere as water vapor. When water vapor in the atmosphere cools, it forms clouds, fog, rain, ice, snow, sleet or hail.		
	Complexity A	Complexity B	Complexity C



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

	• Collect data on weather conditions in the school yard; chart and compare data, and discuss the relationships between temperature, cloud cover, and precipitation. • Recognize that different types of clouds cause different weather. • 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).	• Recognize that temperature can affect how quickly water evaporates (e.g., compare dishes of water inside the classroom and outside in the hot sun). • Recognize that water can evaporate (e.g., place water in a dish and put it in a sunny window). • Recognize that clouds are moved by wind.	• Identify water in its many forms and relate to weather (rain, sleet, hail, snow, fog).
2.ESS.1.c Investigate and explain how the heating and cooling of air (transfer of energy) is directly related to wind, evaporation, condensation, freezing, thawing, and precipitation			
	Complexity A • Identify landforms found on earth that have been affected by wind (e.g., sand dune, rock formations, worn-down statue). • 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. • Recognize that air movement can result in violent storms (e.g., hurricanes, tornadoes, thunderstorms). • Recognize the relationship between temperature changes and wind (e.g., monitor weather conditions and track how	Complexity B • Identify that changes in air temperature create wind. • 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). • Recognize that temperature can affect how quickly water evaporates (e.g., compare dishes of water inside the classroom and outside in the hot sun). • Recognize that water can evaporate (e.g., place water in a dish and put it in a sunny window). • Recognize that clouds are moved by wind.	Complexity C • Identify water in its many forms and relate to weather (rain, sleet, hail, snow, fog).



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

	temperature changes impact wind). • Identify that wind movement can change (e.g., measure the direction and speed of wind on different days).		
POWER OBJECTIVE #2	Demonstrate how long-and short-term weather changes occur due to changes in energy. (2.ESS.3)	Demonstrate how long-and short-term weather changes occur due to changes in energy.	
SUPPORTING INDICATORS	2.ESS.3.a Use scientific tools to document long-and short-term weather patterns (temperature, air pressure, wind speed and direction, precipitation, and cloud patterns).		
	Complexity A • Recognize that different parts of the 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). • Compare the number of daylight hours to the temperature (a higher number of daylight hours usually means warmer temperature; a lower number of daylight hours usually means cooler temperatures). • Use weather data (temperature, wind speed and direction, air pressure) to explain changes before, during, and after a storm.	Complexity B • Track the temperature during the change of 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). • Recognize that some types of severe weather occur only in certain regions (e.g., Ohio will not be directly hit by a hurricane). • Recognize that some weather changes happen quickly, and some are more long term.	Complexity C • 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.b Investigate and explain how changes in energy affect all aspects of weather (temperature, precipitation, and wind).		
	Complexity A	Complexity B	Complexity C



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

	• Recognize that different parts of the 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). • Compare the number of daylight hours to the temperature (a higher number of daylight hours usually means warmer temperature; a lower number of daylight hours usually means cooler temperatures). • Use weather data (temperature, wind speed and direction, air pressure) to explain changes before, during, and after a storm.	• Track the temperature during the change of 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). • Recognize that some types of severe weather occur only in certain regions (e.g., Ohio will not be directly hit by a hurricane). • Recognize that some weather changes happen quickly, and some are more long term.	• Give examples of energy changes affecting the environment (e.g., the sidewalk gets hot in the sun, a sailboat moves with the wind).
STRAND	PHYSICAL SCIENCE (2.PS)	Report Card Language	
TOPIC: Changes in Motion			
POWER OBJECTIVE #3	Describe the relationship between forces and motion. (2.PS.1)	Describe the relationship between forces and motion.	
SUPPORTING INDICATORS	2.PS.1.a Understand that forces are needed to change the motion of an object.		
	Complexity A • 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).	Complexity B • 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).	Complexity C • Identify examples of pulls and pushes (e.g., wind blowing, pulling a wagon, tossing a beanbag).



