Pacing Guide for 6 Grade Science Curriculum

Grade Weights:

Major Grades – 65%

Minor Grades - 25%

Classwork/Homework - 10%

Course Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Length of Course: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Weeks** | **Chapter** | **COS** | **Objectives / Content Standards** | **Strategies / Materials Needed** |
| **First Nine Weeks*****August 1st****Week 1* | Handbook- Scientific Method & Safety Procedures; have a groups complete a Scientific Method Project | *:* Prepares for Future Experiments & Lessons using(LS-1,2,3,7)(LW-1,2,3) | *SWBAT:* implement the scientific method while performing an airplane experiment | Use the back of the Science text book for pages R28-R35 |
| ***August 8th****Week 2**Section 1&2****August 15th*** *Week 3**Section 3&4* | **Chapter 16 –** Weather PatternsSections 1, 2, 3, and 4 | 1.) Identify global patterns of atmospheric movement, including El Ni�o, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.(LS-1,2,3,8)(LW-1,2,3) | 16.1 SWBAT: explain how differences in air pressure affect the atmosphere16.2 SWBAT: construct a barometer to measure changes in air pressure16.3 SWBAT: describe how air pressure varies16.4 SWBAT: describe how air pressure varies | 16.1 Activity Page 539 Explore Air PressureMaterialsPeeled hard boil egg, glass bottle, 2 wooden matches16.2 Activity Page 543 Explore Solar EnergyMaterialsGlobe, flashlight, ruler16.3 Activity Page 552 Explore CondensationMaterialsHand mirror |
| ***August 22nd****Week 4**Section 1&2****September 5th****Week 5-6*Section 3&4 | **Chapter 17-** Weather Fronts and StormsSections 1, 2, 3, and 4 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7,9)(LW-1,2,3)1.) Identify global patterns of atmospheric movement, including El Ni�o, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.(LS-1,2,3,8)(LW-1,2,3) | 17.1 SWBAT: explain what happens when air masses meet17.2 SWBAT: determine how two types of pressure systems affect the weather17.3 SWBAT: determine how two types of pressure systems affect the weather17.4 SWBAT: determine how two types of pressure systems affect the weather | 17.1 Investigate Page 577 Air MassesMaterials500 mL beaker, stiff cardboard, scissor, 2 cups, small beaker for measuring, salt, water, food coloring17.4 Activity Page 594 Explore Weather MapMaterialsNewspaper, weather map   |
| ***September 12th****Week 6-7****Section 1******September 19th*** *Week 7**Section 2&3* | **Chapter 18 –** Climate and Climate ChangeSections 1, 2, and 3 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7)(LW-1,2,3) | 18.1 SWBAT: explain how climate is related to weather18.2 SWBAT: identify characteristics of different climate zone18.3 SWBAT: identify factors that affect climate | 18.1 Investigate Page 615 Heating and CoolingMaterials2cups, ruler, soil, eater at room temperature, 2 thermometers, sunlight or lamp |
| **September 26th***Week 7- 8**Section 1&2****October 3rd****Week 8-9*Section 3 | **Chapter 4** Weathering and Soil FormationSections 1,2,and 3 | 2.) Describe factors that cause changes to Earth's surface over time(LS-1,2,3,7)(LW-1,2,3) | 4.1 SWBAT: explain how chemical weathering changes the mineral composition of rocks4.2 SWBAT: explain how climate and landforms affect soil4.3 SWBAT: explain how the activities of organism affect soil4.4 SWBAT: explain why soil is necessary resource and how land use activities can harm soil | 4.1 Activity Page Mechanical WeatheringMaterialsCoffee can with lid, rocks, dark colored construction paper4.2 Activity Page 122 Soil CompositionMaterialsPotting soil, local soil sample, white paper (2 pieces) hand lens, tweezers4.3 Investigate Soil Conservation Page 135MaterialApple chart, apple, plastic knife  |
| ***October 10th****Week 10-11**Section 1&2****October 17th****Week 11-12**Section 3&4* | **Chapter 5-**Erosion and DepositionSections 1, 2, 3, and 4 | 2.) Describe factors that cause changes to Earth's surface over time(LS-1,2,3,7)(LW-1,2,3) | 5.1 SWBAT: explain how natural forces move and deposit sediment5.2 SWBAT: explain how moving water shape land5.3 SWBAT: waves and currents shape shorelines 5.4 SWBAT: explain how wind shape land | 5.1 Investigate Erosion Page 146MaterialsSoil, 2 large trays, pitcher of water5.2 Activity Page 150 Explore Divides MaterialsSheet of paper, tape, paper clip5.3 Investigate Page 160 Longshore DriftMaterials1. Or 3 books, coin

