

P-SELL PACING GUIDE 2017-2018

Pacing	NGSSS/Benchmarks	P-SELL Activities/Lesson Development	National Geographic-Science
NATURE OF SCIENCE			
Pacing: <u>15 days</u>	<p>Big Idea 1: The Practice of Science</p> <p>SC.5.N.1.1 Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.</p> <ul style="list-style-type: none"> • SC.5.N.1.2 Explain the difference between an experiment and other types of scientific investigation. (Assessed as SC.5.N.1.1) • SC.5.N.1.4 Identify a control group and explain its importance in an experiment. (Assessed as SC.5.N.1.1) <p>Big Idea 2: The Characteristics of Scientific Knowledge</p> <p>SC.5.N.2.1 Recognize and explain that science is grounded in empirical observations that are testable; explanation must always be linked with evidence.</p> <ul style="list-style-type: none"> • SC.5.N.1.5 Recognize and explain that authentic scientific investigation frequently does not parallel the steps of "the scientific method." (Assessed as SC.5.N.2.1) • SC.5.N.1.6 Recognize and explain the difference between personal opinion/interpretation and verified observation. (Assessed as SC.5.N.2.1) <p>SC.5.N.2.2 Recognize and explain that when scientific investigations are carried out, the</p>	<p>Introduce Science Classroom routines and procedures, Safety Contract (5 days)</p> <p>Introduction to the Inquiry Framework</p> <p>Science Inquiry (science process skills) Observation Inference Prediction Experiment or Science Inquiry Hands-on Science Models Inquiry Framework</p> <ol style="list-style-type: none"> 1. Questioning <ul style="list-style-type: none"> ○ State the problem ○ Make a Prediction 2. Planning <ul style="list-style-type: none"> ○ Read the materials and procedures 3. Implementing <ul style="list-style-type: none"> ○ Gather the materials ○ Follow the procedures ○ Observe and record the results 4. Concluding <ul style="list-style-type: none"> ○ Draw a conclusion 5. Reporting <ul style="list-style-type: none"> ○ Share my results (informal) ○ Produce a report (formal) 6. Inquiry Extension <ul style="list-style-type: none"> ○ Reflect on your results 7. Application <ul style="list-style-type: none"> ○ Make connections <p>Doing Good Science Inquiry Variables</p>	<p>Introduce Science Classroom routines and procedures, My Science Notebooks, etc. (5-7 days)</p> <p>Science Methods and Process Skills Big Book-Meet TH Culhane</p> <p>Teacher's Guide Science Methods and Process Skills- What is a Scientist pg 4 Scientific Method pg 6 Scientific Process Skills pg 8 Scientific Tools pg 13 Safety in Science pg 15</p> <p>Teacher's Guide Life Science- Nature of Science/Science Notebook Pg. SN1-SN12</p> <p>SC.5.N.1.1 Scientific Method and Inquiry Skills SC.5.N.1.2 Experiments/ investigations SC.5.N.1.3 Repeated experiments SC.5.N.1.4 Variables SC.5.N.1.5 Scientific Inquiry SC.5.N.1.6 Opinion/data</p> <p>SC.5.N.2.1 Testable observations SC.5.N.2.2 Evidence is replicable</p>

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	evidence produced by those investigations should be replicable by others. <ul style="list-style-type: none"> SC.5.N.1.3 Recognize and explain the need for repeated experimental trials. 	Measurement Data Tables	
LIFE SCIENCE			
<p>Part I Pacing: <u>12 days</u></p>	<p>Big Idea 14: Organization & Dev. of Living Organisms Part I</p> <p>SC.5.L.14.1 Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs.</p>	<p>The Skeleton Muscles The Heart</p> <ul style="list-style-type: none"> Activity 1: How can we Measure our Heart Rate? <p>The Lungs Digestive Organs The Urinary Organs The Brain The Sensory Organs Reproductive Organs</p>	<p>Chapter 2 - How Do Parts of Living Things Work Together?(11-15 days)</p> <p>Teacher's Edition Nat. Geo- pgs T53a- T100v Science Inquiry and Writing Book - pgs 7; 20-38 Learning Masters- pgs 18-35 Explore on Your Own- "The Beat Goes On" pgs TT100b-T100h Student Self-Assessment – pg 7 Chapter Test- pgs 8-10 Student Big Idea Book – pgs 86-87</p>
<p>Part II Pacing: <u>12 days</u></p>	<p>Big Idea 14: Organization & Dev. of Living Organisms Part II</p> <p>SC.5.L.14.2 Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support – some with internal skeletons others with exoskeletons – while some plants have stems for support. Also assesses: SC.3.L.15.1 and SC.3.L.15.2</p> <p>SC.3.L.14.1 Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction. Also assesses: SC.3.L.14.2 and SC.4.L.16.1</p> <p>SC.4.L.16.4 Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo complete and incomplete metamorphosis, and flowering and non-flowering seed bearing plants.</p>	<p>Classification</p> <ul style="list-style-type: none"> Internal and External Characteristics <p>Animal Classification</p> <ul style="list-style-type: none"> Life Cycles <p>Plant Classification</p> <p>ADDITIONAL ENRICHMENT, REMEDIATION, LANGUAGE ACQUISITION RESOURCES AVAILABLE ON:</p> <p style="text-align: center;">PSELL.ORG</p>	<p>SC.5.L.14.1 Human body systems SC.5.L.14.2 Plant/animal structures SC.5.N.1.1 Scientific Method and Inquiry Skills SC.5.L.17.1 Interdependence-Plants/Animals SC.5.N.1.2 Experiments/ investigations SC.5.N.1.4 Variables SC.5.N.1.5 Scientific Inquiry</p>

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<p>Part I Pacing: <u>9 days</u></p>	<p>Big Idea 17: Interdependence Part I</p> <p>SC.4.L.17.3 Trace the flow of energy from the sun as it is transferred along the food chain through the producers to the consumers.</p> <ul style="list-style-type: none"> SC.3.L.17.2 Recognize that plants use energy from the sun, air, and water to make their own food. <p>(Assessed as SC.4.L.17.3)</p> <ul style="list-style-type: none"> SC.4.L.17.2 Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them. (Assessed as SC.4.L.17.3) 	<p>The Cyclic Nature of Living Things in the Environment</p> <p>Activity 1: Producer, Consumer, or Decomposer?</p>	<p>Chapter 1-How Do Living Things Survive and Change?(13-17 days)</p> <p>Teacher's Edition Nat. Geo- pgs T5a-T52h Science Inquiry and Writing Book - pgs 6; 8-19 Learning Masters- pgs 8-20 Explore on Your Own- "Do Elephants Talk?" pgs T52a-T52h Student Self-Assessment – pg 3 Chapter Test- pgs 4-6 Student Big Idea Book – pgs 40-41</p>
<p>Part II Pacing: <u>5 days</u></p>	<p>Big Idea 17: Interdependence Part II</p> <p>SC.5.L.17.1 Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.</p> <ul style="list-style-type: none"> SC.5.L.15.1 Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations. (Assessed as SC.5.L.17.1) 	<p>What is an Ecosystem?</p> <p>Behavioral and Structural Adaptations</p> <p>Activity 1: What Can We Learn about Plant Behavior?</p> <p>Populations</p> <p>Activity 2: Survival of the Fittest</p>	<p>SC.5.N.1.1 Scientific Method and Inquiry Skills</p> <p>SC.5.L.15.1 Environment- evolution and adaptations</p> <p>SC.5.L.17.1 Interdependence- Plants/Animals</p> <p>SC.5.N.1.2 Experiments/ investigations</p> <p>SC.5.N.1.5 Scientific Inquiry</p>
EARTH SCIENCE			
<p>Pacing: <u>16 days</u></p>	<p>Big Idea 5: Earth in Space and Time</p> <p>SC.5.E.5.1 Recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars. Identify our home galaxy as the Milky Way.</p> <p>SC.5.E.5.3 Distinguish among the following objects of the Solar System-Sun, planets, moons, asteroids, comets - and identify Earth's position in it.</p>	<p>The Milky Way</p> <p>Our Solar System</p> <ul style="list-style-type: none"> The Planets Other Space Objects Activity 1: The Planets (Planet Identification Activity) Activity 2 (Inquiry 10): Toilet Paper Model of the Solar System 	<p>Chapter 3- What Makes Up Our Solar System?(13-17 days)</p> <p>Teacher's Edition Nat. Geo- pgs 105a-144h Science Inquiry and Writing Book - pgs 44; 46-54 Learning Masters- pgs 43-54 Explore on Your Own-</p>

