

**Pre-K to 8th Grade Level Strands & Content Statements  
Across Ohio's Revised Science Standards**

<b>Grade Level</b>	<b>Life Science</b>	<b>Physical Science</b>	<b>Earth Science</b>
<b>Pre-K</b>	There are many distinct environments in Ohio that support different kinds of organisms.	Objects and materials are described by their properties.	Weather changes every day.
	Similarities and differences exist among individuals of the same kinds of plants and animals.	Many objects can be made to produce sound.	The sun and the moon are visible at different times of the day or night.
			Water can be observed as lakes, ponds, rivers, streams, the ocean, rainfall, hail, sleet or snow.
			Rocks and soil have properties that can help identify them.
<b>Kindergarten</b>	Living things are different from nonliving things.	Objects and materials can be sorted and described by their properties.	Weather changes are long term and short term.
	Living things have physical traits and behaviors, which influence their survival.	Some objects and materials produce sound.	The moon, sun and stars are visible at different times of the day or night.
<b>First Grade</b>	Living things have basic needs, which are met by obtaining materials from the physical environment.	Properties of objects and materials change.	The sun is the principal source of energy.
	Living things survive only in environments that meet their needs.	Objects can be moved in a variety of ways, such as straight, zigzag, circular, and back and forth.	The physical properties of water change.

<b>Grade Level</b>	<b>Life Science</b>	<b>Physical Science</b>	<b>Earth Science</b>
<b>Second Grade</b>	Living things cause changes on Earth.	Forces change the motion of an object.	The atmosphere is made up of air.
	Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today.		Water is present in the air
			Long- and short-term weather changes occur due to changes in energy.
<b>Third Grade</b>	Offspring resemble their parents and each other.	All objects and substances in the natural world are composed of matter.	Earth's nonliving resources have specific properties.
	Individuals of the same kind differ in their traits and sometimes the differences give individuals an advantage in surviving and reproducing.	Matter exists in different states, each of which has different properties.	Earth's resources can be used for energy.
	Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.	Heat, electricity, light and sound are forms of energy.	

<b>Grade Level</b>	<b>Life Science</b>	<b>Physical Science</b>	<b>Earth Science</b>
<b>Fourth Grade</b>	Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.	The total amount of matter is conserved when it undergoes a change.	Earth's surface has specific characteristics and landforms that can be identified.
	Fossils can be compared to one another and to present day organisms according to their similarities and differences.	Heat results when substances burn, when certain kinds of materials rub against each other, and when electricity flows through wires.	The surface of Earth changes due to weathering.
			The surface of Earth changes due to erosion and deposition.
<b>Fifth Grade</b>	Organisms perform a variety of roles in an ecosystem.	The amount of change in movement of an object is based on the weight of the object and the amount of force exerted.	The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.
	All of the processes that take place within organisms require energy.	Light and sound are forms of energy that behave in predictable ways.	The sun is one of many stars that exist in the universe
			Most of the cycles and patterns of motion between the Earth and sun are predictable.

<b>Grade Level</b>	<b>Life Science</b>	<b>Physical Science</b>	<b>Earth Science</b>
<b>Sixth Grade</b>	Cells are the fundamental unit of life.	All matter is made up of small particles called atoms.	Minerals have specific, quantifiable properties.
	All cells come from pre-existing cells.	Changes of state are explained by a model of matter composed of atoms and/or molecules that are in motion.	Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
	Cells carry on specific functions that sustain life.	There are two categories of energy: kinetic and potential.	Igneous, metamorphic and sedimentary rocks form in different ways.
	Living systems at all levels of organization demonstrate the complementary nature of structure and function.	An object's motion can be described by its speed and the direction in which it is moving.	Soil is unconsolidated material that contains nutrient matter and weathered rock.
			Rocks, minerals and soils have common and practical uses.
<b>Seventh Grade</b>	Matter is transferred continuously between one organism to another and between organisms and their physical environments.	The properties of matter are determined by the arrangement of atoms.	The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.
	In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors.	Energy can be transformed from one form to another or can be transferred from one location to another, but is never lost.	Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns.
		Energy can be transferred through a variety of ways.	

<b>Grade Level</b>	<b>Life Science</b>	<b>Physical Science</b>	<b>Earth Science</b>
<b>Seventh Grade c't</b>			The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere and atmosphere.
			The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides and phases of the moon
<b>Eighth Grade</b>	Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species.	Some forces between objects act when the objects are in direct contact or when they are not touching.	The composition and properties of Earth's interior are identified by the behavior of seismic waves.
	Reproduction is necessary for the continuation of every species.	Forces have magnitude and direction.	Earth's crust consists of major and minor tectonic plates that move relative to each other.
	The characteristics of an organism are a result of inherited traits received from parent(s).	There are different types of potential energy.	A combination of constructive and destructive geologic processes formed Earth's surface.
			Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.

