

# Science Lesson Plan

Date: 10/07/21

<p><b>Grade: 1st</b></p> <p><b>Materials: Paper, Leaves, Crayons, Pencils, Interactive Board</b></p> <p><b>Instructional Strategies:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Direct instruction  <input type="checkbox"/> Guided practice  <input type="checkbox"/> Socratic Seminar  <input type="checkbox"/> Learning Centers  <input type="checkbox"/> Lecture  <input type="checkbox"/> Technology integration  <input type="checkbox"/> Other (list)         </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Peer teaching/collaboration/cooperative learning  <input type="checkbox"/> Visuals/Graphic organizers  <input type="checkbox"/> PBL  <input type="checkbox"/> Discussion/Debate  <input type="checkbox"/> Modeling         </td> </tr> </table>	<input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list)	<input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> PBL <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Modeling	<p><b>Subject: Science</b></p> <p><b>Technology Needed: YouTube and Interactive Board</b></p> <p><b>Guided Practices and Concrete Application:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Large group activity  <input type="checkbox"/> Independent activity  <input type="checkbox"/> Pairing/collaboration  <input type="checkbox"/> Simulations/Scenarios  <input type="checkbox"/> Other (list)         </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Hands-on  <input type="checkbox"/> Technology integration  <input type="checkbox"/> Imitation/Repeat/Mimic         </td> </tr> </table> <p>Explain:</p>	<input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list)	<input type="checkbox"/> Hands-on <input type="checkbox"/> Technology integration <input type="checkbox"/> Imitation/Repeat/Mimic
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<p><b>Standard(s)</b></p> <p>LS1.A: Structure and Function          -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.  <b>Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.</b></p> <p>LS1.D: Information Processing          -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. <b>Plants also respond to some external inputs.</b></p>	<p><b>Differentiation</b></p> <p><b>Below Proficiency:</b>          For student below proficiency, I will provide sentence frames for them to use when writing about why leaves change colors.          Leaves change colors because...          The trunk of the tree holds...          The leaves are important because...</p> <p><b>Above Proficiency:</b>          When they are finished with the activity I will give them this challenge to think about and complete at home. "Some trees lose their leaves in the fall. They stay alive without leaves. But can leaves live without trees? Try this! Ask an adult to take you outside. Pick two leaves off a tree or a plant. At home, set one leaf in a place where you can watch it. Can you think of a way to keep the other leaf alive as long as possible? Try your idea. How will you know which leaf is alive the longest?"</p> <p><b>Approaching/Emerging Proficiency:</b>          Students approaching proficiency will write sentences explaining why leaves change color and fall.</p> <p><b>Modalities/Learning Preferences:</b></p> <ul style="list-style-type: none"> <li>• <b>Visual:</b> I will show the video at the beginning to get them engaged. I will draw a diagram on the board how the nutrients move in the tree during the seasons.</li> <li>• <b>Auditory:</b> I will talk through the different steps a tree goes through when it loses its leaves.</li> <li>• <b>Kinesthetic:</b> We will transition from the carpet to the tables for work time.</li> <li>• <b>Tactile:</b> They get to use crayons and leaves for the card. They write with their pencil what they learned.</li> </ul>				
<p><b>Objective(s)</b></p> <p>By the end of the lesson, students will be able to explain why leaves change color in the fall by using key terms such as chlorophyll, branches, and truck.</p> <p><b>Bloom's Taxonomy Cognitive Level:</b>          Understand</p>	<p><b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b></p> <p>During the lecture students' voices will be off, they will be sitting respectfully, and their eyes will be focused on the materials.</p> <p>When seated at the carpet, students will be responsible for making sure they made a good choice of where to sit and who to sit by.</p> <p>During individual work time, students will stay seated at their tables and work quietly.</p> <p>During clean up time students will use their walking feet, put materials where they belong, and wait quietly until given further direction.</p> <p>During transition phrases students will stop what they are doing and focus their attention on the teacher with their voices off.</p>				
<p><b>Classroom Management- (grouping(s), movement/transitions, etc.)</b></p> <p><b>Large group/lecture-discussion:</b> Students will have their listening ears on, and their voices off. Students will be sitting with their hands in their lap, and their focus will be on the teacher.</p> <p><b>Individual Work:</b> Students will work quietly with their voices off to complete the activity. If they have questions, they will raise their hand until the teacher can assist them.</p> <p><b>Clean-Up:</b> Students will all participate in clean-up efforts. Materials will be put away and completed worksheets will be turned into the language arts homework bin.</p> <p><b>Transitions:</b> Teacher: "It's time to go back to your tables for independent work time."           Teacher: "Okay class, once you have finished the assignment, put your materials away, turn it in, and go get your new bin from Tuesday."</p>	<p><b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b></p> <p>During the lecture students' voices will be off, they will be sitting respectfully, and their eyes will be focused on the materials.</p> <p>When seated at the carpet, students will be responsible for making sure they made a good choice of where to sit and who to sit by.</p> <p>During individual work time, students will stay seated at their tables and work quietly.</p> <p>During clean up time students will use their walking feet, put materials where they belong, and wait quietly until given further direction.</p> <p>During transition phrases students will stop what they are doing and focus their attention on the teacher with their voices off.</p>				

