

# Blackhawk School District

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## CURRICULUM

Course Title:	Science
Grade Level(s):	Second
Length of Course:	11 lessons throughout the year
Faculty Author(s):	Lori Uslenghi/Carol Durham
Date:	February 2014

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### MISSION STATEMENT:

The goal of science education is to develop within students an understanding of the world around us by fostering curiosity, developing inquiry skills, and creating an excitement for learning science.

### COURSE DESCRIPTION:

Science in second grade will be taught through the realm of reading. Authentic children's literature selections will be used to address district and state standards. Some areas covered through common lessons are life, physical and earth science. Topics include life cycle, nutrition, and solar systems.

The following outline provides a general overview of the course content, not a chronological timetable. The weeks denoted for each area provide an idea for the overall time spent working with a given topic throughout the school year.

Course Outline	PA Core Standards	Approx. Pacing	Assessment Options	Suggested Resources
<p><i>First Quarter</i></p> <p><b>Matter and Its Interactions</b></p> <p>Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg, freezing a plant leaf, and heating paper.</p> <p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• Will heating and cooling a substance cause changes that can be observed?</li> </ul>	<p><b>3.2.2.A3:</b> Demonstrate how heating and cooling may cause changes in the properties of materials.</p> <hr/>			<p><i>Energy All Around</i> (Big Book Science)</p> <p><a href="http://www.edsb.gb">www.edsb.gb</a></p>

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<p><i>Second Quarter</i></p> <p><b>Earth's Place in the Universe</b></p> <p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• How do the earth, sun, and moon move in our solar system?</li> <li>• Which events happen quickly on earth and which happen slowly? (i.e. volcanoes, earthquakes, rock erosion)</li> </ul>	<p><b>3.3.2.B1:</b></p> <p>Observe and record location of the Sun and the Moon in the sky over a day, changes in the appearance of the Moon over a month.</p> <p>Observe, describe, and predict seasonal patterns of sunrise and sunset.</p> <hr/>			<p><i>Our Solar System</i>_(Big Book Science)</p> <p><a href="http://planetsforkids.org">planetsforkids.org</a></p> <p><i>Earth Rocks</i> (Big Book Science)</p> <p><a href="http://www.learn360.com">www.learn360.com</a></p> <p><a href="http://rocksforkids.com">rocksforkids.com</a></p> <p><a href="http://www.science.nationalgeographic.com">www.science.nationalgeographic.com</a></p>

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<p><i>Third Quarter</i></p> <p><b>Ecosystems: Energy, Interactions, and Dynamics</b></p> <p>Plan and conduct an investigation to determine if plants need sunlight and water to grow.</p> <p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• What are the strengths and weaknesses of different forms of communication? (phone call, email, text messaging, face time)</li> <li>• Do plants need sunlight and water to grow?</li> </ul>	<p><b>3.1.2.C4:</b></p> <ul style="list-style-type: none"> <li>• Distinguish between scientific fact and opinion.</li> <li>• Ask questions about objects, organisms, and events.</li> <li>• Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known.</li> <li>• Plan and conduct a simple investigation and understand that different questions require different kinds of investigations.</li> <li>• Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their senses to gather information.</li> <li>• Use data/evidence to construct explanations and understand that scientists develop explanations based on their evidence and compare them with their current scientific knowledge.</li> <li>• Communicate procedures and explanations giving priority to evidence and understanding that scientists make their results public, describe their investigations so they can be reproduced, and review and ask questions about the work of other scientists.</li> </ul>		<p>Experiment: Compare and contrast a plant given sunlight and water to one which is not.</p>	<p><i>Inventions Change Our Lives</i> (Big Book Science)</p> <p><i>Amazing Scientists</i> (Big Book Science)</p>

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<p><i>Fourth Quarter</i></p> <p><b>Earth's Systems</b></p> <p><b>Biological Evolution: Unity and Diversity</b></p> <p>Obtain information to identify where water is found on Earth and that it can be solid or liquid.</p> <p>Make observations of plants and animals to compare the diversity of life in different habitats.</p> <p><b>Essential Questions:</b></p> <ul style="list-style-type: none"> <li>• Why is the water cycle important to life on earth?</li> <li>• What makes animals alike and different?</li> </ul>	<p><b>3.1.2.A3:</b></p> <p>Identify similarities and differences in the <b>life cycles</b> of plants and animals.</p>			<p><i>The Water Cycle</i> (Big Book Science)</p> <p><i>All Kinds of Animals</i> (Big Book Science)</p> <p><i>Life of a Frog</i> (Storytown)</p> <p>Butterfly Lifecycle Kit</p> <p><i>Delta Science Books</i></p> <p>Plant and Animal Life Cycles</p> <p>Food Chains and Webs</p>