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	<p>SC.5.E.5.2 Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets. (Assessed as SC.5.E.5.3)</p> <p>SC.4.E.5.4 Relate that the rotation of Earth (day and night) and apparent movements of the sun, moon, and stars are connected.</p>	<p>The Movement of the Earth around the Sun</p> <ul style="list-style-type: none"> • Rotation and Revolution of Earth • Appearance of the Moon • Activity 2: Modeling the Movement of the Earth and the Moon • Star patterns at night <p>ADDITIONAL ENRICHMENT, REMEDIATION, LANGUAGE ACQUISITION RESOURCES AVAILABLE ON:</p> <p style="text-align: center;">PSELL.ORG</p>	<p>" Saturn- The Ring World" T144a-T144h</p> <p>Assessment Handbook pgs 28-31</p> <p>Student Self-Assessment – pg 23</p> <p>Chapter Test- pgs 24-26</p> <p>Student Big Idea Book – pgs 132-133</p> <p>SC.5.E.5.1 Milky Way Galaxy</p> <p>SC.5.E.5.2 Solar System</p> <p>SC.5.E.5.3</p> <p>SC.5.N.1.1 Scientific Method and Inquiry Skills</p> <p>SC.5.N.1.5 Scientific Inquiry</p>
<p>Pacing: <u>20 days</u></p>	<p>Big Idea 7: Earth Systems and Patterns</p> <p>SC.5.E.7.1 Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another.</p> <ul style="list-style-type: none"> • SC.5.E.7.2 Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes. (Assessed as SC.5.E.7.1) <p>SC.5.E.7.3 Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time.</p> <ul style="list-style-type: none"> • SC.5.E.7.4 Distinguish among the various forms of precipitation (rain, snow, sleet, and hail) making connections to the weather in a particular place and time. (Assessed as SC.5.E.7.3.) • SC.5.E.7.5 Recognize that some of the weather-related differences, such as 	<p>Water Cycle</p> <ul style="list-style-type: none"> • Water Everywhere • Water Cycle • Activity 1: Water Cycle Model <p>Factors Affecting Weather and Climate</p> <ul style="list-style-type: none"> • Weather and Climate • Meteorological Factors Affecting Weather and Climate <p>Geographical Factors Affecting Weather and Climate</p> <p>ADDITIONAL ENRICHMENT, REMEDIATION, LANGUAGE ACQUISITION RESOURCES AVAILABLE ON:</p> <p style="text-align: center;">PSELL.ORG</p>	<p>Chapter 4 -How Are Weather and the Water Cycle Connected? (15-20 Days)</p> <p>Teacher's Edition Nat. Geo- pgs 145e-192t</p> <p>Science Inquiry and Writing Book - pgs 58-83</p> <p>Learning Masters- pgs 58-83</p> <p>Explore on Your Own- "Hurricane Hunters" pgs T192e-T192h</p> <p>Assessment Handbook pgs 28-31</p> <p>Student Self-Assessment – pg 27</p> <p>Chapter Test- pgs 28-31</p> <p>Student Big Idea Book – pgs 178-179</p> <p>SC.5.E.7.1 Model of water cycle</p> <p>SC.5.E.7.2 Ocean/water cycle</p> <p>SC.5.E.7.3 Meteorological tools & measures</p> <p>SC.5.E.7.4 Precipitation</p> <p>SC.5.E.7.5 Weather and environments</p>

