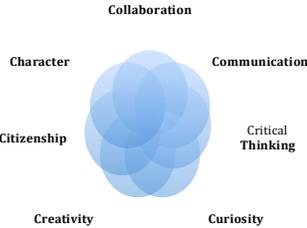


Content Area: Science	Course: Grade 1 Science	Grade Level: First
	R14 The Seven Cs of Learning 	
Unit Titles	Length of Unit	
<ul style="list-style-type: none"> • Waves, Light and Sound 	<ul style="list-style-type: none"> • 8-10 weeks 	
<ul style="list-style-type: none"> • Structure, Function, and Information Processing 	<ul style="list-style-type: none"> • 8-10 weeks 	
<ul style="list-style-type: none"> • Space Systems 	<ul style="list-style-type: none"> • 8-10 weeks 	



Strands	Course Level Expectations
Physical Sciences	<ul style="list-style-type: none"> • Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate • Make observations to construct an evidence-based account that objects can be seen only when illuminated. • Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light • Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance
Life Sciences	<ul style="list-style-type: none"> • 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. • Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. • Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
Earth and Space Sciences	<ul style="list-style-type: none"> • Use observations of the sun, moon, and stars to describe patterns that can be predicted. • Make observations at different times of year to relate the amount of daylight to the time of year.

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Unit Title	Waves, Light and Sound	Length of Unit	8-10 weeks
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Inquiry Questions (Engaging & Debatable)	<ul style="list-style-type: none"> • What happens when materials vibrate? • What happens when there is no light?
Standards*	1-PS4-1, 1-PS4-2, 1-PS4-3, 1-PS4-4, ETS1-1, ETS1-3
Unit Strands & Concepts	<p>DISCIPLINARY CORE IDEAS (DCI):</p> <ul style="list-style-type: none"> • Wave Properties <p>Electromagnetic Radiation</p> <p>Cross Cutting Concepts (CCC)</p> <ul style="list-style-type: none"> • Cause and Effect
Key Vocabulary	Sound, Light, Vibration, Illuminate, Matter, Shadow, Device Data, Observations, Conclusions

*Standards based on the Next Generation Science Standards (NGSS) and the National Research Council (NRC)

For more information visit: <http://portal.ct.gov/SDE/Science/Science-Standards-and-Resources>

Unit Title	Waves, Light and Sound	Length of Unit	-10 Weeks
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Critical Content: My students will Know ...	Key Skills: My students will be able to (Do)...
<ul style="list-style-type: none"> • Sound can make matter vibrate, and vibrating matter can make sound. • Objects can be seen if light is available to illuminate them or if they give off their own light. • Some materials allow light to pass through them, others allow only some light through and 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. • People use a variety of devices to communicate(send and receive information) over long distances. 	<ul style="list-style-type: none"> • Synthesize experimental evidence in order to prove that vibrating materials can make sound and that sound can make materials vibrate. • Justify using evidence that objects can be seen only when illuminated. • Determine the effect of placing objects made with different materials in the path of a beam of light. • Design and build a device that uses light or sound to solve the problem of communicating over a distance.

Assessments:	Performance Task(s) focused on demonstrating an understanding of how sound is produced, how different materials interact with light, and how light and/or sound can be used in communication over long distances
Teacher Resources:	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools

Unit Title	Structure, Function, and Information Processing	Length of Unit	8-10 weeks
Inquiry Questions (Engaging & Debatable)	<ul style="list-style-type: none"> • What are some ways plants and animals meet their needs? • How are parents and their children similar and different? 		
Standards	1-LS1-1, 1-LS1-2, 1-LS3-1, ETS1-2		
Unit Strands & Concepts	<p>DISCIPLINARY CORE IDEAS (DCI):</p> <ul style="list-style-type: none"> • Structure and Function • Growth and Development of Organisms • Information Processing • Inheritance Traits • Variation of Traits <p>Cross Cutting Concepts (CCC)</p> <ul style="list-style-type: none"> • Patterns • Structure and Function 		
Key Vocabulary	External Parts, needs, Offspring, Inputs, Traits, Similar, Data, Observations		

Unit Title	Structure, Function, and Information Processing	Length of Unit	8-10 weeks
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Critical Content: My students will Know...	Key Skills: My students will be able to (Do)...
<ul style="list-style-type: none"> • All organisms have external parts. • Different animals use their body parts in different ways 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. • 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. • Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. • Plants also respond to some external inputs • Young animals are very much, but not exactly, like their parents. • Plants also are very much, but not exactly, like their parents. • Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. 	<ul style="list-style-type: none"> • 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 • Determine and analyze patterns in behavior of parents and offspring that help offspring survive. • Construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Assessments:	Performance Task(s) focused on demonstrating an understanding of how plants and animals use their external parts to help them meet their needs, the relationship and interaction between parents and offspring, similarities and differences in traits between parents and offspring
Teacher Resources:	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools

Unit Title	Space Systems	Length of Unit	8-10 weeks
Inquiry Questions (Engaging & Debatable)	<ul style="list-style-type: none"> • What objects are in the sky and how do they seem to move? • Is there a relationship between amount of daylight and the time of year? 		
Standards*	1-ESS1-1, 1-ESS1-2		
Unit Strands & Concepts	<p>DISCIPLINARY CORE IDEAS (DCI):</p> <ul style="list-style-type: none"> • The Universe and its Stars • Earth and the Solar System <p>Cross Cutting Concepts (CCC)</p> <ul style="list-style-type: none"> • Patterns 		
Key Vocabulary	Sun, Moon ,Stars, Daylight, Orbits, Seasons, Data, Observations, Predications		

Unit Title	Processes That Shape the Earth	Length of Unit	8-10 weeks
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Critical Content: My students will Know...	Key Skills: My students will be able to (Do)...
<ul style="list-style-type: none"> Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted (ex. sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day). Seasonal patterns of sunrise and sunset can be observed, described, and predicted 	<ul style="list-style-type: none"> Use observational data to describe patterns of movement of the sun, moon, and stars Analyze observations in order to relate the amount of daylight to the time of year (seasonal patterns).

Assessments:	Performance Task(s) focused on demonstrating an understanding of seasonal patterns, and patterns of movement between the moon, sun, and stars
Teacher Resources:	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools