6th Grade

Science Curriculum

(weekly)

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| **Month** | **Week** | **Big Idea** | | **Essential Questions** | **Concepts** | **Competencies** | **Vocabulary** | **Standard** | **Eligible Content** |
| **August** | 26th-29th-scientific method | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The cell is the basic unit of structure and function for all living things.  Energy is neither created nor destroyed. Energy can be transformed from one form to another, but transformation between forms often results in the loss of useable energy through the production of heat.  An object’s motion is the result of all forces acting on it.  Matter has observable physical properties and the potential to mix and form new materials.  Populations of organisms evolve by natural selection. | | What causes the great variation at Earth’s surface?  How can one cell function as an organism?  How do energy transformations explain that energy is neither created nor destroyed?  What causes objects to move?  How do scientists identify and sort materials?  What allows some populations of organisms to change and survive while others cannot? | The Scientific Method can be used to solve scientific problems and questions for any science topic. | Design, implement, record, explain, and justify safe and effective laboratory procedures to determine the relationship between two variables, controlling for other factors that might also affect the relationship. | Hypothesis  Conclusion  Procedure  data | 3.2.7, 3.2.10 | S8 A.1.1.1  S8A1.1.2  S8 A 1.1.3  S8A.1.1.4 |
| **Sept.** | 2-5- scientific method | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The cell is the basic unit of structure and function for all living things.  Energy is neither created nor destroyed. Energy can be transformed from one form to another, but transformation between forms often results in the loss of useable energy through the production of heat.  An object’s motion is the result of all forces acting on it.  Matter has observable physical properties and the potential to mix and form new materials.  Populations of organisms evolve by natural selection. | | What causes the great variation at Earth’s surface?  How can one cell function as an organism?  How do energy transformations explain that energy is neither created nor destroyed?  What causes objects to move?  How do scientists identify and sort materials?  What allows some populations of organisms to change and survive while others cannot? | The Scientific Method can be used to solve scientific problems and questions for any science topic. | Design, implement, record, explain, and justify safe and effective laboratory procedures to determine the relationship between two variables, controlling for other factors that might also affect the relationship. | Hypothesis  Conclusion  Procedure  data | 3.2.7, 3.2.10 | S8 A.1.1.1  S8A1.1.2  S8 A 1.1.3  S8A.1.1.4 |
| **Sept** | 8th-12th-scientific method | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The cell is the basic unit of structure and function for all living things.  Energy is neither created nor destroyed. Energy can be transformed from one form to another, but transformation between forms often results in the loss of useable energy through the production of heat.  An object’s motion is the result of all forces acting on it.  Matter has observable physical properties and the potential to mix and form new materials.  Populations of organisms evolve by natural selection. | | What causes the great variation at Earth’s surface?  How can one cell function as an organism?  How do energy transformations explain that energy is neither created nor destroyed?  What causes objects to move?  How do scientists identify and sort materials?  What allows some populations of organisms to change and survive while others cannot? | The Scientific Method can be used to solve scientific problems and questions for any science topic. | Design, implement, record, explain, and justify safe and effective laboratory procedures to determine the relationship between two variables, controlling for other factors that might also affect the relationship. | Hypothesis  Conclusion  Procedure  data | 3.2.7, 3.2.10 | S8 A.1.1.1  S8A1.1.2  S8 A 1.1.3  S8A.1.1.4 |
| **Sept** | 15th-19th-scientific method | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The cell is the basic unit of structure and function for all living things.  Energy is neither created nor destroyed. Energy can be transformed from one form to another, but transformation between forms often results in the loss of useable energy through the production of heat.  An object’s motion is the result of all forces acting on it.  Matter has observable physical properties and the potential to mix and form new materials.  Populations of organisms evolve by natural selection. | | What causes the great variation at Earth’s surface?  How can one cell function as an organism?  How do energy transformations explain that energy is neither created nor destroyed?  What causes objects to move?  How do scientists identify and sort materials?  What allows some populations of organisms to change and survive while others cannot? | The Scientific Method can be used to solve scientific problems and questions for any science topic. | Design, implement, record, explain, and justify safe and effective laboratory procedures to determine the relationship between two variables, controlling for other factors that might also affect the relationship. | Hypothesis  Conclusion  Procedure  data | 3.2.7, 3.2.10 | S8 A.1.1.1  S8A1.1.2  S8 A 1.1.3  S8A.1.1.4 |
