

# Kindergarten Mystery Science Living Things and Their Surroundings Lesson Alignment and Support

## Salt Lake City School District 2020

### **Mystery Science Lesson Rationale:**

Mystery Science Lessons seek to promote engagement and inspire excellence in students' mastery of science and engineering. The lessons support our vision and mission of equity and access in elementary science. The sequence of Mystery Science Full Lessons and Mini-Lesson below support Kindergarten students' sense-making with respect to living things and their surroundings using three-dimensional instruction. The sequenced Mystery Science Lessons support kindergarten teachers in implementing the new Utah SEEd Standards about living things specifically in the Prioritized SEEd Pacing Guide. Lessons include a video focused on living things phenomenon, a hands-on activity, and an assessment. The lessons are designed to take students approximately 60 minutes to complete. Most lessons use minimal materials, such as paper printouts and pencils. Additionally, most paper printouts can be downloaded individually from the Mystery Science Lessons websites in the form of an editable document that can be assigned through Canvas. Some lessons suggest markers, group work, or demonstrations. Teachers can make easy modifications to these lessons based on students' and teachers' resources.

**Note:** Use a Science Notebook or print the Mystery Science PDF Booklet for students to complete the lesson series below! You can also print individual lesson materials by following the links in the Materials per Student and Assessments.

### **Strand K.1 Living things and their surroundings**

Living things (plants and animals, including humans) depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature. The characteristics of surroundings influence where living things are naturally found. Plants and animals affect and respond to their surroundings

### **Standard K.2.1 Needs of living things**

*Obtain, evaluate, and communicate information* to describe **patterns** of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C)

### **Standard K.2.2 Needs of relationships**

*Obtain, evaluate, and communicate information* about **patterns** in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A)

<b>Mystery Science Lesson</b>	<b>Suggested Date and SEEd Alignment</b>	<b>Materials and Assessments</b>	<b>Remote Learning Modifications</b>
MS Unit: <a href="#">Plant and animal secrets</a>	<b>January 4</b>  <b>Disciplinary Core Ideas:</b> Animal Needs:	<b>Materials per Student:</b> <ul style="list-style-type: none"> <li>No prep required</li> </ul>	<b>Ready to Teach</b> Have students do the activity solo.

<p><a href="#"><u>Mystery Science handouts Pdf</u></a></p> <p><b>Lesson 1:</b> <a href="#"><u>Why do woodpeckers peck wood?</u></a></p> <p>In this Mystery, students observe animal behaviors and work to discover a pattern: all animals seek food in order to survive. The activity, Eat Like an Animal, includes physical movement in which students act out animal behaviors, pretending to be quail scratching in the dirt, raccoons wading in the water, and woodpeckers pecking a log.</p>	<p>Food LS1.C</p> <p><b>Science and Engineering Practice:</b> Obtain, evaluate, and communicate information</p> <p><b>Crosscutting Concept:</b> patterns</p>	<p><b>Assessment:</b> <a href="#"><u>Mystery 1 assessment</u></a></p>	<p>No supplies needed</p>
<p><b>Mini Lesson:</b> <a href="#"><u>Why do birds lay eggs in the spring?</u></a></p>	<p><b>January 11</b></p> <p><b>Disciplinary Core Ideas:</b> Animal homes ESS3.A</p> <p><b>Science and Engineering Practice:</b> Constructing explanations and designing solutions</p> <p><b>Crosscutting Concept:</b> structure and function</p>	<p><b>Materials per Student:</b></p> <ul style="list-style-type: none"> <li>Supplies to build a nest</li> </ul> <p><b>Activity:</b> Can you build a nest that will hold an egg? Give it a try. If you can go outside, gather twigs, leaves, and grass to build with — just like birds do! If you can't go out, use torn paper, rolled up paper, and string. You can't use glue or tape! When you're done building, test your nest with something round — like a marble, or even a real egg!</p> <p><b>Assessment Questions:</b></p> <ol style="list-style-type: none"> <li>Why do birds lay eggs in the spring?</li> </ol>	<p><b>Ready to Teach</b></p> <p>Have students do the activity solo.</p> <p>Students can gather supplies to build a nest from items at their house.</p>

