

**Berlin Brothersvalley School District  
Berlin Brothersvalley Elementary School  
Year at a Glance Curriculum**

**Science Department  
Science  
1st Grade**

**Course Description:** In first grade science, we will be learning about a variety of topics. Students will study how parent organisms and their offspring are alike and different and how the behaviors of parents and offspring influence the ability to survive. We will then investigate structures in organisms that help them survive as well as discover plant and animal traits that humans have mimicked in order to solve real-world problems. The class will compare environmental areas not only in our community but globally as well, and we will discuss how varying cultures have differing viewpoints about the environment and its use. In another unit of study, learners will manipulate light to demonstrate how the sun shines differently during various times of day and seasons of the year, and they'll also use light to illustrate the ways it interacts with varying materials. While working both as a team and individually, students will explore the capabilities of various materials as they design and engineer towers to meet specific criteria. Finally, learners will discover that sound travels in waves, causing vibrations, and they will design a device demonstrating that these waves can be used to communicate over a distance. Please see below for a concise outline of the course.

Units of Study	Competencies	Approximate Time Frame	Standards
Organisms	Students will be able to compare and contrast the external structures of organisms, analyze the traits of mature plants and animals vs. young plants and animals, explain the behaviors that may influence the survival of plant and animal offspring, brainstorm and list human inventions that mimic adaptations found in nature, and design a device that would solve a human problem by mimicking plants or animals.	9 weeks	3.1.1.A 3.1.1.B 3.1.1.C
Environment and Society and Environmental Experiences	Students will be able to compare and contrast views about nature and the environment, explain how they differ depending on a group's culture, and explain the importance of different environmental areas in the local community.	4.5 weeks	3.4.K-2.B 3.4.K-2.C
Light	Students will be able to demonstrate how objects can be seen when illuminated, create a diagram showing how the earth's rotation and position relative to the sun produce darkness and light, identify the location of the sun during various times of day, conduct an investigation to track the amount of daily sunlight during seasons of the	4.5 weeks	3.2.1.B 3.2.1.C 3.3.1.A 3.3.1.B

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	year, and label materials as either transparent, translucent, opaque, or reflective.		
Solids	Students will be able to sort material based upon their attributes, create a structure that meets a designated goal, judge which materials are best to meet different building goals, justify and critique their own materials used in the building of the structure with others, discuss how structures whether the same or different meet the designated goals, collaborate with peers on one design, and discover the qualities of different materials through play.	9 weeks	3.5.K-2.B 3.5.K-2.M 3.5.K-2.O 3.5.K-2.P 3.5.K-2.S 3.5.K-2.T 3.5.K-2.U 3.5.K-2.V 3.5.K-2.DD
Sound	Students will be able to demonstrate how sounds can cause materials to vibrate, investigate how vibrating materials can cause sound, and engineer a device that uses either sound or light to communicate over a distance.	9 weeks	3.2.1.A 3.2.1.D

\*Please visit [pdesas.org](http://pdesas.org) for a complete list of standards taught in this course and for more information regarding PA State Standards for this course.

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