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	<p>temperature and humidity, are found among different environments, such as swamps, deserts, and mountains. (Assessed as SC.5.E.7.3.)</p> <ul style="list-style-type: none"> • SC.5.E.7.6 Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water. (Assessed as SC.5.E.7.3.) 		<p>SC.5.E.7.6 Climate zones SC.5.N.1.1 Scientific Method and Inquiry Skills SC.5.N.2.1 Testable observations SC.5.N.2.2 Evidence is replicable SC.5.N.1.2 Experiments/investigations SC.5.N.1.6 Opinion/data</p>
<p>Pacing: <u>12 days</u></p>	<p>Big Idea 6: Earth Structures Part I</p> <p>SC.4.E.6.2 - Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks</p> <ul style="list-style-type: none"> • SC.4.E.6.1 - Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure). (Assessed as SC.4.E.6.2) <p>SC.4.E.6.4 - Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).</p> <p>Big Idea 6: Earth Structures Part II</p> <p>SC.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.</p> <ul style="list-style-type: none"> • SC.4.E.6.6 - Identify resources available in Florida (water, phosphate, oil, limestone, silicon, 	<p>Rocks and Minerals</p> <ul style="list-style-type: none"> • rocks • minerals • properties used to classify minerals • properties of some common minerals <p>Weathering and Erosion</p> <ul style="list-style-type: none"> • weathering • soil • erosion • Activity 1: Stream Table <p>Renewable and Non-renewable Resources</p> <ul style="list-style-type: none"> • Activity 1: What Energy Do I Use? • Activity 2: How Much Energy Is Used In The U.S.? <p>ADDITIONAL ENRICHMENT, REMEDIATION, LANGUAGE ACQUISITION RESOURCES AVAILABLE ON:</p> <p style="text-align: center;">PSELL.ORG</p>	

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	wind, and solar energy). (Assessed as SC.4.E.6.3.)		
PHYSICAL SCIENCE			
Pacing: <u>15 days</u>	<p>Big Idea 8: Properties of Matter</p> <p>SC.5.P.8.1 Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature.</p> <p>SC.5.P.8.3 Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction.</p> <ul style="list-style-type: none"> SC.5.P.8.2 Investigate and identify materials that will dissolve in water and those that will not and identify the conditions that will speed up or slow down the dissolving process. (Assessed as SC.5.P.8.3) 	<p>Measurement</p> <p>Activity 1: How Can You Measure the Lengths of Objects?</p> <p>Activity 2: How Can You Measure Masses of Objects?</p> <p>Activity 3: How Can You Measure the Volume of Solids?</p> <p>Activity 4: How Can You Measure Different Water Temperatures?</p> <p>Three States of Matter</p> <p>Activity 5: Is It Matter?</p> <p>Mixtures</p> <p>Activity 6: Separating Salt, Sand, and Iron Filings</p>	<p>Chapter 5 - How Can You Describe Matter, Mixtures, and Solutions?(13-17 days)</p> <p>Teacher's Edition Nat. Geo- pgs 197e-244</p> <p>Science Inquiry and Writing Book - pgs 88-121</p> <p>Learning Masters- pgs 90-97</p> <p>Explore on Your Own- "What's the Matter?" T244a-T244h</p> <p>Assessment Handbook pgs 43-46</p> <p>Student Self-Assessment – pg 43</p> <p>Chapter Test- pgs 44-46</p> <p>Student Big Idea Book – pgs 228-229</p> <p>SC.5.N.2.2 Evidence is replicable</p> <p>SC.5.P.8.1 Properties of Matter</p> <p>SC.5.P.8.2 Solutions</p> <p>SC.5.P.9.1 Physical & Chemical Changes</p> <p>SC.5.P.8.3 Mixtures</p> <p>SC.5.P.8.4 Atoms</p>
Pacing: <u>6 days</u>	<p>Big Idea 9: Changes in Matter</p> <p>SC.5.P.9.1 Investigate and describe that many physical and chemical changes are affected by temperature.</p>	<p>Elements, Atoms, and Molecules</p> <p>Physical change</p> <p>Activity 1: Dissolving Sugar in Warm Water and Water at Room Temperature</p> <p>Chemical Change</p> <p>Activity 2: What Changes Occur When Vinegar and Baking Soda Combine?</p>	

