



## Space Racers™ Educational Resources Overview Chart

### Lesson Plans

Lesson Title	Description	Related Episodes	Learning Goals	Educational Objectives from Space Racers Curriculum
<b>A Team Approach</b>	Students work together to complete tasks, including building a tower and guiding blindfolded teammates to gather specific items.	Dodo in Distress (Episode 46) Mine, Mine, Mine! (Episode 36)	<ul style="list-style-type: none"> <li>Describe the importance of working with others to achieve a desired goal.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>Observation</li> <li>A Team Approach</li> </ul>
<b>Cosmic Craters</b>	Students learn about craters and conduct experiments to explore what might cause craters to vary in size and shape. Students create their own clay craters.	“How a Crater is Formed” Segment Cranberry Crater (Episode 40)	<ul style="list-style-type: none"> <li>Describe what a crater is and how it is formed.</li> <li>Make predictions about what will happen in an experiment.</li> <li>Observe and discuss the findings of an experiment.</li> <li>Compare and contrast different results.</li> <li>Explain that larger objects create larger craters.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>Exploration &amp; Investigation</li> <li>Observation</li> <li>Experimentation</li> </ul>
<b>Marble Racers</b>	Students create racetracks for marbles, and experiment with ways to improve the way the marbles travel along the course. They make predictions, modify their designs, and test their results.	Careering Off Course (Episode 8)	<ul style="list-style-type: none"> <li>Make a prediction or hypothesis.</li> <li>Understand how to make changes to an experiment in order to achieve desired results.</li> <li>Observe, discuss, compare and contrast results.</li> <li>Understand that changes in angles can cause objects to fall at different speeds.</li> <li>Describe the impact that different changes have on results.</li> <li>Describe and present findings.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>Exploration &amp; Investigation</li> <li>Observation</li> <li>Experimentation</li> </ul>
<b>Moon Phases</b>	Students explore the phases of the moon through a variety of hands-on activities, including making their own moon flipbooks and cookie moons.	Staring Discovers the Moon (Episode 18)	<ul style="list-style-type: none"> <li>Describe the fact that the moon has different phases.</li> <li>Explain that the moon looks different to us on different days throughout the month.</li> <li>Discuss the different ways the moon looks throughout the month.</li> <li>Explain that phases of the moon make it look a little different every day, but it looks the same again about every four weeks.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>Observation</li> </ul> <b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>Moon</li> </ul>
<b>Planet Jumble</b>	Students learn the names of the planets in the solar system and play a fun game where they explore the order of the planets.	Where Are We? (Episode 3)	<ul style="list-style-type: none"> <li>Name the planets in the solar system.</li> <li>Identify the correct order of the planets and sun.</li> </ul>	<b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>Sun</li> <li>Planets</li> <li>The Solar System</li> </ul>
<b>Revolving Planets</b>	Students explore how planets revolve around the sun and play a game where students take on the roles of different planets, with one student being the sun and others being the planets that orbit the sun.	Here Comes the Sun (Episode 49)	<ul style="list-style-type: none"> <li>Describe that the Earth revolves around the sun.</li> <li>Understand that all of the planets in the solar system revolve around the sun.</li> <li>Know that all eight planets revolve around the sun.</li> <li>Explain that the closer the planet is to the sun, the faster it orbits the sun.</li> </ul>	<b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>Planets</li> <li>The Solar System</li> </ul>

