

IES Correlations to Oklahoma Grades 6 - 8 Earth Science Standards

Correlation Key:

"XX" = **In-depth Coverage** = In-depth coverage of concept in student edition.
 "X" = **Coverage** = Coverage in student edition and/or teacher edition supports the development of the concept.

Climate and Weather	Dynamic Planet	Energy Resources	Fossils	Materials and Minerals	Oceans	Rocks and Landforms	Soil	Water as a Resource
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SCIENCE PROCESSES AND INQUIRY - Grades 6-8

Process Standard 1: Observe and Measure - Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) to measure objects, organisms, and/or events.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Use appropriate System International (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds); and SI prefixes (i.e. micro-, milli-, centi-, and kilo-) when measuring objects, organisms and/or events.	XX	XX	XX	XX	XX	XX	XX	XX	XX

Process Standard 2: Classify - Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

1. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys).				XX	XX		XX		
2. Identify properties by which a set of objects, organisms, or events could be ordered.	X	X		XX	XX		XX	X	

Process Standard 3: Experiment - Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.

1. Ask questions about the world and design investigations that lead to scientific inquiry.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Evaluate the design of a scientific investigation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Identify variables and/or controls in an experimental setup (i.e., tested, experimental, and measured variables).	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Identify a testable hypothesis for an experiment.	XX	XX	XX	XX	XX	XX	XX	XX	XX
5. Design and conduct experiments.	XX	XX	XX	XX	XX	XX	XX	XX	XX

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6. Recognize potential hazards and practice safety procedures in all science activities.	XX	XX	XX	XX	XX	XX	XX	XX	XX

Process Standard 4: Interpret and Communicate - Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

1. Report data in an appropriate method when given an experimental procedure or data.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Interpret data tables, line, bar, trend, and/or circle graphs.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Evaluate data to develop reasonable explanation, and/or predictions.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Accept or reject hypotheses when given results of an investigation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
5. Communicate scientific procedures and explanations.	XX	XX	XX	XX	XX	XX	XX	XX	XX

Process Standard 5: Inquiry - Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

1. Use systematic observations, make accurate measurements, and identify and control variables.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Use technology to gather data and analyze results of investigations.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Review data, summarize data, and form logical conclusions.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	XX	XX	XX	XX	XX	XX	XX	XX	XX

EARTH/SPACE SCIENCE - Grade 6

Standard 5: Structures of the Earth and the Solar System - The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

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1. Earth has four main systems that interact: the atmosphere, the hydrosphere, the biosphere, and the geosphere.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Water, which covers the majority of the Earth's surface, circulates through the crust, oceans, and atmosphere in what is known as the water cycle.	XX					X			XX
3. The sun provides the light and heat necessary to maintain life on Earth and is the ultimate source of energy (i.e., producers receive their energy from the sun).			XX			X			

EARTH/SPACE SCIENCE - Grade 7

Standard 5: Structures of the Earth System - The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Global patterns of atmospheric movement influence local weather such as oceans' effect on climate.	XX					X			
2. Clouds, formed by the condensation of water vapor, affect local weather and climate.	XX					X			

Standard 6: Earth and the Solar System - The earth is the third planet from the sun in a system that includes the moon, the sun, eight other planets and their moons, and smaller objects, such as, asteroids and comets. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Most objects in the solar system are in regular and predictable motion. Those motions explain such phenomena as the day, the year, phases of the moon, and eclipses.									
2. Seasons result from variations in the amount of the sun's energy hitting the surface, due to the tilt of the earth's rotation on its axis and the length of the day.									

EARTH/SPACE SCIENCE - Grade 8

Standard 4: Structures and Forces of the Earth and Solar System - The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

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1. Landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion.		XX					XX	X	
2. The formation, weathering, sedimentation, and reformation of rock constitute a continuing "rock cycle" in which the total amount of material stays the same as its form changes.		X					XX	XX	
3. Gravity is the force that governs the motion of the solar system and holds us to the earth's surface.								X	
Standard 5: Earth's History - The Earth's history involves periodic changes in the structures of the earth over time. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:									
1. Earth's history has been punctuated by occasional catastrophic events, such as the impact of asteroids or comets, enormous volcanic eruptions, periods of continental glaciation, and the rise and fall of sea level.		XX		X			X		
2. Fossils provide important evidence of how life and environmental conditions have changed.				XX			X		