

# Next Generation Science Standards



## Aligned to Rourke Dual Language Science Titles Grade 1



## Rourke Science Titles Aligned to the Science Next Generation Standards (Grade 1)

### Introduction

#### First Grade

The performance expectations in first grade help students formulate answers to questions such as:

- What happens when materials vibrate?
- What happens when there is no light?
- What are some ways plants and animals meet their needs so that they can survive and grow?
- How are parents and their children similar and different?
- What objects are in the sky and how do they seem to move?

First grade performance expectations include PS4, LS1, LS3, and ESS1 Disciplinary Core Ideas from the NRC Framework. Students are expected to develop understanding of the relationship between sound and vibrating materials as well as between the availability of light and ability to see objects. The idea that light travels from place to place can be understood by students at this level through determining the effect of placing objects made with different materials in the path of a beam of light.

Students are also expected to develop understanding of how plants and animals use their external parts to help them survive, grow, and meet their needs as well as how behaviors of parents and offspring help the offspring survive. The understanding is developed that young plants and animals are like, but not exactly the same as, their parents. Students are able to observe, describe, and predict some patterns of the movement of objects in the sky.

The crosscutting concepts of patterns; cause and effect; structure and function; and influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas.

In the first grade performance expectations, students are expected to demonstrate grade-appropriate proficiency in planning and carrying out investigations, analyzing and interpreting data, constructing explanations and designing solutions, and obtaining, evaluating, and communicating information. Students are expected to use these practices to demonstrate understanding of the core ideas.

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Waves: Lights and Sounds**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-PS4-1. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.</b></p> <p>[Clarification Statement: Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.]</p>	<p><i>Listen to This</i></p>	<p>9781595152718</p>	<p>300</p>
	<p><i>Escuchen esto</i></p>	<p>9781600448843</p>	<p>350</p>
	<ul style="list-style-type: none"> <li>This book describes how sounds are made, volume, pitch, and vibrations.</li> </ul>		
	<p><b><i>Science Secrets: Sounds</i></b></p> <p>¿Como puedo experimentar con el sonido?</p> <ul style="list-style-type: none"> <li>This book describes sound waves and vibrations.</li> </ul>	<p>9781627172455</p>	<p>450</p>
		<p>9781627172462</p>	<p>500</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Waves: Lights and Sounds (Cont.)**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-PS4-2. Make observations to construct an evidence-based account that objects can be seen only when illuminated.</b></p> <p>[Clarification Statement: Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.]</p>	<p><i>Me and My Shadow: A Book About Light</i>  <i>Mi sombra y yo: Un libro sobre la luz</i></p> <ul style="list-style-type: none"> <li>This book focuses on shadows and how they are formed. Early readers learn how some objects block light, while light shines through others.</li> </ul>	<p>9781617419430            9781612369174</p>	<p>300            350</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Waves: Lights and Sounds (Cont.)**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-PS4-3. Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.</b></p> <p>[Clarification Statement: Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).] [Assessment Boundary: Assessment does not include the speed of light.]</p>	<p><i>You are a Scientist</i> <i>Eres un científico</i></p> <ul style="list-style-type: none"> <li>Focuses on the nature of science, describing how to observe carefully and then accurately report the findings.</li> </ul> <p><i>Science Secrets: Light</i> <i>Secretos de la ciencia: La luz</i></p> <ul style="list-style-type: none"> <li>This book describes light and its sources.</li> </ul>	<p>9781595152978 9781600444586</p> <p>9781589527775 9781627172479</p>	<p>600 625</p> <p>450 500</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Waves: Lights and Sounds (Cont.)**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.</b></p> <p>[Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats.] [Assessment Boundary: Assessment does not include technological details for how communication devices work.]</p>	<p><i>How Can I Experiment with Light?</i>  <i>¿Como puedo experimentar con la luz?</i></p> <ul style="list-style-type: none"> <li>This book describes light and its sources.</li> </ul>	<p>9781589520349 9781627172486</p>	<p>675 700</p>
	<p><i>How Can I Experiment with Sound?</i>  <i>¿Como puedo experimentar con el sonido?</i></p> <ul style="list-style-type: none"> <li>This book describes sound vibrations.</li> </ul>	<p>9781589520424 9781627172493</p>	<p>675 700</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Structure, Function, and Information Processing**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-LS1-1. 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.</b></p> <p>[Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]</p>	<p><i>Let's Classify Animals</i> <i>¡Vamos a clasificar animales!</i></p> <ul style="list-style-type: none"> <li>This book explores different species of animals and identifies characteristics scientists use to classify them into groups.</li> </ul>	<p>9781617419577 9781612369303</p>	<p>550 600</p>
	<p><i>Plant Life Cycles</i> <i>El ciclo de vida de las plantas</i></p> <ul style="list-style-type: none"> <li>This book describes the life cycle of a plant.</li> </ul>	<p>9781617419362 9781612369105</p>	<p>350 400</p>
	<p><i>How do Animals Use their Flippers</i> <i>¿Como usan los animales sus aletas?</i></p> <ul style="list-style-type: none"> <li>This book describes how animals use their external parts.</li> </ul>	<p>9781604728231 9781627172516</p>	<p>BR</p>
	<p><i>Plant Adaptations</i> <i>Adaptaciones de las plantas</i></p> <ul style="list-style-type: none"> <li>This book describes the ways plants adapt to their environment in order to survive.</li> </ul>	<p>9781617419379 9781612369112</p>	<p>250 300</p>
	<p><i>Animal Adaptations</i> <i>Adaptaciones de los animales</i></p> <ul style="list-style-type: none"> <li>This book describes many ways that animals have adapted their appearance and behavior in order to survive.</li> </ul>	<p>9781617419355 9781612369099</p>	<p>200 250</p>
	<p><i>Animal Covers</i> <i>Las cubiertas protectoras de los animales</i></p> <ul style="list-style-type: none"> <li>This book teaches how an animal's outer covering can protect them from predators. In addition, the book discusses some uses humans</li> </ul>	<p>9781595152541 9781600448676</p>	<p>250 300</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