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<b>Roll, Pitch, Yaw</b>	Students “fly” through the room, as they learn the flight terms “roll,” “pitch” and “yaw.”	“How to Fly” Segment	<ul style="list-style-type: none"> <li>• Explain the different ways a plane can move.</li> <li>• Provide the definitions of “roll,” “pitch,” and “yaw.”</li> </ul>	<b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>• Space Flight/ Aeronautics</li> </ul>
<b>Sensory Detectives</b>	Students gather clues about objects by using different senses. Students use a combination of two or more senses to identify different everyday objects.	Vulture’s Volcano (Episode 27)	<ul style="list-style-type: none"> <li>• Use senses to identify everyday items.</li> <li>• Gain more complete information about an object by using two or more senses than by using only one.</li> <li>• Know what type of information they can gain from each sense and how they can combine the information gathered to gain a fuller understanding.</li> <li>• Describe how each sense can help them understand something in a different way.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Observation</li> </ul>
<b>Shadow Time</b>	Students explore shadows through a series of fun hands-on activities and experiments.	Sick Day (Episode 39)	<ul style="list-style-type: none"> <li>• Describe what a shadow is.</li> <li>• Understand that larger objects make larger shadows and smaller objects make smaller shadows when the objects are placed the same distance away from a light source.</li> <li>• Explain that if an object moves closer to a light source, its shadow becomes larger.</li> <li>• Make predictions about what will happen in an experiment.</li> <li>• Discuss how shadows are formed.</li> <li>• Discuss observations about shadows cast by objects indoors, as well as outside.</li> <li>• Compare and contrast different results.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Exploration &amp; Investigation</li> <li>• Observation</li> <li>• Experimentation</li> </ul>
<b>Shape Adventures</b>	Students explore shapes through a variety of activities, including a shape-sorting game, scavenger hunt, shape of the day explorations, and their own homemade shape books.	A Simple Request (Episode 11)	<ul style="list-style-type: none"> <li>• Recognize and name different shapes.</li> <li>• Identify different shapes that they see in their classroom and beyond.</li> <li>• Discuss characteristics of different shapes.</li> <li>• Draw different shapes.</li> <li>• Compare and contrast different shapes.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Exploration &amp; Investigation</li> <li>• Observation</li> </ul>
<b>The Bounciest Ball Experiment</b>	Students conduct a series of experiments with different balls to observe which bounce the highest and to see how they could make balls bounce higher.	The Hawk Factor (Episode 22)	<ul style="list-style-type: none"> <li>• Explain how to conduct an experiment and describe the steps involved.</li> <li>• Compare and contrast different objects.</li> <li>• Use a chart to record results.</li> <li>• Discuss findings from an experiment.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Exploration &amp; Investigation</li> <li>• Observation</li> <li>• Experimentation</li> </ul>
<b>The Right Tools for the Task</b>	Students play a game where they decide what tools to use to successfully complete specific tasks. The lesson also includes a game where everyone has a picture of an object taped to his/her back and has to ask questions to find out what is on the card.	Vulture’s Statue (Episode 16)	<ul style="list-style-type: none"> <li>• Define what a tool is.</li> <li>• Describe several different tools and how they can be used.</li> <li>• Explain that different tools have different uses.</li> <li>• Discuss that tools make it easier for us to do things and help us do things we might not be able to do without them.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Tools</li> </ul>
<b>Topsy Turvy Fieldtrip</b>	Students decide what to take on a field trip, and learn the importance of working with others to achieve a goal.	Mine, Mine, Mine! (Episode 36)	<ul style="list-style-type: none"> <li>• Describe the importance of working with others to achieve a desired goal.</li> <li>• Learn what objects work best in different situations.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Tools</li> <li>• A Team Approach</li> </ul>

Family Activities

Family Activity	Description	Related Episodes	Learning Goals	Educational Objectives from Space Racers Curriculum
<b>Moon Time</b>	In this activity, families explore the phases of the moon and record their observations on a chart, play with moon phase cards, and create their own flipbooks.	Starling Discovers the Moon (Episode 18)	Understand the following: <ul style="list-style-type: none"> <li>• The moon looks different to us on different days throughout the month.</li> <li>• The moon has different phases.</li> <li>• The phases of the moon make it look a little different every day, but it looks the same again about every four weeks.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Observation</li> </ul> <b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>• Moon</li> </ul>
<b>Shape Explorers</b>	Families become shape explorers and use Space Racers “Shape Cards” to find shapes in their home and community by going on a shape scavenger hunt, playing shape travel bingo, and creating their own shape books.	A Simple Re-Quest (Episode 11)	<ul style="list-style-type: none"> <li>• Recognize, identify, and name different shapes.</li> <li>• Identify different shapes in objects seen in daily life.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Exploration &amp; Investigation</li> <li>• Observation</li> </ul>
<b>Sky Patterns</b>	This activity encourages families to observe patterns made by stars in the sky, and connect the dots and color in drawings of constellations in the Space Racers “Connect-the-Constellations Coloring Sheets.”	Star Signs (Episode 21) “Star Signs” Music Video “Create a Constellation” Segment	Be aware of the following: <ul style="list-style-type: none"> <li>• There are many stars in the sky at night.</li> <li>• When looking at stars, you can see different patterns.</li> <li>• A constellation is a group of stars that seem to make a picture in the sky.</li> <li>• People, a long time ago, named the constellations to help explorers find their way.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Observation</li> </ul> <b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>• Stars</li> </ul>
<b>Sun and Planets Matching Game</b>	This is a matching game, featuring cards with images of the sun and planets.	Where Are We? (Episode 3)	<ul style="list-style-type: none"> <li>• Identify images that look alike.</li> <li>• Learn that there are 8 planets and one sun.</li> <li>• Know the names of each of the planets.</li> </ul>	<b>Scientific Inquiry:</b> <ul style="list-style-type: none"> <li>• Observation</li> </ul> <b>Key Facts about Space &amp; Space Exploration:</b> <ul style="list-style-type: none"> <li>• Sun</li> <li>• Planets</li> <li>• The Solar System</li> </ul>