

Grade 4 Science Pacing Guide

Unit	Standard	Weeks
<p>Unit 1-Studying Science Key Vocabulary- Scientist, Science, Observation, Investigation, Hypothesis, Inference, Microscope, Pan Balance, Spring Scale, Data, Model, Two-dimensional Model, Three-dimensional, Computer Model</p> <p>Unit 2- Engineering Process Key Vocabulary- Engineering, Design, Prototype, Tool, Technology</p>	<p>4-ETS1-1; Define a simple design reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>4-ETS1-2; Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>4-ETS1-3; Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	1-8
<p>Unit 4-Energy and Ecosystems Key Vocabulary- Ecosystem, Community, Population, Habitat, Niche, Producer, Consumer, Decomposer, Food Chain, Herbivore, Carnivore, Omnivore, Food Web, Natural Resource, Renewable Resource, Non-renewable Resource, Pollution, Conservation, Endangered Species</p> <p>Unit 6- Earth and Space Key Vocabulary- Rotate, Axis, Orbit, Constellation, Moon Phases, Solar System, Planet</p>	<p>4.P.3 Recognize that energy takes various forms that may be grouped based on their interaction with matter.</p> <p>4.P.3.1 Recognize the basic forms of energy (light, sound, heat, electrical, and magnetic) as the ability to cause motion or create change.</p> <p>4.P.3.2 Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.</p> <p>4.E.1 Explain the causes of day and night and phases of the moon.</p> <p>4.E.1.1 Explain the cause of day and night based on the rotation of Earth on its axis.</p> <p>4.E.1.2 Explain the monthly changes in the appearance of the moon, based on the moon's orbit around the Earth</p>	9-18
<p>Unit 7- Properties of Matter Key Vocabulary- Matter, Physical, Property, Mass, Volume, Density, States of</p>	<p>4.P.2; Understand the composition and properties of matter before and after they undergo a change or interaction</p>	19-28

<p>Matter, Solid, Liquid, Gas, Change of State, Condensation, Evaporation</p> <p>Unit 8- Changes in Matter Key Vocabulary- Physical Change, Mixture, Solution, Chemical Property, Chemical Change, Chemical Reaction</p>	<p>4.P.2.1; Compare the physical properties of samples of matter (strength, hardness, flexibility, ability to attract heat, electricity, and other magnets, reactions to water and fire)</p> <p>4.P.2.2; Explain how minerals are identified using tests for physical properties of hardness, color, luster, streak, and cleavage.</p> <p>4.P.2.3; Classify rocks as metamorphic, sedimentary or igneous based on their composition, how they are formed and the process that creates them.</p>	
<p>Unit 9- Energy Key Vocabulary- Energy, Kinetic Energy, Potential Energy, Mechanical Energy, Chemical Energy, Electrical Energy, Heat, Conduction, Convection, Radiation, Conductor, Insulator</p> <p>Unit 11- Motion Key Vocabulary-Position, Motion, Speed, Velocity, Force, Acceleration</p>	<p>4.P.3 Recognize that energy takes various forms that may be grouped based on their interaction with matter.</p> <p>4.P.3.1 Recognize the basic forms of energy (light, sound, heat, electrical, and magnetic) as the ability to cause motion or create change.</p> <p>4.P.3.2 Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.</p> <p>4.P.1; Explain how various forces affect the motion of an object.</p> <p>4.P.1.1; Explain how magnets interact with all things made of iron and with other magnets to produce motion without touching them.</p> <p>4.P.1.2; Explain how electrically charged objects push or pull on other electrically charged objects and produce motion.</p>	<p>29-35</p>