5.4 Activity Page 165 Explore GlaciersMaterialsModeling clay, paper towel, ice cube containing sand and gravel |
| ***October 24th****Week 12-13**Section 1&2****October 31st*** *Week 13-14**Section 3&4* | **Chapter 6-** Plate TectonicsSections 1, 2, 3, and 4 | 4.) Explain the plate tectonic theory.(LS-1,2,3,7)(LW-1,2,3) | 6.1SWBAT: explain the Earth’s lithosphere is made up of many plates6.2 SWBAT: explain why continents join together and split apart6.3 SWBAT: explain the plate tectonic theory6.4 SWBAT: explain how plate converge or scrape past each other | 6.1 Activity Page 185 Explore DensityMaterials2plastic cups, tap water, table salt, plastic spoon, food coloring6.2 Activity Page 190 Explore Movement of ContinentsMaterialsSheet of paper, colored marking, pens, scissors6.3 Activity Page 198 Explore Divergent BoundariesMaterialsScissors, piece of strip paper, tape, small oatmeal box with slit cut in side6.4 Activity Page 206 Explore Tectonic PlatesMaterials6 square napkins |
| ***November 7th*** *Week 14-15**Section 1&2****November 14th*** *Week 15-16**Section 3* | **Chapter 7** EarthquakesSections 1, 2, and 3 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7)(LW-1,2,3) | 7.1 SWBAT: explain why rocks move across faults7.2 SWBAT: explain that faults are classified by how rocks moves7.3 SWBAT: explain how structures can be designed to resist earthquake damage | 7.1 Activity Page 221 Explore PressureMaterialsWooden craft stick7.2 Activity Page 227 Explore Movement of EnergyMaterialsSpring toy7.3 Activity Page 236 Explore ShakingMaterialsSand, newspaper, flat rock, washer  |
| ***November 28th****Week 16**Section 1&2****December 5th*** *Week 16-17**Section 3* | **Chapter 8** Mountains and VolcanoesSections 1, 2, and 3 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7)(LW-1,2,3)4.) Explain the plate tectonic theory.(LS-1,2,3,7)(LW-1,2,3) | 8.1 SWBAT: explain how most mountains form along plate boundaries8.2 SWBAT: explain how volcanoes can erupt many types of materials8.3 SWBAT: explain how volcanic gases and ash affect the air  | 8.1 Activity Page 253 Explore FoldingMaterials2or 3 colors of modeling clay, 2 blocks, newspaper |
| ***December 12th****Week 17-18**Sections 1&2* ***January 2nd****Week 19-20**Sections 3&4*  | **Chapter 19-**Exploring SpaceSections 1,2,3 and 4 | 8.) Describe how Earth's rotation, Earth's axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.(LS-1,2,3,7)(LW-1,2,3)10.) Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.(LS-1,2,3,7)(LW-1,2,3) | 19.1 SWBAT: will be able to explain how some space objects are visible to the human eye19.2 SWBAT: explain the different forms of electromagnetic radiation, radio waves, visible light, and x-rays19.3 SWBAT: explain space objects that orbit earth19.4 SWBAT: explain how space technology has practical uses | 19.1 **Location: Teacher File T-Drive**How light can be distorted experiment pg. 655Video clip - Constellations\_of\_the\_Northern\_Hemisphere [www.discoveryeducation.com](http://www.discoveryeducation.com)Video clip - Constellations\_of\_the\_southern\_Hemisphere [www.discoveryeducation.com](http://www.discoveryeducation.com)19.2 **Location: Teacher File T-Drive**All\_About\_Telescopes – video [www.discoveryeducation.com](http://www.discoveryeducation.com)Comparison Drawing of telescopes on pg. 65719.3 **Location: Teacher File T-Drive**Video clip- NASA\_at\_50\_\_1976\_\_Viking\_Landers\_Touch\_Down\_on\_Mars [www.discoveryeducation.com](http://www.discoveryeducation.com) 19.4Experiment – How does weathering affect evidence of impacts on Earth – pg. 673 |