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		What is Changing?	
<p>Pacing: <u>13 days</u></p>	<p>Big Idea 13: Forces and Changes in Motion</p> <p>SC.5.P.13.1 Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity on falling objects.</p> <p>SC.5.P.13.2 Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.</p> <ul style="list-style-type: none"> • SC.5.P.13.3 Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion. (Assessed as SC.5.P.13.2) • SC.5.P.13.4 Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced (Assessed as SC.5.P.13.2) 	<p>Exploring the Motion of Objects Activity 1: How Does Height Affect the Time an Object Travels?</p> <p>Magnetism Activity 2: What Happens When Magnets Come Together?</p> <p>Forces and Motion Activity (Inquiry 5): How Do Different Surfaces Affect Motion?</p>	<p>Chapter 6 - How Do You Describe Force and the Laws of Motion?(11-15 days)</p> <p>Teacher's Edition Nat. Geo- pgs T245-T276h Science Inquiry and Writing Book - pgs 85; 96-113 Learning Masters- pgs 98-110 Explore on Your Own- " Soaring with Science" TE pgs. T276a-T276h Student Self-Assessment – pg 47</p> <p>Chapter Test- pgs 48-50 Student Big Idea Book – pgs 264-265</p> <p><u>SC.5.N.1.1 Scientific Method and Inquiry Skills</u> <u>SC.5.N.2.1 Testable observations</u> <u>SC.5.P.13.1 Forces (Newton's 1st Law)</u> <u>SC.5.P.13.2 Applied force (Newton's 2nd Law)</u> <u>SC.5.P.13.3 Mass/motion (Newton's 3rd Law)</u> <u>SC.5.P.13.4 Unbalanced/Balanced Forces</u> <u>SC.5.N.1.6 Opinion/data</u></p>

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<p>Pacing: <u>22 days</u></p>	<p>Big Idea 10: Forms of Energy</p> <p>SC.5.P.10.1 Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical. AA</p> <p>SC.5.P.10.2 Investigate and explain that energy has the ability to cause motion or create change. AA</p> <p>SC.5.P.10.4 Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion. AA</p> <ul style="list-style-type: none"> • SC.5.P.10.3 Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects. (Assessed as SC.5.P.10.4) <p>Big Idea 11: Energy Transfer and Transformation</p> <ul style="list-style-type: none"> • SC.5.P.11.1 Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop). (Assessed as SC.5.P.10.4) • SC.5.P.11.2 Identify and classify materials that conduct electricity and materials that do not. (Assessed as SC.5.P.10.4) 	<p>Forms of Energy Activity 1: Finding Energy</p> <p>Light Energy Activity 2: Exploring the Bending of Light</p> <p>Sound Energy Activity 3: How Does Sound Travel through Different Materials?</p> <p>Electrical Energy Activity 4: Exploring Electrical Charges Activity 5: Exploring Electrical Energy</p> <p>Thermal Energy Stored Energy and Energy of Motion Activity 6: Transforming Potential to Kinetic Energy</p>	<p>Chapter 7-How Do You Describe Different Forms of Energy?(12-16 days)</p> <p>Teacher’s Edition Nat. Geo- pgs T277-T316 Science Inquiry and Writing Book - pgs 86; 114-121 Learning Masters- pgs 111-120 Student Self-Assessment – pg 51 Chapter Test- pgs 52-54 Student Big Idea Book – pgs 304-305</p> <p>SC.5.N.1.1 Scientific Method and Inquiry Skills SC.5.N.2.1 Testable observations SC.5.N.2.2 Evidence is replicable SC.5.P.10.1 Forms of Energy SC.5.P.10.2 Energy-motion or change SC.5.N.1.2 Experiments/ investigations SC.5.N.1.3 Repeated experiments SC.5.N.1.5 Scientific Inquiry</p> <p>Chapter 8- How Does Electrical Energy Flow and Transform?(13 -17 days)</p> <p>Teacher’s Edition Nat. Geo- pgs T317-T356h Science Inquiry and Writing Book - pgs 122-143 Learning Masters- pgs 121-134 Explore on Your Own- " Its Electrifying" TE pgs. T356b-T356h</p>
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