		2. What did this lesson make you curious about? What other questions do you have about birds?	
<p><b>Lesson 2:</b> <a href="#">Where do animals live?</a></p> <p>In this Read-Along Mystery, Sofia wonders where animals live and goes for a walk in the woods to find out. The Mystery includes a short exercise where students pretend to be squirrels and learn about their habitats. You can extend the lesson with the optional activity, Nature Nuggets, where students explore other animal homes.</p>	<p><b>January 18</b></p> <p><b>Disciplinary Core Ideas:</b> Animal homes ESS3.A</p> <p><b>Science and Engineering Practice:</b> Obtain, evaluate, and communicate information</p> <p><b>Crosscutting Concept:</b> patterns</p>	<p><b>Materials per Student:</b></p> <ul style="list-style-type: none"> <li>No prep required</li> </ul> <p><b>Assessment:</b>  <a href="#">Mystery 2 assessment</a></p>	<p><b>Ready to Teach</b>  Have students do the activity solo.</p> <p>No supplies needed</p>
<p><b>Mini Lesson:</b>  <a href="#">What is the most dangerous animal in the world?</a></p>	<p><b>January 25</b></p> <p><b>Disciplinary Core Ideas:</b> Animal needs: Safety Extends LS1.C</p> <p><b>Science and Engineering Practice:</b>  Developing and using models</p> <p><b>Crosscutting Concept:</b> patterns</p>	<p><b>Materials per Student:</b></p> <ul style="list-style-type: none"> <li>Science notebook or blank paper</li> </ul> <p><b>Activity:</b> There are many animals that don't hurt people. What do you think is the LEAST dangerous animal in the world? Take a guess! Describe or draw a Model (picture) of the animal. List at least three reasons why you think this animal isn't dangerous.</p>	<p><b>Ready to Teach</b></p>

		<b>Assessment questions:</b> 1. What is the most dangerous animal in the world? 2. What did this lesson make you curious about? What other questions do you have about dangerous animals?	
<b>Lesson 3:</b> <a href="#">How can you find animals in the woods?</a>  In this Mystery, students observe different animal behaviors and work to discover another pattern: all animals seek safety in order to survive. The activity, Gopher in a Hole, includes physical movement in which students pretend to be snails hiding in their shells, praying mantises scaring away predators, and gophers popping out of holes.	<b>February 1</b>  <b>Disciplinary Core Ideas:</b> Animal needs: Safety Extends LS1.C  <b>Science and Engineering Practice:</b> Obtain, evaluate, and communicate information  <b>Crosscutting Concept:</b> patterns	<b>Materials per Student:</b> <ul style="list-style-type: none"> <li>This activity does not require supplies.</li> <li>Make sure students have enough space to move around as they pretend to be different animals.</li> </ul> <b>Assessment:</b> <a href="#">Mystery 3 assessment</a>	<b>Ready to Teach</b> Have students do the activity solo.  No supplies needed
<b>Mini Lesson:</b> <a href="#">Why are butterflies so colorful?</a>  In this mini-lesson, students discover how butterflies' colors can help them blend into their	<b>February 8</b>  <b>Disciplinary Core Ideas:</b> Animal needs: Safety Extends LS1.C  <b>Science and Engineering Practice:</b> Obtain, evaluate, and communicate	<b>Materials per Student:</b> <ul style="list-style-type: none"> <li><a href="#">Butterfly Card (Grades K-2)</a> printout</li> <li><a href="#">Butterfly Template (All Grades)</a> printout</li> <li>Crayons</li> <li>Rulers</li> <li>scissors</li> </ul>	<b>Ready to Teach</b> Send students home with handouts to complete the activity.

habitat or scare away predators. In the activity, Paper Butterflies, students design their own paper butterflies by choosing colors that will help the butterflies survive, then create a butterfly card for someone special.	information  <b>Crosscutting Concept:</b> patterns	<b>Assessment:</b> No assessment for this mystery	
<b>Lesson 4:</b> <a href="#">How do animals make their homes in the forest?</a>  In this Read-Along Mystery, Desiree notices all the holes in the trees around her house—and sets out to discover how they got there, and why they matter. The Mystery includes a short exercise where students listen for animal sounds and pretend to be woodpeckers. You can extend the lesson with the optional activity, Nature Explorers, where students go for a nature walk and look for animals in their homes.	<b>February 15</b>  <b>Disciplinary Core Ideas:</b> Changing the environment ESS2.E  <b>Science and Engineering Practice:</b> Planning and carrying out an investigation  <b>Crosscutting Concept:</b> Systems	<b>Materials per Student:</b> This activity does not require supplies.  As an optional activity, we suggest you go on a nature walk. It doesn't have to be far from your classroom or home. You can find animal homes in a playground, a grassy lawn, a city park, or a small yard. Look for ant hills, spiderwebs, birds in the trees, and insects in the grass.  <b>Assessment:</b> <a href="#">Mystery 4 assessment</a>	<b>Ready to Teach</b> Have students do the activity solo.  No supplies needed
<b>Mini Lesson:</b> <a href="#">Why do animals come back after going warm</a>	<b>February 22</b>  <b>Disciplinary Core Ideas:</b> Changing the	<b>Materials per Student:</b> <ul style="list-style-type: none"> <li>Science notebook or</li> </ul>	<b>Ready to Teach</b>