| **Sept** | 22nd-25th- waves | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Sound has characteristics: pitch, loudness, echoes,) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Wave  Energy  Medium  Mechanical wave  Vibration  Transverse wave  Crest  Trough  Longitudinal  Compression  Amplitude  Wavelength  Frequency  Hertz  Reflection  Refraction  Diffraction  Interference  resonance | 3.2.7 |  |
| **Oct.** | 29th-Oct.3rd- sound | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies. | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Pitch  Loudness  Intensity  Decibel  Doppler Effect  Ear canal  Eardrum  Cochlea  Echolocation  Ultrasound  Sonar  sonogram | 3.4.7 |  |
| **Oct.** | 6th-10th-sound | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound has characteristics: pitch, loudness, echoes,) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Pitch  Loudness  Intensity  Decibel  Doppler Effect  Ear canal  Eardrum  Cochlea  Echolocation  Ultrasound  Sonar  sonogram | 3.4.7 |  |
| **Oct.** | 13-15-sound | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies. | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Pitch  Loudness  Intensity  Decibel  Doppler Effect  Ear canal  Eardrum  Cochlea  Echolocation  Ultrasound  Sonar  sonogram | 3.4.7 |  |
| **Oct.** | 20-24-sound | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound has characteristics: pitch, loudness, echoes,) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Pitch  Loudness  Intensity  Decibel  Doppler Effect  Ear canal  Eardrum  Cochlea  Echolocation  Ultrasound  Sonar  sonogram | 3.4.7 |  |
| **Oct.** | 27-31-sound | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Sound has characteristics: pitch, loudness, echoes,) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Pitch  Loudness  Intensity  Decibel  Doppler Effect  Ear canal  Eardrum  Cochlea  Echolocation  Ultrasound  Sonar  sonogram | 3.4.7 |  |
| **Nov.** | 3-7 light | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Light has characteristics: reflection, refraction,absorption, etc.) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Electromagnetic wave  Electromagnetic radiation  Spectrum  Transparent translucent  Opaque  Reflection  Focal point  Mirror  Index of refraction  Telescope  Microscope | 3.4.7 |  |
| **Nov.** | 10-14- light | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Light has characteristics: reflection, refraction,absorption, etc.) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Electromagnetic wave  Electromagnetic radiation  Spectrum  Transparent translucent  Opaque  Reflection  Focal point  Mirror  Index of refraction  Telescope  Microscope | 3.4.7 |  |
| **Nov.** | 17-21 light | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Light has characteristics: reflection, refraction,absorption, etc.) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Electromagnetic wave  Electromagnetic radiation  Spectrum  Transparent translucent  Opaque  Reflection  Focal point  Mirror  Index of refraction  Telescope  Microscope | 3.4.7 |  |
| **Nov.** | 24-25 light | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Light has characteristics: reflection, refraction,absorption, etc.)  . | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Electromagnetic wave  Electromagnetic radiation  Spectrum  Transparent translucent  Opaque  Reflection  Focal point  Mirror  Index of refraction  Telescope  Microscope | 3.4.7 |  |
| **Dec.** | 3-5 light | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Light has characteristics: reflection, refraction,absorption, etc.) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Electromagnetic wave  Electromagnetic radiation  Spectrum  Transparent translucent  Opaque  Reflection  Focal point  Mirror  Index of refraction  Telescope  Microscope | 3.4.7 |  |
| **Dec.** | 8-12 light | An object’s motion is the result of all forces acting on it. | | What causes objects to move? | Sound and light travel in waves of differing speeds, sizes, and frequencies.  Light has characteristics: reflection, refraction,absorption, etc.) | Observe and describe different types of force and motion.  Identify and explain the principles of force and motion.  Distinguish among the principles of force and motion. | Electromagnetic wave  Electromagnetic radiation  Spectrum  Transparent translucent  Opaque  Reflection  Focal point  Mirror  Index of refraction  Telescope  Microscope | 3.4.7 |  |
| **Dec.** | 15-19 history of astronomy | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction.  The rhythms of the Earth are caused by 3 celestial motions: The Earth’s rotation, revolution around the sun, and the Moons’ revolution around the Earth.  The Earth’s rotation around its tilted axis causes day and night.  The Earth’s revolution around the Sun causes the seasons and the year. Because of the Earth’s tilted axis, sunlight falls more intensely on different parts of the earth during different parts of the year, producing the seasons and seasonal patterns in weather. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Sunspots  Aphelion  Perihelion  Geocentric  Heliocentric  Ellipse | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Jan.** | 5-9- rev/rot/season | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction.  The rhythms of the Earth are caused by 3 celestial motions: The Earth’s rotation, revolution around the sun, and the Moons’ revolution around the Earth.  The Earth’s rotation around its tilted axis causes day and night.  