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. | HypothesisConclusionProceduredata | 3.2.7, 3.2.10 | S8 A.1.1.1S8A1.1.2S8 A 1.1.3S8A.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. | HypothesisConclusionProceduredata | 3.2.7, 3.2.10 | S8 A.1.1.1S8A1.1.2S8 A 1.1.3S8A.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. | HypothesisConclusionProceduredata | 3.2.7, 3.2.10 | S8 A.1.1.1S8A1.1.2S8 A 1.1.3S8A.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. | HypothesisConclusionProceduredata | 3.2.7, 3.2.10 | S8 A.1.1.1S8A1.1.2S8 A 1.1.3S8A.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. | WaveEnergyMediumMechanical waveVibrationTransverse waveCrestTroughLongitudinalCompressionAmplitudeWavelengthFrequencyHertzReflectionRefractionDiffractionInterferenceresonance | 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 LoudnessIntensityDecibelDoppler EffectEar canalEardrumCochleaEcholocationUltrasoundSonarsonogram | 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 LoudnessIntensityDecibelDoppler EffectEar canalEardrumCochleaEcholocationUltrasoundSonarsonogram | 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 LoudnessIntensityDecibelDoppler EffectEar canalEardrumCochleaEcholocationUltrasoundSonarsonogram | 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 LoudnessIntensityDecibelDoppler EffectEar canalEardrumCochleaEcholocationUltrasoundSonarsonogram | 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 LoudnessIntensityDecibelDoppler EffectEar canalEardrumCochleaEcholocationUltrasoundSonarsonogram | 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 waveElectromagnetic radiationSpectrumTransparent translucentOpaqueReflectionFocal pointMirrorIndex of refractionTelescopeMicroscope | 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 waveElectromagnetic radiationSpectrumTransparent translucentOpaqueReflectionFocal pointMirrorIndex of refractionTelescopeMicroscope | 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 waveElectromagnetic radiationSpectrumTransparent translucentOpaqueReflectionFocal pointMirrorIndex of refractionTelescopeMicroscope | 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 waveElectromagnetic radiationSpectrumTransparent translucentOpaqueReflectionFocal pointMirrorIndex of refractionTelescopeMicroscope | 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 waveElectromagnetic radiationSpectrumTransparent translucentOpaqueReflectionFocal pointMirrorIndex of refractionTelescopeMicroscope | 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 waveElectromagnetic radiationSpectrumTransparent translucentOpaqueReflectionFocal pointMirrorIndex of refractionTelescopeMicroscope | 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. | SunspotsAphelionPerihelionGeocentricHeliocentricEllipse | 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. | GravityMass WeightInertiaRevolutionRotationAxislatitude | 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. | GravityMass WeightInertiaRevolutionRotationAxislatitude | 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. | PhaseEclipseSolar eclipseUnbraPenumbraLunar eclipseTideSpring tideNeap 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. | PhaseEclipseSolar eclipseUnbraPenumbraLunar eclipseTideSpring tideNeap 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 planetsGas giantsInner planetsOuter planetsGreenhouse effectSolar system AUDwarf 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 planetsGas giantsInner planetsOuter planetsGreenhouse effectSolar system AUDwarf planetAsteroid beltKuiper beltOort cloudCometNucleusComaAsteroidMeteoroidMeteormeteorite | 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. | FusionPhotospherecoreChromosphereCoronaSolar windSolar flaresDwarf planetAsteroidAsteroid beltmeteormeteoroidMeteoriteAsteroid beltComet 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. | FusionPhotospherecoreChromosphereCoronaSolar windSolar flaresDwarf planetAsteroidAsteroid beltmeteormeteoroidMeteoriteAsteroid beltComet 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. | FusionPhotospherecoreChromosphereCoronaSolar windSolar flaresDwarf planetAsteroidAsteroid beltmeteormeteoroidMeteoriteAsteroid beltComet 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. | RocketThrustVelocityEscape velocitySatelliteSpace shuttleSpace stationRoverVacuumMicrogravity | 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. | RocketThrustVelocityEscape velocitySatelliteSpace shuttleSpace stationRoverVacuumMicrogravity | 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. | SystemEnergyAtmosphereGeosphereSydrosphereBiosphereConstructive forceDestructive forceSeismis wavePressureCrustBasaltGraniteMantleLithosphereAsthenosphereOuter coreInner coreRadiationConvectionConductionDensityConvection 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. | MineralInorganicCrystalStreakLusterMohs scaleCleavageFractureGeodeCrystallizationSolutionVeinIgneous rockSedimentaryMetamorphic rockExtrusiveIntrusiveSedimentWeatheringErosionDepositionCompactionCementationClasticOrganicChemical rockFoliatedRock 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. | MineralInorganicCrystalStreakLusterMohs scaleCleavageFractureGeodeCrystallizationSolutionVeinIgneous rockSedimentaryMetamorphic rockExtrusiveIntrusiveSedimentWeatheringErosionDepositionCompactionCementationClasticOrganicChemical rockFoliatedRock 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 driftPangaeaFossilMid-ocean ridgeSea floor spreadingDeep ocean trenchSubductionPlate Divergent boundaryConvergentTransform boundaryFaultRift 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 driftPangaeaFossilMid-ocean ridgeSea floor spreadingDeep ocean trenchSubductionPlate Divergent boundaryConvergentTransform boundaryFaultRift 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 driftPangaeaFossilMid-ocean ridgeSea floor spreadingDeep ocean trenchSubductionPlate Divergent boundaryConvergentTransform boundaryFaultRift 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. | StressTension CompressionShearingNormal faultReverseStrike-slip faultPlateauEarthquakeFocusEpicenterP wave s waveSurface waveSeismographMagnitudeRichter scaleseismogram | 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. | StressTension CompressionShearingNormal faultReverseStrike-slip faultPlateauEarthquakeFocusEpicenterP wave s waveSurface waveSeismographMagnitudeRichter scaleseismogram | 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. | VolcanoMagmaLava Ring of fireIsland arcHot spotMagma chamberPipe VentLava flowCraterSilicaPyroclastic flowDormantExtinct | 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. | VolcanoMagmaLava Ring of fireIsland arcHot spotMagma chamberPipe VentLava flowCraterSilicaPyroclastic flowDormantExtinct | 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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