<a href="#">places in Winter?</a>	<p>environment ESS2.E</p> <p><b>Science and Engineering Practice:</b> Obtain, evaluate, and communicate information</p> <p><b>Crosscutting Concept:</b> Patterns</p>	<p>blank paper</p> <p><b>Activity:</b> Some animals travel thousands of miles every year to find food or have babies. It's amazing that they can find their way back home! Imagine if you traveled far away from your home, without a phone, a computer, or a map. How would you find your way back home? What clues could help you find your way? Write or draw the story of how you would find your way back home.</p> <p><b>Assessment questions:</b></p> <ol style="list-style-type: none"> <li>1. Why do animals come back after going to warm places in winter?</li> <li>2. What did this lesson make you curious about? What other questions do you have?</li> </ol>	
<p><b>Lesson 5:</b> <a href="#">How do plants and trees grow?</a></p> <p>In this Mystery, students investigate what plants need to grow. In the two-part activity, Sprout a Seed, students plant radish seeds in paper cups. When the seeds sprout, students notice that the leaves of the young plants lean toward the light. A classroom</p>	<p><b>March 1</b></p> <p><b>Disciplinary Core Ideas:</b> Plant Needs: Water &amp; Light LS1.C</p> <p><b>Science and Engineering Practice:</b> Planning and carrying out an investigation</p> <p><b>Crosscutting Concept:</b> Systems</p>	<p><b>Materials per Student:</b></p> <ul style="list-style-type: none"> <li>• Baking soda</li> <li>• Dixie cups (3 oz.)</li> <li>• Paper plates</li> <li>• Paper towels</li> <li>• Plastic spoons</li> <li>• Spray bottles</li> <li>• Sticker labels (1" x 3")</li> <li>• Ziploc bags (snack size)</li> <li>• Peat pellets</li> <li>• Radish seeds</li> </ul> <p><b>Assessment:</b>  <a href="#">Mystery 5 assessment</a></p>	<p><b>Demo activity</b></p> <p>Set up a few cups with soil and seeds and demo over video conference with your students so they can make observations.</p> <p>We also suggest watching this sped-up video and leading a discussion with students</p>

root viewer made from a Ziploc bag and paper towels lets students observe root growth.			
<b>Mini Lesson:</b> <a href="#">What's the biggest tree in the world?</a>	<b>March 8</b>  <b>Disciplinary Core Ideas:</b> Plant Needs: Water & Light LS1.C  <b>Science and Engineering Practice:</b> Developing and using models  <b>Crosscutting Concept:</b> Systems	<b>Materials per Student:</b> <ul style="list-style-type: none"> <li>Science notebook or blank paper</li> </ul> <b>Activity:</b> Take a walk with an adult and look at the trees in your neighborhood. What's the biggest tree you can find? What makes you choose it as the biggest? Is it the tree's height, the size of its trunk, or the spread of its branches? Make a Model (drawing) of the biggest tree in your neighborhood. Be sure to include what you think the roots look like under the ground!  <b>Assessment questions:</b> <ol style="list-style-type: none"> <li>1. What's the biggest tree in the world? Why do you think that?</li> <li>2. What did this lesson make you curious about? What other questions do you have about trees?</li> </ol>	<b>Ready to Teach</b>
<b>Lesson 6:</b> <a href="#">Why would you want an old log in your backyard?</a>  In this Read-Along Mystery, Sam wonders why his grandmother wants to keep an old log	<b>March 15</b>  <b>Disciplinary Core Ideas:</b> Animal Needs & Changing the Environment ESS3.C  <b>Science and Engineering</b>	<b>Materials per Student:</b> <ul style="list-style-type: none"> <li>No prep required</li> </ul> <b>Assessment:</b> <a href="#">Mystery 6 assessment</a>	<b>Ready to Teach</b> Have students do the activity solo.  No supplies needed

<p>in her yard—until he begins to meet a few of her friends. The Mystery includes a short exercise where students pretend to be lizards eating ants and discover why old logs are helpful to animals. You can extend the lesson with the optional activity, Trees &amp; Animals, where students watch chipmunks in their log home and act out many different animals living in a tree.</p>	<p><b>Practice:</b> Obtain, evaluate, and communicate information</p> <p><b>Crosscutting Concept:</b> Cause and effect</p>		
<p><b>Mini Lesson:</b>  <a href="#">Why do owls say hoo?</a></p> <p>In this mini-lesson, students learn that different species of owls make different sounds. In the activity, Sound Detective, students go on a "sound adventure" and use their ears to solve a mystery.</p>	<p><b>March 22</b></p> <p><b>Disciplinary Core Ideas:</b> Animal Needs &amp; Changing the Environment ESS3.C</p> <p><b>Science and Engineering Practice:</b> Analyzing and interpreting data</p> <p><b>Crosscutting Concept:</b> Patterns</p>	<p><b>Materials per Student:</b></p> <ul style="list-style-type: none"> <li>Science notebook or blank paper</li> <li>pencil</li> </ul> <p><b>Assessment:</b> No assessment for this Mystery</p>	<p><b>Ready to Teach</b></p>