| ***January 9th****Week 20-21**Sections 1&2****January 16th****Week 21-22**Sections 3&4* | **Chapter 20** Earth, Moon, and SunSections 1, 2, 3, and 4  | 10.) Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies (LS-1,2,3,7)(LW-1,2,3)11.) Describe units used to measure distance in space, including astronomical units and light years.9.) Identify the moon's phases.(LS-1,2,3,7)(LW-1,2,3) | 20.1 SWBAT: explain why earth has both day and night20.2 SWBAT: explain how the Moon moves20.3 SWBAT: explain why the Moon can sometimes be seen in daylight20.4 SWBAT: explain the difference between a solar and lunar eclipse | 20.1 **Location Teacher File T-Drive**Video clip - Moon\_Phases20.2 **Location Teacher File T-Drive**Video clip - Moon\_Landing20.3 **Location Teacher File T-Drive**Experiment – Oreo Moon phases |
| ***January 23rd****Week 22-23**Section 1****January 30th****Week 23-24**Section 4* | **Chapter 21** Our Solar SystemSections 1, 2, 3, and 4**\*Note Section 2 and 3- Not in Course of Study****Section 4- Only teach** **asteroids and comets** | 10.) Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.(LS-1,2,3,7)(LW-1,2,3)11.) Describe units used to measure distance in space, including astronomical units and light years.(LS-1,2,3,7)(LW-1,2,3) | 21.1 SWBAT: explain that planets orbit the Sun at different distances21.2 SWBAT: explain how planet’s formed and they travel different distances around the sun21.3 SWBAT :explain why gas giants have very deep atmospheres and why Jupiter is a world of storms and clouds21.4 SWBAT: explain why Pluto and most objects in the outer solar system are made of ice and rock | 21.1 Activity on Page 719 Explore Planet FormationMaterials bowl, water, spoon, wax pieces21.2 Activity on Page 725 Explore SurfacesMaterials2 blocks, paper towel, newspaperInvestigate Layers Page 728Materialscontainer, spoon, firm gelatin, sand, wax pieces, bowl of hot tap water21.3 Investigate Giant PlanetsMaterialsIce-cream stickDisposable plateScissors, clay21.4 Activity on Page 745 Investigation Exploring Impact CratersMaterialsNewspaper, container, flour, colored powder, several objects, meter stick, balance |
| ***February 6th****Week 24**Sections 1&2****February 13th****Week 25-26**Sections3&4* | **Chapter 22** Stars, Galaxies, and the Universe Sections 1, 2, 3, and 4 | 10.) Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.(LS-1,2,3,7)(LW-1,2,3) | 22.1 SWBAT: how to classify stars22.2 SWBAT: explain that our solar system lies within the Milky Way galaxy22.3 SWBAT: explain galaxies vary in appearance22.4 SWBAT: explain why galaxies are moving farther apart in the universe | 22.1 Activity on Page 755 Explore Solar AtmosphereMaterialsSmall paper clip, index card, lamp with 45watt bulb22.2 Investigate Parallax Page 763MaterialsMeter stickCapped pen22.3 Activity Page 770 Explore The Milky WayMaterialsWhite gel pen, black paper, tape22.4 Activity Page 775 Explore Large NumbersMaterialsBook, ruler, calculator  |
| ***February 20th****Week 26-27**Sections 1&2****February 27th****Week 27-28**Sections 3&4* | **Chapter 1** Views of Earth TodaySections 1, 2, 3, and 4 | 5.) Describe layers of the oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone(LS-1,2,3,7)(LW-1,2,3) | * 1. SWBAT: explain the four major parts of Earth’s system
	2. SWBAT: explain the four major parts of Earth’s system