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

	<i>Magnetic and static forces can both pull and push.</i> • <i>Identify the force that makes things fall due to gravity; notice that gravity works without touching the object. Gravitational force only pulls.</i> • <i>Recognize that all objects fall to the ground when dropped.</i>	• <i>Describe how different-size forces change motion (e.g., kick a ball lightly; then kick it harder).</i> • <i>Identify that a pull or a push is called a force.</i>	
2.PS.1.b <i>Understand that motion can increase, change direction or stop depending on the force applied.</i>			
	Complexity A • <i>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.</i> • <i>Identify the force that makes things fall due to gravity; notice that gravity works without touching the object. Gravitational force only pulls.</i> • <i>Recognize that all objects fall to the ground when dropped.</i>	Complexity B • <i>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).</i> • <i>Describe how different-size forces change motion (e.g., kick a ball lightly; then kick it harder).</i> • <i>Identify that a pull or a push is called a force.</i>	Complexity C • <i>Identify examples of pulls and pushes (e.g., wind blowing, pulling a wagon, tossing a beanbag).</i>
2.PS.1.c <i>Understand that the change in motion of an object is related to the size of the force.</i>			
	Complexity A • <i>Show that other noncontact forces (forces that can pull or push without touching the object) can change motion by demonstrating</i>	Complexity B • <i>Demonstrate a variety of changes to motion (e.g., make something stop moving, make something start moving, make something</i>	Complexity C • <i>Identify examples of pulls and pushes (e.g., wind blowing, pulling a wagon, tossing a beanbag).</i>



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

	<i>with magnets and static electricity (balloons rubbed on hair). Magnetic and static forces can both pull and push.</i> • <i>Identify the force that makes things fall due to gravity; notice that gravity works without touching the object. Gravitational force only pulls.</i> • <i>Recognize that all objects fall to the ground when dropped.</i>	<i>speed up or slow down, make something change its direction).</i> • <i>Describe how different-size forces change motion (e.g., kick a ball lightly; then kick it harder).</i> • <i>Identify that a pull or a push is called a force.</i>	
2.PS.1.d <i>Understand that some forces act without touching (gravity, buoyancy, and magnetism).</i>			
	Complexity A • <i>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.</i> • <i>Identify the force that makes things fall due to gravity; notice that gravity works without touching the object. Gravitational force only pulls.</i> • <i>Recognize that all objects fall to the ground when dropped.</i>	Complexity B • <i>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).</i> • <i>Describe how different-size forces change motion (e.g., kick a ball lightly; then kick it harder).</i> • <i>Identify that a pull or a push is called a force.</i>	Complexity C • <i>Identify examples of pulls and pushes (e.g., wind blowing, pulling a wagon, tossing a beanbag).</i>
STRAND	LIFE SCIENCE (2.LS)		Report Card Language
TOPIC: Interactions with Habitats			



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

POWER OBJECTIVE #4	Demonstrate how living things cause changes to Earth and are impacted by their environment. (2.LS.1)	Demonstrate how living things cause changes to Earth and are impacted by their environment.
SUPPORTING INDICATORS	2.LS.1. Investigate and explain why the actions of living things cause changes to the environment on Earth.	
	Complexity A - Document the effect on an environment caused by a living thing (e.g., humans not recycling, worms composting). - Given images or video of changes to an environment, determine if the change was fast or slow.	Complexity B - Sort changes in an environment by whether they were caused by living or nonliving things. - Identify a change to an environment that was caused by a living thing. - 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.2. All organisms alive today result from their ancestors, some of which may be extinct. Not all kinds of organisms that lived in the past are represented by living organisms today. Some kinds of organisms become extinct when their basic needs are no longer met or the environment changes.	
	Complexity A - Understand that organisms alive today sometimes resemble extinct organisms (e.g., use pictures or media to compare and contrast organisms alive today and extinct organisms). - Identify some common types of fossil imprints (e.g., tracks, molds, casts).	Complexity B - Recognize that fossils are the remains of animals that once lived. - Identify some types of organisms that lived in the past but no longer exist (e.g., Saber tooth cat, trilobite, Dodo bird, sigillaria tree). - Recognize that changes in environments affect the survival of living things. - Describe ways that environments can change.



PERRY LOCAL SCHOOLS GUARANTEED AND VIABLE CURRICULUM

	Identify some common types of fossil remains (e.g., shells, bones, scat, eggs).		
STRAND	SCIENCE INQUIRY AND APPLICATIONS (2.SI)	Report Card Language	
POWER OBJECTIVE #5	Proficiently apply the scientific inquiry processes. (2.SI.1)	Proficiently apply the scientific inquiry processes.	
SUPPORTING INDICATORS	2.SI.1.a Observe and ask questions about the natural environment.		
	2.SI.1.b Plan and conduct simple investigations.		
	2.SI.1.c Employ simple equipment and tools to gather data and extend the senses.		
	2.SI.1.d Use appropriate mathematics with data to construct reasonable explanations.		
	2.SI.1.e Communicate about observations, investigations and explanations.		
	2.SI.1.f Review and ask questions about the observations and explanations of others.		