The Earth’s revolution around the Sun causes the seasons and the year. Because of the Earth’s tilted axis, sunlight falls more intensely on different parts of the earth during different parts of the year, producing the seasons and seasonal patterns in weather. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Gravity  Mass  Weight  Inertia  Revolution  Rotation  Axis  latitude | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Jan.** | 12-16 rev/rot/seasons | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction.  The rhythms of the Earth are caused by 3 celestial motions: The Earth’s rotation, revolution around the sun, and the Moons’ revolution around the Earth.  The Earth’s rotation around its tilted axis causes day and night.  The Earth’s revolution around the Sun causes the seasons and the year. Because of the Earth’s tilted axis, sunlight falls more intensely on different parts of the earth during different parts of the year, producing the seasons and seasonal patterns in weather. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Gravity  Mass  Weight  Inertia  Revolution  Rotation  Axis  latitude | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Jan.** | 19-22 moon | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | The Moon’s revolution around the earth once in about 28 days changes what part of the moon is lighted by the sun and how much of that part we can see from the earth, giving rise to lunar phases. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Phase  Eclipse  Solar eclipse  Unbra  Penumbra  Lunar eclipse  Tide  Spring tide  Neap tide | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Jan.** | 26-30-moon | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | The Moon’s revolution around the earth once in about 28 days changes what part of the moon is lighted by the sun and how much of that part we can see from the earth, giving rise to lunar phases. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Phase  Eclipse  Solar eclipse  Unbra  Penumbra  Lunar eclipse  Tide  Spring tide  Neap tide | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Feb.** | 2-6- planets | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system.  Explain the origin and composition of the solar system and universe. | Terrestrial planets  Gas giants  Inner planets  Outer planets  Greenhouse effect  Solar system  AU  Dwarf planet | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Feb.** | 9-13planets | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface?  How do objects remain in the solar system? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system.  Explain the origin and composition of the solar system and universe. | Terrestrial planets  Gas giants  Inner planets  Outer planets  Greenhouse effect  Solar system  AU  Dwarf planet  Asteroid belt  Kuiper belt  Oort cloud  Comet  Nucleus  Coma  Asteroid  Meteoroid  Meteor  meteorite | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Feb.** | 17-20- universe | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The Earth is part of a solar system. | | What causes the great variation at Earth’s surface?  How do objects remain in the solar system? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system.  Explain the origin and composition of the solar system and universe. | Fusion  Photosphere  core  Chromosphere  Corona  Solar wind  Solar flares  Dwarf planet Asteroid  Asteroid belt  meteor meteoroid  Meteorite Asteroid belt Comet  coma  Nucleus | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **Feb.** | 23-27-universe | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The Earth is part of a solar system. | | What causes the great variation at Earth’s surface?  How do objects remain in the solar system? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Explain the origin and composition of the solar system and universe. | Fusion  Photosphere  core  Chromosphere  Corona  Solar wind  Solar flares  Dwarf planet Asteroid  Asteroid belt  meteor meteoroid  Meteorite Asteroid belt Comet  coma  Nucleus | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **March** | 2-5universe | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate.  The Earth is part of a solar system. | | What causes the great variation at Earth’s surface? How do objects remain in the solar system? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system.  Explain the origin and composition of the solar system and universe. | Fusion  Photosphere  core  Chromosphere  Corona  Solar wind  Solar flares  Dwarf planet Asteroid  Asteroid belt  meteor meteoroid  Meteorite Asteroid belt Comet  coma  Nucleus | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **March** | 16-20 space exploration | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Rocket  Thrust  Velocity  Escape velocity  Satellite  Space shuttle  Space station  Rover  Vacuum  Microgravity | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **March** | 23-27-space exploration | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Everything on or near the earth is pulled toward Earth’s center by a gravitational force. Celestial revolutions are caused by gravitational attraction. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Rocket  Thrust  Velocity  Escape velocity  Satellite  Space shuttle  Space station  Rover  Vacuum  Microgravity | 3.4.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **March** | 30-31-Intro to Earth | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | The Earth is mostly rock, with a metallic core, a thin layer of water covering about ¾ of the surface and surrounded by a thin blanket of air. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | System  Energy  Atmosphere  Geosphere  Sydrosphere  Biosphere  Constructive force  Destructive force  Seismis wave  Pressure  Crust  Basalt  Granite  Mantle  Lithosphere  Asthenosphere  Outer core  Inner core  Radiation  Convection  Conduction  Density  Convection current | 3.5.7 | [S8.B.3.1.1](http://www.pdesas.org/Standard/StandardsBrowser#27567?cf=y), [S8.B.3.1.3](http://www.pdesas.org/Standard/StandardsBrowser#27569?cf=y), [S8.C.2.1.1](http://www.pdesas.org/Standard/StandardsBrowser#27587?cf=y), [S8.C.2.1.3](http://www.pdesas.org/Standard/StandardsBrowser#27589?cf=y), [S8.C.2.2.1](http://www.pdesas.org/Standard/StandardsBrowser#27591?cf=y) |