1.3 SWBAT: explain the four major parts of Earth’s system1.4 SWBAT: explain the four major parts of Earth’s system | * 1. Activity Page 12 Geosphere’s Layers

MaterialsApple slice* 1. Activity Page 15 Explore Mapping

MaterialsPaper, pencil or penInvestigate Map Projections Page 20MaterialsTop 8 inches of 2 liter bottle, marker pen, walnut-sized piece of clay, poster board, flashlight1.3Activity Page 24 Topographic MapsMaterialsWashable colored pen  |
| ***March 6th****Week 28-29**Sections 1&2****March 13th****Week 29-30**Section 3* | **Chapter 11** – The Water PlanetSections 1, 2, and 3 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7)(LW-1,2,3)3.) Describe water and carbon biogeochemical cycles and their effects on Earth.(LS-1,2,3,7)(LW-1,2,3) | 11.1 SWBAT: recognize the importance of water11.2 SWBAT: explain how water moves throughout earth and its atmosphere11.3 SWBAT: model in an experiment how water moves through an environment | 11.1 Activity Page 361 Explore Water VaporMaterialsClear glass, ice, water11.2 Activity Page 368 Explore Water CollectionMaterialsPlastic foam, egg carton, tray or pan, plastic bottle, water11.3 Activity Page 376 Explore Flow of WaterMaterialsWater, cup, paper coffee filter, bucket, dishpan, or sink |
| ***March 27th****Week 30-31**Sections 1&2****April 3rd*** *Week 31-32**Sections 3&4* | **Chapter 13 –** Ocean SystemSections 1, 2, 3, and 4 | 5.) Describe layers of the oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone.(LS-1,2,3,7)(LW-1,2,3)6.) Describe regions of the oceanic lithosphere, including the continental shelf, continental slope, and abyssal plain. 7.) Describe Earth's biomes.(LS-1,2,3,7)(LW-1,2,3) | 13.1 SWBAT: identify what ocean water contains13.2 SWBAT: describe what ocean floor looks like13.3 SWBAT: describe how waves move energy through water13.4 SWBAT: explain what causes tides | 13.1 Activity Page 427 Explore DensityMaterials3solutions A,B,C, provided by your teacher, clear water, waste cup13.2 Activity Page 436 Explore CurrentsMaterialsCold water, ice cube, food coloring, paper cup, masking tape, clear plastic box, toothpick, room temperature water |
| ***April 10th****Week 32-33**Section 1****April 17th****Week 33-34**Sections 2&3* | **Chapter 14 –** Ocean EnvironmentsSections 1, 2, and 3 | 7.) Describe Earth's biomes.(LS- 1,2,3,7)(LW-1,2,4) | 14.1 SWBAT: define the intertidal zone14.2 SWBAT: describe ocean environments away from the coast 14.3 SWBAT: recognize the living resources the ocean contains | 14.2 Activity Page 473 Explore Air BladdersMaterialsClear container, soda water, 5 raisins14.3 Activity Page 482 Explore Ocean PollutionMaterialsBowl, water, feather, spoon, cooking oil |
| ***April 24th****Week 34**Sections 1&2****May 1st****Week 35**Section 3* | **Chapter 10 –** Natural ResourcesSections 1, 2, and 3 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7)(LW-1,2,3) | 10.1SWBAT: discuss how fossil fuels supply most of society energy10.2 SWBAT: discuss how fossil fuels, minerals, and plants supply materials for modern products10.3 SWBAT: explain how renewable resources such as water, sunlight, heat, organic matter, and hydrogen are used to generate energy | 10.1 Investigate Page 329 Fossil FuelMaterialsWater, vegetable oil, large pan, plastic foam ball, eyedropper10.2 Activity Page 332 Explore Energy UseMaterialsPaper, pen or pencilCalculator10.3 Activity Page 337 Explore Nuclear EnergyMaterialsMarbles, large pieces of paper, pen or marker  |
| ***May 8th****Week 36-37****May 15th****Week 37-38* | **Chapter 3 –** Rocks change into other roacks over time. Sections 1,2,3 and 4 | 2.) Describe factors that cause changes to Earth's surface over time.(LS-1,2,3,7)(LW-1,2,3) | 3.1 SWBAT: observe the differences between a roack and a mineral3.2 SWBAT: analyze how cooling time affects crystal size3.3 SWBAT: create a model to show how sedimaentary rock form in layers3.4 SWBAT: model how pressure and temperature can change a solid | 3.1 Investigate Page 77 Rocks and MineralsMaterialsMineral sample, roack sample, magnifying galss3.2 Investigate Page 85 Crystal SizeMaterialsMineral crystal diagrams3.3 Rock Layers Page 94Materials1 paper cup, 3 mixing cups, 6 Tbs plaster of Paris, 3 Tbswater, 4 Tbs gravel, 2Tbs sand, 3 drops of food coloring3.4 Metamorphic Changes Page 98Materials3 candles of different colors, vegetable peeler |