	<p>have for animal skin and fur.</p> <p><b><i>Camouflage and Disguise</i></b> <i>Camuflaje y disfraz</i></p> <ul style="list-style-type: none"> <li>This book teaches how animals stay alive by hiding from their predators.</li> </ul>	<p>9781595155320</p> <p>9781627172509</p>	<p>450</p> <p>500</p>
--	---	---	-----------------------



Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Structure, Function, and Information Processing (Cont.)**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.</b></p> <p>[Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).]</p>	<p><i>Animal Lives</i> <i>Las vidas de los animales</i></p> <ul style="list-style-type: none"> <li>On the science of animals, comparing the life cycle of animals to that of humans.</li> </ul>	<p>9781595152947 9781600444531</p>	<p>500 550</p>
<p><b>1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</b></p> <p>[Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like).</p>	<p><i>Who Do I Look Like? A Book about Animal Babies</i> <i>¿A quien me parezco? Un libro sobre los animales bebes</i></p> <ul style="list-style-type: none"> <li>Learn how some offspring look similar to their parents while others do not.</li> </ul> <p><i>Mammal Moms and their Young</i> <i>Mamás mamíferos y sus crías</i></p> <ul style="list-style-type: none"> <li>This book explores a familiar component of the living environment — animals and their young — and introduces the names for mother-offspring pairs.</li> </ul>	<p>9781617419218  9781612368962  9781595152480 9781600448614</p>	<p>75  100  100 150</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Space Systems: Patterns and Cycles**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.</b></p> <p>[Clarification Statement: Examples of patterns could include that the 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.]</p> <p>[Assessment Boundary: Assessment of star patterns is limited to stars being seen at night and not during the day.]</p>	<p><i><b>Our Solar System</b></i> <i>El Sistema Solar</i></p> <ul style="list-style-type: none"> <li><i>An overview of our Solar System.</i></li> </ul>	<p>9781627171687 9781627171694</p>	
	<p><i><b>Sun</b></i> <i>El Sol</i></p> <ul style="list-style-type: none"> <li>This book describes characteristics of the Sun and the role it plays in the solar system as well as how it is the principle energy source for plant life.</li> </ul>	<p>9781604729597 9781627172523</p>	<p>250 350</p>
	<p><i><b>Moon</b></i> <i>La Luna</i></p> <ul style="list-style-type: none"> <li>This book describes many characteristics of the Moon and the differences and similarities to Earth. The book also describes astronauts and their relationship to the Moon.</li> </ul>	<p>9781604729559 9781627172530</p>	<p>250 300</p>
	<p><i><b>Stars</b></i> <i>La Estrella</i></p> <ul style="list-style-type: none"> <li>This book describes characteristics of stars including our closest star, the Sun.</li> </ul>	<p>9781604729580 9781627173216</p>	<p>200 250</p>

Rourke Science Titles Aligned to the Science Next Generation Standards  
(Grade 1)

**Space Systems: Patterns and Cycles**

Science Next Generation Standards	Book Title	ISBN Number	Comparative Measure Level
<p><b>1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.</b></p> <p>[Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.]</p> <p>[Assessment Boundary: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.]</p>	<p><i>Earth is Tilting!</i></p>	<p>9781617419522</p>	<p>550</p>
	<p><i>¡La Tierra esta inclinada!</i></p>	<p>9781612369259</p>	<p>600</p>
	<ul style="list-style-type: none"> <li>This book looks at the rotation and orbit of the Earth and how that affects day, night, and the seasons.</li> </ul>		
	<p><i>Seasons of the Year</i></p>	<p>9781595152961</p>	<p>625</p>
	<p><i>Las estaciones del año</i></p>	<p>9781600444555</p>	<p>675</p>
	<ul style="list-style-type: none"> <li>This book describes the four seasons and weather changes throughout the year.</li> </ul>		
	<p><i>One Spring Day and Night</i></p>	<p>9781595152732</p>	<p>350</p>
	<p><i>La primavera de día y de noche</i></p>	<p>9781600448874</p>	<p>400</p>
	<ul style="list-style-type: none"> <li>This book presents the attributes of dawn, morning, midday, afternoon, evening, dusk, and night.</li> </ul>		