| **April** | 7-10Rock types/rock cycle | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Earth materials (rocks and soils) can be classified by their composition and texture and those features can be interpreted to infer the history of the material.  Thousands of layers of sedimentary rock confirm the long history of the changing surface of the earth and the changing life forms whose remains are found in successive layers. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Mineral  Inorganic  Crystal  Streak  Luster  Mohs scale  Cleavage  Fracture  Geode  Crystallization  Solution  Vein  Igneous rock  Sedimentary  Metamorphic rock  Extrusive  Intrusive  Sediment  Weathering  Erosion  Deposition  Compaction  Cementation  Clastic  Organic  Chemical rock  Foliated  Rock cycle | 3.5.7 | [S8.B.3.1.1](http://www.pdesas.org/Standard/StandardsBrowser#27567?cf=y), [S8.B.3.1.3](http://www.pdesas.org/Standard/StandardsBrowser#27569?cf=y), [S8.C.2.1.1](http://www.pdesas.org/Standard/StandardsBrowser#27587?cf=y), [S8.C.2.1.3](http://www.pdesas.org/Standard/StandardsBrowser#27589?cf=y), [S8.C.2.2.1](http://www.pdesas.org/Standard/StandardsBrowser#27591?cf=y) |
| **April** | 13-17rock cycle/rock types | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Earth materials (rocks and soils) can be classified by their composition and texture and those features can be interpreted to infer the history of the material.  Thousands of layers of sedimentary rock confirm the long history of the changing surface of the earth and the changing life forms whose remains are found in successive layers. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Mineral  Inorganic  Crystal  Streak  Luster  Mohs scale  Cleavage  Fracture  Geode  Crystallization  Solution  Vein  Igneous rock  Sedimentary  Metamorphic rock  Extrusive  Intrusive  Sediment  Weathering  Erosion  Deposition  Compaction  Cementation  Clastic  Organic  Chemical rock  Foliated  Rock cycle | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **April** | 20-24plate tectonics | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Continental drift  Pangaea  Fossil  Mid-ocean ridge  Sea floor spreading  Deep ocean trench  Subduction  Plate  Divergent boundary  Convergent  Transform boundary  Fault  Rift valley | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **April** | 27-May 1 plate tectonics | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Continental drift  Pangaea  Fossil  Mid-ocean ridge  Sea floor spreading  Deep ocean trench  Subduction  Plate  Divergent boundary  Convergent  Transform boundary  Fault  Rift valley | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **May** | 4-8plate tectonics | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Continental drift  Pangaea  Fossil  Mid-ocean ridge  Sea floor spreading  Deep ocean trench  Subduction  Plate  Divergent boundary  Convergent  Transform boundary  Fault  Rift valley | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **May** | 11-15earthquakes | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Stress  Tension  Compression  Shearing  Normal fault  Reverse  Strike-slip fault  Plateau  Earthquake  Focus  Epicenter  P wave s wave  Surface wave  Seismograph  Magnitude  Richter scale  seismogram | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **May** | 18-21 earthquakes | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Stress  Tension  Compression  Shearing  Normal fault  Reverse  Strike-slip fault  Plateau  Earthquake  Focus  Epicenter  P wave s wave  Surface wave  Seismograph  Magnitude  Richter scale  seismogram | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **May** | 26-29 volcanoes | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Volcano  Magma  Lava  Ring of fire  Island arc  Hot spot  Magma chamber  Pipe  Vent  Lava flow  Crater  Silica  Pyroclastic flow  Dormant  Extinct | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
| **June** | 1-3 volcanoes | Solid, liquid and gaseous earth materials all circulate in large scale systems at a variety of time scales, giving rise to landscapes, the rock cycle, ocean currents, weather, and climate. | | What causes the great variation at Earth’s surface? | Some changes in Earth’s surface are abrupt, such as earthquakes, volcanoes, meteor impacts, and landslides. Others are gradual, such as the lifting up of mountains or their wearing away by erosion. | Describe the flow of energy from the sun, throughout the earth system, living and non-living, from the cellular scale to the global scale, and describe the transformations of that energy as it moves through the system. | Volcano  Magma  Lava  Ring of fire  Island arc  Hot spot  Magma chamber  Pipe  Vent  Lava flow  Crater  Silica  Pyroclastic flow  Dormant  Extinct | 3.5.7 | S8.B.3.1.1, S8.B.3.1.3, S8.C.2.1.1, S8.C.2.1.3, S8.C.2.2.1 |
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