

D.H.H. Lengel Middle School Curriculum

Grade 6 science

Length of Block: 45 min

Blocks per cycle: 5

Length of Course: Yearly

Created by:

Patricia Zimmerman

Donna Mates

Megan Menchefsky

Neil Johnson

Hannah Pothering

Description of Course: The goal of this class is to expose students to the topics in Earth science. Students cover space exploration and astronomy. Students understand the relationship and impact the Earth, moon, and sun have on each other and how we view their movements here on Earth. Students also investigate how the terrain of Earth varies and how we use this investigative information to understand more of the relationship of how Earth varies from location based upon the soil components. Students learn and comprehend how materials are used and travel through continuous cycles, as energy/materials are never created nor destroyed just transformed into various arrangements of the components. Lastly, students focus on water and how it impacts many processes on Earth.

Core Resources Available for Teachers for Instruction:

Interactive Science: Space and Astronomy

Interactive Science: Earth's Surface

Interactive Science: Ecology and the Environment

Interactive Science: Water and the Atmosphere

Google Classroom

Lab Supplies

Interactive Science: Space and Astronomy
Interactive Science: Earth's Surface
Interactive Science: Ecology and the Environment
Interactive Science: Water and the Atmosphere

Parent

Marking Period	Unit Name	Objectives	Standards	Vocabulary	Assessments	Timeline
1	Nature of science/ Scientific Method	Understanding the scientific process. Understanding microscopes			Scientific Method quiz Microscope quiz At home lab Microscope E-Lab	4 wks
1	Space Science	Understand the universe and Earth's place in it. Explain the phases of the moon. Explain the moon's impact on tides. Explain the patterns of	3.3.4.B2 3.3.6.B2 3.3.7.A4 3.3.6.B1 3.3.7.B2 3.3.5.B1 3.3.7.B1 3.3.8.B1	Orbit Pattern Phase Waning Waxing Gravity Neap tide Spring tide System Tide	Gravity & Motion Quiz Ch. 1 Lesson 1-3 Test Astronomy Project Moon phases Activity Moon Phases & Eclipses Quiz Earth's Moon Lesson 6 Quiz Cha. 1 Lesson 4-6 Test	8 weeks

		<p>eclipses. Explain how earth position leads to seasons.</p> <p>Explain how Earth's position equates to different concepts.</p> <p>Explain how gravity impacts Earth's motion.</p> <p>Understand the scale properties of the solar system.</p>	<p>S8.A.1.1 S8.A.1.2 S8.A.1.3 S8.A.2.1 S8.A.2.2 S8.A.3.1 S8.A.3.2 S8.A.3.3 S8.D.3.1.1 S8.D.3.1.2 S8.D.3.1.3</p>	<p>Lunar eclipse Penumbra Solar eclipse Umbra Axis Cyclical pattern Earth Orientation Position Revolution Rotation Season Tilt Asteroids Gravity Moon Satelite Solar system Galaxy Moon</p>		
2	Water on Earth	<p>Understand how water continuously cycles within Earth's spheres.</p> <p>Know the differences between fresh and saltwater systems.</p> <p>Know how seasons impact precipitation and streamflow.</p> <p>Be able to identify physical characteristics of a stream</p>	<p>3.3.5.A4 3.3.6.A4 3.3.8.A4 3.1.7.A2 3.1.8.A 3.4.8.A 4.2.8.C 3.1.8.C1 S8.A.1.1 S8.A.1.2 S8.A.1.3 S8.A.2.1 S8.A.2.2</p>	<p>Atmosphere Condensation Evaporation Hydrosphere Infiltration Precipitation Runoff Transpiration Water cycle Water system Density Freshwater Salinity Saltwater</p>	<p>Solar Still Project Ch. 1 lesson 2 & 3 Quiz Freshwater Test Ch. 1 lesson 1, 2, & 3 Quiz Saltwater Test</p>	5-6 wks

