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 Patterns  Sections 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 atmosphere  16.2 SWBAT: construct a barometer to measure changes in air pressure  16.3 SWBAT: describe how air pressure varies  16.4 SWBAT: describe how air pressure varies | 16.1 Activity Page 539 Explore Air Pressure  Materials  Peeled hard boil egg, glass bottle, 2 wooden matches  16.2 Activity Page 543 Explore Solar Energy  Materials  Globe, flashlight, ruler  16.3 Activity Page 552 Explore Condensation  Materials  Hand mirror |
| ***August 22nd***  *Week 4*  *Section 1&2*  ***September 5th***  *Week 5-6*  Section 3&4 | **Chapter 17-** Weather Fronts and Storms  Sections 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 meet  17.2 SWBAT: determine how two types of pressure systems affect the weather  17.3 SWBAT: determine how two types of pressure systems affect the weather  17.4 SWBAT: determine how two types of pressure systems affect the weather | 17.1 Investigate Page 577 Air Masses  Materials  500 mL beaker, stiff cardboard, scissor, 2 cups, small beaker for measuring, salt, water, food coloring  17.4 Activity Page 594 Explore Weather Map  Materials  Newspaper, weather map |
| ***September 12th***  *Week 6-7*  ***Section 1***  ***September 19th***  *Week 7*  *Section 2&3* | **Chapter 18 –** Climate and Climate Change  Sections 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 weather  18.2 SWBAT: identify characteristics of different climate zone  18.3 SWBAT: identify factors that affect climate | 18.1 Investigate Page 615 Heating and Cooling  Materials  2cups, 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 Formation  Sections 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 rocks  4.2 SWBAT: explain how climate and landforms affect soil  4.3 SWBAT: explain how the activities of organism affect soil  4.4 SWBAT: explain why soil is necessary resource and how land use activities can harm soil | 4.1 Activity Page Mechanical Weathering  Materials  Coffee can with lid, rocks, dark colored construction paper  4.2 Activity Page 122 Soil Composition  Materials  Potting soil, local soil sample, white paper (2 pieces) hand lens, tweezers  4.3 Investigate Soil Conservation Page 135  Material  Apple chart, apple, plastic knife |
| ***October 10th***  *Week 10-11*  *Section 1&2*  ***October 17th***  *Week 11-12*  *Section 3&4* | **Chapter 5-**Erosion and Deposition  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) | 5.1 SWBAT: explain how natural forces move and deposit sediment  5.2 SWBAT: explain how moving water shape land  5.3 SWBAT: waves and currents shape shorelines  5.4 SWBAT: explain how wind shape land | 5.1 Investigate Erosion Page 146  Materials  Soil, 2 large trays, pitcher of water  5.2 Activity Page 150 Explore Divides  Materials  Sheet of paper, tape, paper clip  5.3 Investigate Page 160 Longshore Drift  Materials   1. Or 3 books, coin   5.4 Activity Page 165 Explore Glaciers  Materials  Modeling 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 Tectonics  Sections 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 plates  6.2 SWBAT: explain why continents join together and split apart  6.3 SWBAT: explain the plate tectonic theory  6.4 SWBAT: explain how plate converge or scrape past each other | 6.1 Activity Page 185 Explore Density  Materials  2plastic cups, tap water, table salt, plastic spoon, food coloring  6.2 Activity Page 190 Explore Movement of Continents  Materials  Sheet of paper, colored marking, pens, scissors  6.3 Activity Page 198 Explore Divergent Boundaries  Materials  Scissors, piece of strip paper, tape, small oatmeal box with slit cut in side  6.4 Activity Page 206 Explore Tectonic Plates  Materials  6 square napkins |
| ***November 7th*** *Week 14-15*  *Section 1&2*  ***November 14th***  *Week 15-16*  *Section 3* | **Chapter 7** Earthquakes  Sections 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 faults  7.2 SWBAT: explain that faults are classified by how rocks moves  7.3 SWBAT: explain how structures can be designed to resist earthquake damage | 7.1 Activity Page 221 Explore Pressure  Materials  Wooden craft stick  7.2 Activity Page 227 Explore Movement of Energy  Materials  Spring toy  7.3 Activity Page 236 Explore Shaking  Materials  Sand, newspaper, flat rock, washer |
| ***November 28th***  *Week 16*  *Section 1&2*  ***December 5th*** *Week 16-17*  *Section 3* | **Chapter 8** Mountains and Volcanoes  Sections 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 boundaries  8.2 SWBAT: explain how volcanoes can erupt many types of materials  8.3 SWBAT: explain how volcanic gases and ash affect the air | 8.1 Activity Page 253 Explore Folding  Materials  2or 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 Space  Sections 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 eye  19.2 SWBAT: explain the different forms of electromagnetic radiation, radio waves, visible light, and x-rays  19.3 SWBAT: explain space objects that orbit earth  19.4 SWBAT: explain how space technology has practical uses | 19.1 **Location: Teacher File T-Drive**  How light can be distorted experiment pg. 655  Video 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. 