

8th Earth Science
Curriculum Mapping
2026-2027
LaDawn Nelson

Unit: <i>Nature of Science</i>		Time: <i>August 2026</i>
Standards Taught		
- Identify scientific methods. - Define science and Earth science.		
Differentiation/Assessment:	Classroom Management and Environment:	What will the students be doing?
<i>Students who needed the extra help received guided notes, extra individual practice, modified questions and shortened tests.</i>	<i>The classroom is set up using student tables, with 1-2 students per table. The students move into different groups for labs and group projects.</i>	<i>Discuss the limits of science. Describe scientific methods.</i>
Prior Knowledge Needed	Vocabulary	Assessments
<i>Students have a limited foundation in science that they will draw upon in this course.</i>	<i>Bias, constant, control, dependent variable, Earth science, ethics, hypothesis, independent variable, science, scientific law, scientific methods, scientific theory, technology, variable</i>	<i>Students will answer questions in class, participate in discussions, daily assignments, group work, labs, and take chapter tests.</i>
Reflection: <i>This chapter is a review of science concepts from previous courses.</i>	Essential Questions: <i>Why is science always changing?</i> <i>What are scientific methods?</i> <i>Why does an experiment need to be repeatable?</i>	
Relevance:	Students learn to understand the world around them.	

Unit: <i>Earth's Materials</i>		Time: <i>September - November 2026</i>
Standards Taught		
- MS-ESS2-1, MS-ESS2-4 - MS-ESS3-1, MS-ESS3-3, MS-ESS3-4, MS-ESS3-5		
Differentiation/Assessment:	Classroom Management and Environment:	What will the students be doing?
<i>Students who needed the extra help received guided notes, extra individual practice, modified questions and shortened tests.</i>	<i>The classroom is set up using student tables, with 1-2 students per table. The students move into different groups for labs and group projects.</i>	<i>Students will:</i> <i>Identify what causes matter to change state</i> <i>Determine density with a hands on lab</i> <i>Describe characteristics that all minerals share.</i> <i>Explain how minerals form.</i>

		<i>Learn how crystals form from solutions through hands on lab with salt/sugar water solutions.</i> <i>Draw and describe the internal structure of an atom.</i> <i>Identify useful elements that are contained in all minerals.</i> <i>Describe the rock cycle in detail</i> <i>Identify different types of rocks</i> <i>Distinguish the difference between renewable and nonrenewable resources</i>
Prior Knowledge Needed	Vocabulary	Assessments
<i>Students have a limited foundation in science that they will draw upon in this course.</i>	<i>Atom, atomic number, compound, density, electron, element, heterogeneous mixture, homogeneous mixture, ion, isotope, mass number, matter, mixture, molecule, neutron, proton, solution, cleavage, crystal, fracture, gem, hardness, luster, magma, mineral, ore, silicate, specific gravity, streak, basaltic, cementation, compaction, extrusive, foliated, granitic, igneous rock, intrusive, lava, metamorphic rock, nonfoliated, rock, rock cycle, sediment, sedimentary rock, biomass energy, coal, fossil fuel, geothermal energy, hydroelectric energy, mineral resource, natural gas, nuclear energy, oil, ore, recycling, reserve, solar energy, wind farm</i>	<i>Students will answer questions in class, participate in discussions, daily assignments, group work, labs, and take chapter tests.</i>
Reflection: <i>They began to understand just how elements combine to form compounds. They also realized why recycling is so important.</i>	Essential Questions: • <i>How are minerals used in our everyday life?</i> • <i>What impact do atoms have on our lives?</i> • <i>What causes atoms to combine to form new substances?</i> • <i>How is a rock different from a mineral?</i> • <i>Why is it so important that we conserve our resources?</i>	
Relevance:	The students will gain a simple knowledge of what elements combine, and why they combine. Rocks are all around us and used in our daily lives, so it is important to know about them.	

	It's important that students understand why it is so important to recycle and conserve that resources that we have.
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Unit: <i>The Changing Surface of the Earth</i>		Time: <i>November 2026 – February 2027</i>
Standards Taught		
- MS-ESS2-4 - MS-ESS2-1, MS-ESS2-3, MS-ESS2-4 - MS-ESS3-1		
Differentiation/Assessment:	Classroom Management and Environment:	What will the students be doing?
<i>Students who needed the extra help received guided notes, extra individual practice, modified questions and shortened tests.</i>	<i>The classroom is set up using student tables, with 1-2 students per table. The students move into different groups for labs and group projects.</i>	<i>Analyze information from different maps</i> <i>Use longitude and latitude to locate positions</i> <i>Explain how climate affects weathering.</i> <i>Describe soil characteristics.</i> <i>Recognize the importance of groundwater.</i>
Prior Knowledge Needed	Vocabulary	Assessments
<i>Students have a limited foundation in science that they will draw upon in this course.</i>	<i>Plain, plateau, folded mountain, upwarped mountain, fault-block mountain, volcanic mountain, equator, latitude, prime meridian, longitude, conic projection, topographic map, contour line, map scale, map legend, weathering, mechanical weathering, ice wedging, chemical weathering, oxidation, climate, soil, humus, horizon, soil profile, litter, leaching, no-till farming, contour farming, terracing, erosion, deposition, mass movement, slump, creep, glacier, plucking, till, moraine, outwash, deflation, abrasion, loess, dune, aquifer, beach, cave, channel, drainage basin, geyser, groundwater, impermeable, longshore current, meander, permeable, runoff, sheet erosion, spring, water table</i>	<i>Students will answer questions in class, participate in discussions, daily assignments, group work, labs, and take chapter tests.</i>