		to better understand organisms in that environment.	S8.A.3.1 S8.A.3.2 S8.A.3.3 S8.D.1.3.1 S8.D.1.3.2 S8.D.1.3.3 S8.D.1.3.4 S8.B.3.1.1 S8.B.3.2.2 S8.B.3.2.1	Flow rate Ocean systems River systems Watershed Wetland Biological diversity Stream Tributary Ecosystem Biodiversity Oceanic Terrestrial		
2	Cycles	Understand the recycling and transformations of material.	3.3.4.A4 3.3.4.A5 3.3.8.A1 3.1.7.A2 S8.A.1.1 S8.A.1.2 S8.A.1.3 S8.A.2.1 S8.A.2.2 S8.A.3.1 S8.A.3.2 S8.A.3.3 S8.B.3.1.1 S8.D.3.1.2 S8.D.3.1.3 S8.D.2.1.2 S8.B.3.3.3 S8.B.3.3.4 S8.B.3.3.2	Atmosphere Biosphere Geosphere Hydrosphere Water cycle Carbon cycle Nitrogen cycle	Cycle diagrams (Ecology Supplement) Cycles of Matter Quiz (Ecology Supplement)	1-2 wks

2/3	Weather	<p>Understand how weather is influenced by the climate and atmosphere.</p> <p>Be able to analyze weather patterns.</p>	<p>3.3.7.A6 3.3.6.A6 3.3.6.A5 3.3.8.A4</p> <p>S8.A.1.1 S8.A.1.2 S8.A.1.3 S8.A.2.1 S8.A.2.2 S8.A.3.1 S8.A.3.2 S8.A.3.3 S8.D.2.1.1 S8.D.2.1.2 S8.D.2.1.3</p>	<p>Air pressure Atmosphere Altitude Barometer Climate Density Geography Latitude Weather Weather front Circulation Downwelling Hydrosphere Oceanic Upwelling Cirrus Cumulus Stratus Atmospheric circulation Oceanic circulation</p>	Ch. 3 & 4	2-3 wks
3	Map	<p>Understand how to read and interpret maps, in order to understand information when presented about Earth's surface.</p>			Weather maps Topographic Maps	1 wk
3	Earth's Surface	<p>Be able to classify rocks and explain the rock type.</p> <p>Understand the processes that create rocks.</p>	<p>3.3.4.A4 3.3.4.A5 3.3.7.A1 3.3.8.A1 3.3.7.A3 3.3.6.A1</p>	<p>Erosion Geosphere Igneous rock Metamorphic rock Rock cycle</p>	<p>Types of Rock Quiz(Ch. 2 Supplement) Rock Cycle Project Ch. 2 Lesson 2 Quiz Ch. 3 Weather & Erosion Activity</p>	8 wks

		<p>Identify different soil types and their characteristics.</p> <p>Identify plate tectonics and their impact on the globe.</p>	<p>3.3.10.A1 3.3.7.A6 3.3.8.A6</p> <p>S8.A.1.1 S8.A.1.2 S8.A.1.3 S8.A.2.1 S8.A.2.2 S8.A.3.1 S8.A.3.2 S8.A.3.3 S8.D.1.1.1 S8.D.1.1.2 S8.D.1.1.3 S8.D.1.1.4</p>	<p>Sedimentary rock Weathering Energy flow Erosion Biome Soil horizons Geologic time Index fossils Law of superposition Relative age Scale Plate tectonics Sea floor spreading Subduction Weathering Asthenosphere Continent Continental drift Convection Fossil record Lithosphere Mantle Rock record Plate motion Plate tectonics</p>	<p>Biome research project</p>	
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4	Energy	<p>Know how energy is transferred and conserved.</p> <p>Know how waves are used to transfer energy and information.</p>	<p>Conduction Convection Insulator Radiation Transfer Thermal energy Energy transfer Law of conservation of energy Atoms Electromagnetic Heat Kinetic Molecules Potential Substance Temperature Total energy Heat transfer Specific heat Amplitude Compressions Crest Frequency Trough Rarefractions Wave Wavelength Longitudinal Medium Sound wave Vacuum Absorption Color Light</p>	<p>Ch. 1 Lesson 1, 2, & 3 Quiz (Sound & Light)</p> <p>Ch 2. Lesson 1 & 2 Quiz</p> <p>Electromagnetic Spectrum Diagram</p> <p>Ch 3. Lesson 1 & 2 Quiz</p> <p>Ch. 4 Lesson 1, 2, & 3</p>	8 wks
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