

7th Grade Science Curriculum Map
 School Year 2008-2009
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Earth History FOSSWEB

<http://www.fossweb.com/modulesMS/EarthHistory/index.html>

Planetary Science FOSSWEB

<http://www.fossweb.com/modulesMS/PlanetaryScience/index.html>

Chemical Interactions FOSSWEB

<http://www.fossweb.com/modulesMS/ChemicalInteractions/index.html>

Weather and Water FOSSWEB

<http://www.fossweb.com/modulesMS/WeatherandWater/index.html>

Organizing Concepts	Measurement FOSS Earth History: Observations/ Inferences. Grand Canyon NJCCCS 5.1, 5.2, 5.4, 5.3, 5.8	FOSS Earth History- Sedimentary Rocks, Weathering, Erosion, Landforms NJCCCS 5.1, 5.2, 5.4, 5.3, 5.8	FOSS Earth History- Sedimentary Rocks, Environments, Into to Timelines NJCCCS 5.1, 5.2, 5.4, 5.3, 5.8	FOSS Earth History- Earth History Timeline- periods, eras NJCCCS 5.1, 5.2, 5.4, 5.3, 5.8	FOSS Earth History- Earth History Index Fossils, Igneous, Metamorphic Rocks, The Rock Cycle NJCCCS 5.1, 5.2, 5.4, 5.3, 5.8	FOSS Planetary Science: Bird's Eye Views Evidence of a Round Earth, Day/ Night, Local Noon, Time Zones NJCCCS 5.1, 5.2, 5.4, 5.3, 5.9	FOSS Planetary Science: Constellations, Moon Studies- craters, phases, eclipses, origin of the moon, asteroids, comets, meteoroids, NJCCCS 5.1, 5.2, 5.4, 5.3, 5.9	FOSS Planetary Science: Density, Moon Missions, Planet Studies, EVA, Messages from Space NJCCCS 5.1, 5.2, 5.4, 5.3, 5.9	FOSS Chemical Interactions/ Weather and Water: Weather and Climate, Weather Instruments, Elements, Atoms, Compounds, Chemical, Properties of Matter NJCCCS 5.1, 5.2, 5.4, 5.3, 5.6	FOSS Chemical Interactions/ Weather and Water: Kinetic Energy, Conduction, Convection, Radiation, Air as Matter, Compression, Expansion, Contraction, Solutions, Physical
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Change
NJCCCS 5.1,
5.2, 5.4, 5.3, 5.6

Month	September	October	November	December	January	February	March	April	May	June
Essential Questions	<p>What tools do you use to measure length, volume, and temperature and how do you use the tools to measure accurately?</p> <p>How do you covert units in the metric system?</p> <p>What is the difference between an observation and an inference and how do scientists use observations</p>	<p>What are sedimentary rocks and how are they formed?</p> <p>What are the properties of sedimentary rocks and how are they observed?</p> <p>How do scientists correlate information to make an inference about the history of the Earth?</p> <p>What are the processes that transform</p>	<p>What are the different environments that form different types of sedimentary rocks?</p> <p>How can the clues in the rocks layers help determine the different environments in Earth History?</p> <p>What is the principle of superposition, horizontality, uniformitarianism?</p> <p>How is a timeline constructed to show the different periods and eras in history?</p>	<p>How old is the Earth?</p> <p>How are periods and eras divided on an Earth History timeline?</p> <p>How do you scale to construct a timeline?</p> <p>What is an unconformity and why does it occur?</p> <p>What organisms dominated each era?</p>	<p>What are the criteria for a fossil to be considered an Index Fossil?</p> <p>How do Index Fossils help determine the age of the rock layers?</p> <p>What are the processes that form Igneous and Metamorphic Rocks?</p> <p>How are rocks transformed between Sedimentary, Igneous, and Metamorphic rocks in the</p>	<p>How do we understand the vastness of the universe in terms of frame of reference, resolution, point of view, elevation, and altitude?</p> <p>How are sailing ships and shadow length/latitude evidence of a round earth?</p> <p>Why do day and night occur?</p> <p>What is</p>	<p>What is the difference between asteroids, meteoroids, and comets and how might they impact the Earth?</p> <p>What are the phases of the moon as seen from Earth and how does the rotation/revolution of the Moon affect what is seen?</p> <p>What are solar and lunar eclipses- why and when do they occur?</p>	<p>What are space probes and satellites?</p> <p>What are the levels of exploration of other planets/ moons in our solar system?</p> <p>What is the history of past missions into space and what has been learned from these missions?</p> <p>What is the future of space travel?</p> <p>What are the characteristics</p>	<p>What is the difference between weather and climate?</p> <p>How is the weather monitored-how do you measure air pressure, temperature, humidity, wind speed/ direction?</p> <p>What is the difference between an atom, molecule, element, compound, substance?</p>	<p>What happens on the molecular level to solids, liquids, and gases when they are heated and cooled?</p> <p>How do they particles in gas change when they are compressed or expanded?</p> <p>What is kinetic energy?</p> <p>How does energy transfer between particles as</p>