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Teacher: "Class Class" Students: "yes yes"	
Minutes	Procedures
2	<p><b>Set-up/Prep:</b></p> <p>Print cards out for students before the lesson.          Have students bring leaves to class during the week.          Have extra leaves for students who forgot theirs.          Pull up the YouTube video and make sure its loaded.</p>
4	<p><b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b></p> <p>I will introduce the phenomenon of leaves changing in the fall. We will watch a video that shows leaves up close changing color. This will get students interested in how the leaves actually lose color and don't one day just go from green to golden.</p> <p>Have them seated on the carpet in front of the board.</p> <p><b>Phenomenon:</b> Why do leaves change color in the fall?          Video: <a href="https://youtu.be/-dfmha1SJck">https://youtu.be/-dfmha1SJck</a></p> <p>Watch Video with sound on.</p> <p>After the video, I will ask them a few questions to get their brain thinking.          "Why do you think leaves change color in the fall?"          "Why do some turn brown and others turn red?"          "Why don't leaves fall when they are green?"</p> <p>Have 3-5 students share with the class what they are thinking.          Ask specific students to "Tell me more about that."</p> <p>"Those were great ideas you guys came up with."          "I liked how you connected leaves falling with..."</p> <p>"Think about this, if you have ever forgotten to water a plant, you might have seen its leaves turn yellow or brown. The plant is dying. Could it be that tree's leaves are changing color because the trees are dying?"</p> <p><b>Raise your hand</b> if you think a tree is dying when it loses its leaves.</p> <p>"Well, it might look like they are dying, specially by the end of fall when all the leaves have fallen off."</p> <p>"That might be even why we call this season fall, because the leaves fall off around this time of year."</p> <p>"The trees aren't actually drying though."          "They couldn't be dying because when spring comes back around, their leaves grow back green. So, when the leaves change color, it doesn't mean that the tree is dying or sick."</p> <p>"So, if the tree isn't dying or sick, then why do the leaves change color?"</p> <p>"Let's take a look at what scientists have found researching this topic."</p>
10	<p><b>Explain: (concepts, procedures, vocabulary, etc.)</b></p> <p>"It's not an easy question to answer, it took scientists hundreds of years to find the answer."</p> <p>"The first thing scientists found out by using microscopes was that leaves contain a green substance called chlorophyll. Chlorophyll is what makes the leaves look green."</p> <p>I will draw a leaf on the board and draw what chlorophyll looks like inside the leaf for a visual.</p>

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	<p>"In the spring, trees must work hard to produce green leaves. It takes a lot of nutrients from the soil to produce chlorophyll."</p> <p>"If the tree dropped its leaves while they were still green, it would lose all those nutrients it just worked so hard to produce. So in order to not lose those nutrients, the tree has to do something special with the nutrients."</p> <p>"Before the leaves fall, the tree pulls most of the nutrients from the leaves into the branches and trunk. This ensures safe keeping during the cold winter."</p> <p>I will continue to elaborate on my picture to help show students the path of nutrients in the tree as the seasons change.</p> <p>"When a tree pulls all the chlorophyll and nutrients out of the leaves for safe keeping, it changes the leaf colors. That's why the leaves stop looking green in the fall."</p> <p>"The chlorophyll is being taken apart and moved out of the leaves. That might make you think that the leaves should look clear colored after the chlorophyll is gone."</p> <p>"But it turns out that chlorophyll isn't the only colored substance in the leaves. Some have yellow, orange, brown, or even red colors too. So, when the chlorophyll is pulled out we begin to see those other colors!"</p> <p>"That was a lot of information to cover!"</p> <p>"Let's review a bit before we go into the next part of the lesson."</p> <p>"Why do the leaves not fall off when they are green?" "Where do the nutrients go for safe storage?" "What other colors are present in the leaves?" "When do the green leaves come back?"</p> <p>Once I am done reviewing the information with them. I will have them move back to their tables.</p>
4	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b></p> <p>Leaf coloring activity and card making. <a href="#">Appendix A</a></p> <p>"We are going to create a leaf card using the leaves some of you brought in. The front will be decorated with the leaf patterns and the inside will contain some of the facts you learned today about leaves changing color."</p> <p>I will have the two passers pass out the cards to the students.</p> <p>"First graders, you will need your crayons, leaves, and your pencil to make this card."</p> <p>I will then give the directions out loud while doing an example on the board.</p> <p>"You will begin by writing what you learned about leaves changing colors on the inside of the card." If they are struggling to start sentences, I can give them sentence frames.</p> <p>The question they will answer on the inside is, "Why do leaves change color in the fall?"</p> <p>"When you have finished writing in your card, you may start to decorate it."</p> <p>"First you will put a leaf upside down on the table."</p> <p>"Next you will place your card over the leaf."</p> <p>"Now, while holding the paper and leaf in place, use the side of a crayon to rub across the leaf."</p> <p>"Make sure that you color over the entire leaf. Rubbing firmly all over the leaf will show the veins and the outline of the leaf."</p> <p>"A dark crayon will produce a clearer print of the leaf."</p> <p>"When you are finished with the first leaf you can do another leaf with different color crayon."</p>

