

Berlin Brothersvalley School District
4th Grade Science
Year at a Glance

Course Description:

In this 4th grade science class, students explore the fascinating world of plants and animals, focusing on their structures, functions, and life cycles. They learn about the basic needs of plants, plant behaviors, and how animals process information through their senses. The curriculum also covers various body systems, including circulatory and digestive systems, highlighting the interconnectedness of living things and their environments.

Students delve into the concept of energy, studying its types, the Law of Conservation of Energy, and how energy transfers occur through collisions and waves, including sound and light. They investigate landforms, natural hazards like earthquakes and volcanoes, and the processes of weathering, erosion, and deposition. The class emphasizes human impact on Earth's resources, including pollution, mining, and deforestation, while also discussing renewable and non-renewable resources.

Lastly, students engage in problem-solving activities to understand societal issues, exploring agricultural and industrial effects, and considering various perspectives on human-made and natural tools. This hands-on approach encourages critical thinking and environmental awareness.

Units of Study	Concepts	Time	Standards
Life Science	The students will... - Plant structures and functions - Basic needs of plants - Plant behaviors - Plant reproduction - Different plant and animal Life Cycles - Animals take in information through internal and external senses that gets processed by the brain - Body Systems (Circulatory, Digestive, Respiratory, Nervous, Skin) - All living things impact their environment	9 weeks	3.1.4.A 3.1.4.B
Physical Science	The students will... - What energy is - Types of energy - Law of Conservation of Energy - Energy can move objects	12 weeks	3.2.4.A 3.2.4.B 3.2.4.C 3.2.4.D 3.5.3-5.N

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	• Energy can be transferred during collision of objects • Energy can be transferred from place to place by sound, light, heat, and electric currents. • The scientific method is used to design, test, and refine any ideas they are testing. • How to collect data to prove that energy can be transferred • Waves can cause objects to move. • Light • Light reflecting • light affects different objects • Eyes • Radios • Microwaves • Patterns transfer information		3.5.3-5.W 3.2.4.G 3.2.4.F
Earth and Space Science	The students will... • Landforms and how they change • Fossils • Weathering, erosion, and deposition • Continents • Natural Hazards (Earthquakes, Volcanoes, Tsunami) • Plate tectonics • Renewable Resources • Non-renewable resources • Fossil Fuels • Wind energy • Dams • Pollution due use of earth's resources • Human Impact affects earth's surfaces • Human dependence on Earth's resources • Mining • Deforestation • Water cycle • Topography and relief maps • Geosphere, Biosphere, atmosphere, hydrosphere	6 weeks	3.3.4.A 3.3.4.B 3.3.4.C 3.3.4.D 3.3.4.E

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Environmental Literacy & Sustainability	The students will... ● Problems that impact societies ● Solutions to reduce impacts ● Agricultural Effects	4 weeks	3.2.4.A 3.2.4.F 3.2.4.E 3.2.4.G 3.2.4.D
Technology & Engineering	The students will... ● Industry Effects ● Conflict of perspectives ● Human made and natural tools	5 weeks	3.5.3-5.I 3.5.3-5.AA 3.5.3-5.X 3.5.3-5.G

*Please visit pdesas.org for a complete list of standards taught in this course and for more information regarding PA State Standards for this course.