

## Alabama Sixth Grade Course of Study

### Alignment to Science Modules

	Course of Study Objective	Science Module, Lesson
1.	Identify global patterns of atmospheric movement, including El Nino, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.	Cat. Events Lessons 2 (Coriolis effect), 5 (global winds, jet stream), 7 (Gulf Stream, El Nino), 24 (jet stream)
	<ul style="list-style-type: none"> <li>Predicting local weather and weather patterns</li> </ul> Examples: cold and warm fronts, high and low pressure areas	Cat. Events Lessons 3, 4, 5, 6, 7, 9
	<ul style="list-style-type: none"> <li>Describing the function of instruments and technology used to investigate Earth's weather, including barometers, thermometers, wind socks, weather vanes, satellites, radar, weather balloons, and rain gauges</li> </ul>	Cat. Events Lessons 4, 6, 9
	<ul style="list-style-type: none"> <li>Using lines of latitude and longitude to locate areas of specific weather events</li> </ul>	Cat. Events Lessons 4, 6, 7
	<ul style="list-style-type: none"> <li>Interpreting weather data through observations collected over time</li> </ul> Example: calculating annual precipitation and average temperature	Cat. Events Lesson 6
2.	Describe factors that cause changes to Earth's surface over time. Examples: earthquakes, volcanoes, weathering, erosion, glacial erosion or scoring, deposition, water flow, tornadoes, hurricanes, farming and conservation, mining and reclamation, deforestation and reforestation, waste disposal, global climate changes, greenhouse gases	Cat. Events Lessons 5, 7, 13, 14, 18 Earth in Space Lessons 12, 13, 17, 18
	<ul style="list-style-type: none"> <li>Comparing constructive and destructive natural processes and their effects on land formations</li> </ul> Examples: constructive-volcanic and mountain-building processes; destructive-erosion by wind, water, and ice	Cat. Events Lessons 2, 6, 9, 10, 11, 12, 13, 15, 17, 19, 20, 21, 22, 23, 24 Earth in Space Lesson 12

	<ul style="list-style-type: none"> <li>Distinguishing rock strata by geologic composition</li> </ul> <p>Examples: predicting relative age of strata by fossil depth, predicting occurrence of natural events by rock composition in a particular strata</p>	Cat. Events Lesson 21, 22 Earth in Space Lesson 18
3.	Describe water and carbon biogeochemical cycles and their effects on Earth	Cat. Events Lesson 6 (water only)
4.	<p>Explain the plate tectonic theory. Example: using terminology such as continental drift, seafloor spreading, lava, magma, eruption, epicenter, focus, seismic wave, and subduction zone</p> <ul style="list-style-type: none"> <li>Describing types of volcanoes and faults</li> </ul>	Cat. Events Lessons 11, 12, 14, 16, 20 Earth in Space Lesson 13
	<ul style="list-style-type: none"> <li>Determining energy release through seismographic data</li> </ul> <p>Example: using data from the Mercalli scale and the Richter scale</p>	Cat. Events Lesson 15 (faults only), 18, 19, 20 Earth in Space Lesson 13
5.	Describe layers of the oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone	
6.	Describe regions of the oceanic lithosphere, including the continental shelf, continental slope, and abyssal plain.	Cat. Events Lesson 7, Extension # 3
7.	<p>Describe Earth's biomes. Examples: aquatic biomes, grasslands, deserts, chaparrals, taigas, tundras</p> <ul style="list-style-type: none"> <li>Identifying geographic factors that cause diversity in flora and fauna, including elevation, location, and climate</li> </ul>	
8.	Describe how Earth's rotation, Earth's axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.	Cat. Events Lessons 3, 8 extension #1 Earth in Space Lessons 3, 4
9.	Identify the moon's phases.	Earth in Space Lessons 5, 16
	<ul style="list-style-type: none"> <li>Describing lunar and solar eclipses</li> </ul>	Earth in Space Lesson 5, 6, 7
	<ul style="list-style-type: none"> <li>Relating effects of the moon's positions on oceanic tides</li> </ul>	Earth in Space Lesson 16
10.	Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.	Earth in Space Lessons 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21
	<ul style="list-style-type: none"> <li>Identifying the impact of space explorations on innovations in technology</li> </ul> <p>Examples: MRI, microwave, satellite imagery, GPS</p>	Cat. Events Lesson 1 Space Lessons 20, 21 Earth in

	<ul style="list-style-type: none"> <li>Mapping seasonal changes in locations of constellations in the night sky</li> </ul>	Earth in Space Lesson 4
	<ul style="list-style-type: none"> <li>Describing the life cycle of a star Example: H-R diagram</li> </ul>	
11.	Describe units used to measure distance in space, including astronomical units and light years.	Earth in Space Lessons 2, 11 (uses km, not au's)