

# Abington Heights School District

## Grade 1 Science, Technology & Engineering, and Environmental Literacy & Sustainability Curriculum



**Themes:**

- ★ Plants
- ★ Lights and Sound
- ★ Changing Seasons

Board Approval Date: April 3, 2024  
Review Date:

Adoption: 2024 - 2025 SY

## Grade 1 Science Curriculum Scope and Sequence

Month	Unit	Estimated Number of Weeks
September -December	Animal and Plant Defenses	12 weeks
January- March	Light and Sound	12 Weeks
April-June	Spinning Earth	12 Weeks

## Grade 1 Comet Connects Curriculum Scope and Sequence

Month	Unit	Estimated Number of Weeks
September	ENGINEERING: What is the engineering design process?	2 Weeks
October	TECHNOLOGY: How does technology make tasks easier to complete?	2 Weeks
November	ENGINEERING: What are challenges when implementing the engineer design process?	2 Weeks
December	TECHNOLOGY: How can you make a character move in a program? TECHNOLOGY: What are some internet safety practices you can use?	2 Weeks
January	ENGINEERING: What are challenges when implementing the engineer design process?	2 Weeks
February	TECHNOLOGY: How do robotics use block coding?	2 Weeks
March	TECHNOLOGY: How do robotics use block coding?	2 Weeks
April	ENGINEERING: What are the challenges when implementing the engineering design process?	2 Weeks
May	TECHNOLOGY: How are robotics able to move?	2 Weeks
June	<b>REVIEW:</b> Students will review coding and engineering skills taught throughout the year.	2 Weeks

AHSD Grade 1 Science Curriculum		Standards		Content		Skills		Activities		Assessment/ Evidence of Learning	
Month / Unit	Essential Questions	Standards	Content	Skills	Activities	Assessment/ Evidence of Learning					
Plants and Animals	How do the structures of organisms enable life's functions?	3.1.1.A Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.	All organisms have external parts. Different animals use their body parts in different way to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	<p><b>Constructing Explanations and Designing Solutions:</b> Use materials to design a device that solves a specific problem or a solution to a specific problem.</p> <p><b>Structure and Function:</b> The shape and stability of structures of natural and designed objects are related to their functions(s).</p> <p><b>Influence of Science, Engineering and Technology on Society and the Natural World:</b> Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world.</p>	Unit 1: Animal and Plant Defenses	<p><b>Animal and Plant Defenses (Grade 1)</b></p> <p>PRE: Lesson 1.1</p> <p>Activity 2 OTFA 1: Lesson 1.2</p> <p>Activity 1 OTFA 2: Lesson 1.3</p> <p>Activity 3 CJ 1: Lesson 1.5</p> <p>Activity 1 OTFA 4: Lesson 2.1</p> <p>Activity 2 OTFA 5: Lesson 2.2</p> <p>Activity 2 OTFA 6: Lesson 2.3</p> <p>Activity 2 OTFA 7: Lesson 2.4</p> <p>Activity 2 OTFA 8: Lesson 2.5</p> <p>Activity 1 OTFA 9: Lesson 2.6</p> <p>Activity 1 OTFA 10: Lesson 2.6</p> <p>Activity 2 CJ 2: Lesson 2.7</p> <p>Activity 1 OTFA 11: Lesson 3.2</p> <p>Activity 3 CJ 3: Lesson 3.3</p> <p>Activity 2 OTFA 14: Lesson 4.2</p> <p>Activity 2 EOU: Lesson 4.4, Activity 1 (S)</p> <p>PRE: Lesson 1.1, Activity 2</p> <p>CJ 1: Lesson 1.5, Activity 1</p> <p>TS: Lesson 3.5, Activity 2</p> <p>OTFA 14: Lesson 4.2, Activity 2</p>					
	How do organisms grow and develop?	3.1.1.B Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.	-Plants have a specific way of pollinating. Animals have offspring.	<p><b>Obtaining, Evaluating, and Communicating Information:</b> Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.</p> <p><b>Connections to Nature of Science:</b> Scientists look for patterns and order when making observations about the world.</p> <p><b>Pattern:</b> Patterns in the natural and human design world can be observed, used to describe phenomena, and used as evidence.</p>	Unit 1: Animal and Plant Defenses	<p><b>Animal and Plant Defenses (Grade 1)</b></p> <p>PRE: Lesson 1.1</p> <p>Activity 2 OTFA 12: Lesson 3.4</p> <p>Activity 1 TS: Lesson 3.5</p> <p>Activity 2</p>					
	How are the characteristics of one generation related to the previous generation?	3.1.1.C Make observations to construct an evidencebased account that young plants and animals are like, but not exactly like, their parents.	Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.	<p><b>Constructing Explanations and Designing Solutions:</b> Make observations ( firsthand or from media) to construct and evidence-based account for natural phenomena.</p> <p><b>Patterns:</b> Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.</p>	Unit 1: Animal and Plant Defenses	<p><b>Animal and Plant Defenses (Grade 1)</b></p> <p>PRE: Lesson 1.1</p> <p>Activity 2 CJ 3: Lesson 3.3</p> <p>Activity 2 EOU: Lesson 4.4</p> <p>Activity 1 (S)</p> <p>PRE: Lesson 1.1, Activity 2</p> <p>CJ 3: Lesson 3.3, Activity 2</p> <p>EOU: Lesson 4.4, Activity 1 (S)</p>					