657  19.3 **Location: Teacher File T-Drive**  Video clip- NASA\_at\_50\_\_1976\_\_Viking\_Landers\_Touch\_Down\_on\_Mars [www.discoveryeducation.com](http://www.discoveryeducation.com)    19.4  Experiment – 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 Sun  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)  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 night  20.2 SWBAT: explain how the Moon moves  20.3 SWBAT: explain why the Moon can sometimes be seen in daylight  20.4 SWBAT: explain the difference between a solar and lunar eclipse | 20.1 **Location Teacher File T-Drive**  Video clip - Moon\_Phases  20.2 **Location Teacher File T-Drive**  Video clip - Moon\_Landing  20.3 **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 System  Sections 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 distances  21.2 SWBAT: explain how planet’s formed and they travel different distances around the sun  21.3 SWBAT :explain why gas giants have very deep atmospheres and why Jupiter is a world of storms and clouds  21.4 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 Formation  Materials  bowl, water, spoon, wax pieces  21.2 Activity on Page 725 Explore Surfaces  Materials  2 blocks, paper towel, newspaper  Investigate Layers Page 728  Materials  container, spoon, firm gelatin, sand, wax pieces, bowl of hot tap water  21.3 Investigate Giant Planets  Materials  Ice-cream stick  Disposable plate  Scissors, clay  21.4 Activity on Page 745 Investigation Exploring Impact Craters  Materials  Newspaper, 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 stars  22.2 SWBAT: explain that our solar system lies within the Milky Way galaxy  22.3 SWBAT: explain galaxies vary in appearance  22.4 SWBAT: explain why galaxies are moving farther apart in the universe | 22.1 Activity on Page 755 Explore Solar Atmosphere  Materials  Small paper clip, index card, lamp with 45watt bulb  22.2 Investigate Parallax Page 763  Materials  Meter stick  Capped pen  22.3 Activity Page 770 Explore The Milky Way  Materials  White gel pen, black paper, tape  22.4 Activity Page 775 Explore Large Numbers  Materials  Book, ruler, calculator |
| ***February 20th***  *Week 26-27*  *Sections 1&2*  ***February 27th***  *Week 27-28*  *Sections 3&4* | **Chapter 1** Views of Earth Today  Sections 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 system  1.4 SWBAT: explain the four major parts of Earth’s system | * 1. Activity Page 12 Geosphere’s Layers   Materials  Apple slice   * 1. Activity Page 15 Explore Mapping   Materials  Paper, pencil or pen  Investigate Map Projections Page 20  Materials  Top 8 inches of 2 liter bottle, marker pen, walnut-sized piece of clay, poster board, flashlight  1.3Activity Page 24 Topographic Maps  Materials  Washable colored pen |
| ***March 6th***  *Week 28-29*  *Sections 1&2*    ***March 13th***  *Week 29-30*  *Section 3* | **Chapter 11** – The Water Planet  Sections 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 water  11.2 SWBAT: explain how water moves throughout earth and its atmosphere  11.3 SWBAT: model in an experiment how water moves through an environment | 11.1 Activity Page 361 Explore Water Vapor  Materials  Clear glass, ice, water  11.2 Activity Page 368 Explore Water Collection  Materials  Plastic foam, egg carton, tray or pan, plastic bottle, water  11.3 Activity Page 376 Explore Flow of Water  Materials  Water, 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 System  Sections 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 contains  13.2 SWBAT: describe what ocean floor looks like  13.3 SWBAT: describe how waves move energy through water  13.4 SWBAT: explain what causes tides | 13.1 Activity Page 427 Explore Density  Materials  3solutions A,B,C, provided by your teacher, clear water, waste cup  13.2 Activity Page 436 Explore Currents  Materials  Cold 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 Environments  Sections 1, 2, and 3 | 7.) Describe Earth's biomes.  (LS- 1,2,3,7)  (LW-1,2,4) | 14.1 SWBAT: define the intertidal zone  14.2 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 Bladders  Materials  Clear container, soda water, 5 raisins  14.3 Activity Page 482 Explore Ocean Pollution  Materials  Bowl, water, feather, spoon, cooking oil |
| ***April 24th***  *Week 34*  *Sections 1&2*  ***May 1st***  *Week 35*  *Section 3* | **Chapter 10 –** Natural Resources  Sections 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 energy  10.2 SWBAT: discuss how fossil fuels, minerals, and plants supply materials for modern products  10.3 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 Fuel  Materials  Water, vegetable oil, large pan, plastic foam ball, eyedropper  10.2 Activity Page 332 Explore Energy Use  Materials  Paper, pen or pencil  Calculator  10.3 Activity Page 337 Explore Nuclear Energy  Materials  Marbles, 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 mineral  3.2 SWBAT: analyze how cooling time affects crystal size  3.3 SWBAT: create a model to show how sedimaentary rock form in layers  3.4 SWBAT: model how pressure and temperature can change a solid | 3.1 Investigate Page 77 Rocks and Minerals  Materials  Mineral sample, roack sample, magnifying galss  3.2 Investigate Page 85 Crystal Size  Materials  Mineral crystal diagrams  3.3 Rock Layers Page 94  Materials  1 paper cup, 3 mixing cups, 6 Tbs plaster of Paris, 3 Tbswater, 4 Tbs gravel, 2Tbs sand, 3 drops of food coloring  3.4 Metamorphic Changes Page 98  Materials  3 candles of different colors, vegetable peeler | |