	<p>and inferences in Earth History?</p> <p>Why is the Grand Canyon used as a model for the study of the history of the Earth?</p> <p>How are John Wesley Powell's geological findings important to Earth History?</p>	<p>sediments into rocks and rocks into sediments?</p> <p>What is the difference between physical and chemical weathering?</p> <p>What are the 4 agents of erosion-gravity, wind, water, ice?</p> <p>How does differential erosion change the shape of the earth?</p>		<p>What type of events determine a new period in Earth History?</p>	<p>Rock Cycle?</p> <p>What is the difference between intrusive and extrusive Igneous rocks?</p>	<p>reason for seasons-summer/winter solstice, equinoxes?</p> <p>What is the difference between rotation/revolution?</p> <p>Using astronomical data, how is local noon determined?</p> <p>How many time zones are there in the world and how do you determine the time east or west of the prime meridian?</p>	<p>What created craters on the moon- impact, volcanism?</p> <p>What are the characteristics of the of crater as seen from simulations?</p> <p>What theory demonstrates the most evidence for the origin of the Moon?</p> <p>How do you identify the major constellations in the night sky?</p> <p>Why do the stars appear different as the seasons change?</p>	<p>of the rocks found on the Moon and how does the information help us determine the origin of the Moon?</p> <p>How do you find density and does the density of the rocks determine where they are found on the Moon?</p> <p>What characteristics are found on each planet?</p> <p>How can a Historian, Meteorologist, Geologist, Astronomer combine</p>	<p>How is the Periodic Table organized?</p> <p>How do you find the number of protons, neutrons, electrons in an atom?</p> <p>How do you find the number of atoms and elements in a compound?</p> <p>What is matter?</p> <p>How do substances change states of matter-solids, liquids, gases?</p>	<p>they collide?</p> <p>What is conduction, convection, radiation?</p> <p>What is the difference between a mixture and a compound?</p> <p>What is the difference between a physical and chemical change?</p> <p>What is a chemical reaction?</p> <p>How do you balance a chemical equation as per the rule "atoms cannot be created or</p>
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Related Literature	FOSS Brain/Earth History Resources Book Glencoe Earth Sciences Ch. 1 Nature of Science Ch. 4 Rocks	FOSS Earth History Resources Book Glencoe Earth Sciences Ch. 4 Rocks Ch. 6 Weathering	FOSS Earth History Resources Book Glencoe Earth Sciences Ch. 13 Geologic Time	FOSS Earth History Resources Book Glencoe Earth Sciences Ch. 12 Clues to Earth’s Past	FOSS Earth History Resources Book Glencoe Earth Sciences Ch. 4 Rocks Ch. 12 Clues to Earth’s Past Ch. 13	FOSS Planetary Science Resources Book Glencoe Earth Sciences Ch. 5 Views of the Earth	FOSS Planetary Science Resources Book Glencoe Earth Sciences Ch. 5 Views of the Earth	FOSS Planetary Science Resources Book Glencoe Earth Sciences Ch. 5 Views of the Earth	FOSS Chemical Interactions Resources Book FOSS Weather and Water Resources Book	FOSS Chemical Interactions Resources Book FOSS Weather and Water Resources Book

		and Soil Ch.7 Water Erosion and Deposition		Ch. 13 Geologic Time	Geologic Time					
Projects	Metric System Review Investigations Introduction to the Grand Canyon Observation/ Inference Activities	Introduction to the Grand Canyon Sand Investigations Stream Table Investigation	Making sandstone, shale, limestone Testing rock layers Personal Timeline	Earth History Timeline Project	Igneous and Metamorphic Rock Characteristics and Identification Rock Cycle	Map of the School Birds Eye Views Time Zones Local Noon Problems Shadow Evidence Investigations	Star Lab Moon Myths Asteroid Video/ Simulation Crater Simulations	EVA Moon rocks/ Lunar Density Planet Brochure Projects Message from Space	Weather Charts/ Monitoring Mystery Mixture Periodic Table Studies	Weather Charts/ Monitoring Chemistry Labs- Phases Changes, Heat Transfer