AHSD Grade 1 Science Curriculum		Assessment / Evidence of Learning	
Month / Unit	Essential Questions	Standards	Content
		Skills	Activities
Light and Sound	What are the characteristic properties and behaviors of waves?	3.2.1.A Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	Some materials allow light to pass through them, others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam.
	What is light? How can one explain the varied effects that involve light? What other forms of electromagnetic radiation are there?	3.2.1.B Make observations to construct an evidence based account that objects can be seen only when illuminated.	Objects can be seen if light is available to illuminate them or if they give off their own light.
	How are instruments that transmit and detect waves used to extend human senses?	3.2.1.D Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.	People also use a variety of devices to communicate (send and receive information) over long distances.
		<p><b>Planning and Carrying Out Investigations:</b> Plan and conduct investigations collaboratively to produce evidence to answer a question.</p> <p><b>Cause and Effect:</b> Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p> <p><b>Construct Explanations and Designing Solutions:</b> Make observations ( firsthand or from media) to construct and evidence-based account for natural phenomena.</p> <p><b>Cause and Effect:</b> Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p>	<p><b>Light and Sound (Grade 1)</b>                      INV: Lesson 4.1                      Activity 3 (S) OTFA 10: Lesson 4.2                      Activity 2 OTFA 11: Lesson 4.2                      Activity 3 OTFA 13: Lesson 4.3                      Activity 4 CJ 4: Lesson 4.4                      Activity 2 OTFA 14: Lesson 4.5                      Activity 3</p> <p><b>Light and Sound (Grade 1)</b>                      PRE: Lesson 1.1                      Activity 1 CJ 1: Lesson 1.5                      Activity 1 CJ 2: Lesson 2.4                      Activity 2 CJ 3: Lesson 3.4                      Activities 2 + 3 OTFA 14: Lesson 4.5                      Activity 3 EOU: Lesson 4.6                      Activity 1 (S) Spinning Earth (Grade 1)                      OTFA 3: Lesson 1.4                      Activity 3 CJ 1: Lesson 1.5                      Activity 2</p>
		<p><b>Planning and Carrying Out Investigations:</b> Plan and conduct investigations collaboratively to produce evidence to answer a question.</p> <p><b>Cause and Effect:</b> Simple tests can be designed to gather evidence to support or refute student ideas about causes.</p>	<p><b>Light and Sound (Grade 1)</b>                      PRE: Lesson 1.1                      Activity 1 OTFA 4: Lesson 2.1                      Activity 4 OTFA 5: Lesson 2.2                      Activity 3 OTFA 6: Lesson 2.3                      Activity 2 CJ 2: Lesson 2.4                      Activity 2 OTFA 8: Lesson 3.2                      Activity 1 CJ 3: Lesson 3.4                      Activities 2 + 3 OTFA 14: Lesson 4.5                      Activity 3 EOU: Lesson 4.6                      Activity 1 (S)</p>
		<p><b>Constructing Explanations and Designing Solutions:</b> Use tools and materials provided to design a device that solves a specific problem.</p> <p><b>Influence of Engineering, Technology, and Science, on Society and the Natural World:</b> People depend on various technologies in their lives; human life would be very different without technology.</p>	<p><b>Light and Sound (Grade 1)</b>                      TS: Lesson 4.1                      Activity 3 TS: Lesson 4.5                      Activity 4</p>

AHSD Grade 1 Science Curriculum		Assessment / Evidence of Learning		
Month / Unit	Essential Questions	Standards	Content	
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Earth	What is the universe, and what is Earth's place in it? What is the universe, and what goes on in stars?	3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted.	<p>Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.</p> <p><b>Analyzing and Interpreting Data:</b> Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.</p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems:</b> Science assumes natural events happen today as they happened in the past. Many events are repeated.</p>	<p>Unit 3: Spinning Earth</p> <p><b>Spinning Earth (Grade 1)</b>                      PRE: Lesson 1.1                      Activity 3 OTEA 2: Lesson 1.3                      Activity 1 OTEA 3: Lesson 1.4                      Activity 3 CJ 1: Lesson 1.5                      Activity 2 OTEA 6: Lesson 2.3                      Activity 4 CJ 2: Lesson 2.4                      Activity 1 OTEA 10: Lesson 3.5                      Activity 1 CJ 3: Lesson 3.6                      Activity 2 OTEA 13: Lesson 4.3                      Activity 4 CJ 4: Lesson 4.4                      Activity 5 EOU: Lesson 5.3                      Activity 1 (S)</p>
	3.3.1.B Make observations at different times of year to relate the amount of daylight to the time of year.	<p>Seasonal patterns of sunrise and sunset can be observed, described, and predicted.</p> <p><b>Planning and Carrying Out Investigations:</b> Make observations (firsthand or from media) to collect data that can be used to make comparisons.</p> <p><b>Patterns:</b> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p>	<p>Unit 3: Spinning Earth</p> <p><b>Spinning Earth (Grade 1)</b>                      PRE: Lesson 1.1                      Activity 3 TS: Lesson 5.1                      Activity 3</p>	