Reflection: <i>They made connections with the weathering of the roads and potholes. They were really interested in different farming methods to help reduce erosion.</i>	Essential Questions: • <i>How is soil formed?</i> • <i>How is chemical weathering different from mechanical weathering?</i> • <i>What is the difference between erosion and deposition?</i> • <i>What can we do to slow the effects of erosion?</i>	
Relevance:	Understanding how the surface of the earth changes and erodes the soil, and why not building on steep slopes is important.	

Unit: <i>Earth's Internal Process</i>		Time: <i>February – April 2027</i>
Standards Taught		
• MS-ESS2-1, MS-ESS2-2, MS-ESS2-3 • MS-ESS3-1, MS-ESS3-2		
Differentiation/Assessment:	Classroom Management and Environment:	What will the students be doing?
<i>Students who needed the extra help received guided notes, extra individual practice, modified questions and shortened tests.</i>	<i>The classroom is set up using student tables, with 1-2 students per table. The students move into different groups for labs and group projects.</i>	<i>The students will understand how seafloor spreading helps explain why continents moved apart. Watch a docuseries on tsunamis to see the devastation that it can cause. Describe how scientists measure earthquakes Create a 3D model of the layers of the Earth's inside Identify relationship between volcanoes and Earth's moving plates Create a 3D model and do research of a volcano</i>
Prior Knowledge Needed	Vocabulary	Assessments
<i>Students have a limited foundation in science that they will draw upon in this course.</i>	<i>Continental drift, Pangaea, seafloor spreading, plate tectonics, plate, lithosphere, asthenosphere, convection current, fault, earthquake, normal fault, reverse fault, strike-slip fault, seismic wave, focus, primary wave, secondary wave, surface wave, epicenter, seismograph, liquefaction, tsunami, magnitude, volcano,</i>	<i>Students will answer questions in class, participate in discussions, daily assignments, group work, labs, and take chapter tests.</i>

	<i>vent, crater, hot spot, shield volcano, tephra, cinder cone volcano, composite volcano, batholith, dike, sill, volcanic neck, caldera</i>	
Reflection: <i>Students understand the need for safety in seismic safe structures in highly populated areas.</i>	Essential Questions: • <i>What evidence is there for seafloor spreading?</i> • <i>What happens when plates collide, diverge or move past each other?</i> • <i>Why does a transform fault not cause a tsunami?</i> • <i>Where do most earthquakes occur?</i> • <i>How is the epicenter of an earthquake located?</i>	
Relevance:	Understanding what causes earthquakes and what can possibly be done to minimize the damage and casualties from earthquakes.	

Unit: <i>Astronomy</i>		Time: <i>April – May 2027</i>
Standards Taught		
• <i>MS-ESS1-1, MS-ESS1-2, MS-ESS1-3</i>		
Differentiation/Assessment:	Classroom Management and Environment:	What will the students be doing?
<i>Students who needed the extra help received guided notes, extra individual practice, modified questions and shortened tests.</i>	<i>The classroom is set up using student tables, with 2 students per table. The students move into different groups for labs and group projects.</i>	<i>Students will:</i> <i>Learn about early space missions</i> <i>Identify applications of space technology to everyday life</i> <i>Determine what causes season to change</i> <i>Identify the phases of the moon</i> <i>List planets in order from the Sun</i> <i>Create a 3D model of the solar system</i> <i>Distinguish between comets, meteoroids, and asteroids</i>
Prior Knowledge Needed	Vocabulary	Assessments
<i>Students have a limited foundation in science that they will draw upon in this course.</i>	<i>Satellite, orbit, space probe, Project Mercury, Project Gemini, Project Apollo, space shuttle, space station, sphere, axis, rotation, revolution, ellipse, solstice, equinox, moon phase, new moon, waxing, full moon, waning, solar eclipse, lunar eclipse, solar system, Mercury, Venus, Earth, Mars, Jupiter,</i>	<i>Students will answer questions in class, participate in discussions, daily assignments, group work, labs, and take chapter tests.</i>

	<i>Saturn, Uranus, Neptune, Pluto, comet, meteor, meteorite, asteroid</i>	
Reflection: <i>They found the large expanse of the solar system astonishing.</i>	Essential Questions: • <i>How can we use space technology in our everyday life?</i> • <i>Why do the seasons change?</i> • <i>What causes day and night?</i> • <i>How do we study space?</i>	
Relevance:	Day length and seasons constantly changing affects our daily lives, knowing how this works is important.	