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	<p>Student will work quietly until the front of their card is filled with leaf designs.</p> <p>When students are finished, I will have them turn their work in and put their supplies away.</p>
<p style="text-align: center;"><b>3</b></p>	<p><b>Review (wrap up and transition to next activity):</b></p> <p>When students finish their work, I will have them turn in their card and put away their supplies. The next thing they will do it go to recess. They can use the bathroom and get a drink of water while they wait to line up.</p>
<p><b>Formative Assessment: (linked to objectives, during learning)</b></p> <ul style="list-style-type: none"> <li>• <b>Progress monitoring throughout lesson (how can you document your student's learning?)</b></li> <li>•</li> <li>- Progress monitoring throughout lesson (document of student learning, data collection)</li> <li>-</li> </ul> <p>Throughout the lesson, I will ask questions that review the concepts, and I will look for understanding based on their responses.          "Why do the leaves not fall off when they are green?"          "Where do the nutrients go for safe storage?"          "What other colors are present in the leaves?"</p> <p>I will also use the card they created to assess how well they understood the lesson. The question they will answer on the inside is, "Why do leaves change color in the fall?" I will ask them to do their best explaining what they learned and use important terms such as leaves, chlorophyll, branches, trunk, nutrients, and fall.</p> <ul style="list-style-type: none"> <li>- Grades will be taken on the card.</li> <li>- Grading Criteria:             <ul style="list-style-type: none"> <li>○ 3/3 Proficient: Student gave two correct reasons why leaves change in the fall and showed understanding of the lesson.</li> <li>○ 2/3 or 1/3 Nearing: Student gave one correct reason and showed some understanding of the lesson.</li> <li>○ 0/3 Not: Student wrote reasons that were not relevant to leaves falling and had no comprehension of the lesson.</li> </ul> </li> </ul>	<p><b>Summative Assessment (linked back to objectives, END of learning)</b></p> <p>A test will be given at the end of the unit based in the proficiency scale to collect data on students learning. The test will cover the standard as well as others in the life science DCI.</p> <ul style="list-style-type: none"> <li>- Grades will be taken on the test.</li> <li>- Grading Criteria:             <ul style="list-style-type: none"> <li>○ 20-15/20 Proficient: Student answered all or almost all questions correctly and understand the material covered in the unit.</li> <li>○ 10-14/20 Nearing: Student answered more than half the questions correctly and understood most of the unit.</li> <li>○ 0-9/20 Not: Student answered less than half correctly and didn't understand the material covered in the unit.</li> </ul> </li> </ul> <p>Test is attached below.</p>
<p><b>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</b></p> <ul style="list-style-type: none"> <li>• This lesson went better than I expected but also took way longer than I expected.</li> <li>• The video at the beginning was incredible and allowed the students to make many connections to seasons change in the past and helped them understand the content.</li> <li>• The idea of chlorophyll and nutrients leaving the leaves to stay safe over winter would have been more challenging to explain and understand if I had not shown the video.</li> <li>• The students definitely understood the reasons leaves change color and what is happening to the tree throughout the seasons.</li> <li>• I liked the comprehension checks I did throughout the lesson to check for understanding.</li> <li>• One of the things I would change about this lesson is the guided questions at the end that students had to answer on the inside of their card. By the time they were done coloring, they didn't have the energy or motivation to completely answers the questions.</li> <li>• Most of the students could answer the questions verbally but didn't want to write down their answers.</li> <li>• In the future, I will have them answer the questions in the card right away and check for complete work before they can move onto the fun part of leaf printing.</li> <li>• The kids were happy to learn about the seasons changing and the leaf printing was a fun art integration.</li> </ul>	

Appendix A: Foldable Card, with kid ruled paper on inside for description of leaves.

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Handwriting practice lines consisting of a series of vertical lines. Each line set includes a solid black line on the left, a dashed blue line in the middle, and a solid red line on the right, providing a guide for letter formation.

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Appendix B:

## Grade 1 Daily & Seasonal Changes Review Quiz

Name: \_\_\_\_\_

### Part 1: True or False

1. The sun is the Earth's primary source of heat. T or F
2. In the Winter, the days are longer. T or F
3. When it is daytime here, it is nighttime on the other side of the world. T or F
4. A cycle is a sequence that happens only 3 times. T or F
5. Seasons affect plants and animals. T or F
6. It is a good idea to go hiking at night. T or F
7. It is warmer when you wake up than at recess. T or F
8. The days of the week are an example of a cycle. T or F
9. On a thermometer, the line rises when it is warm. T or F

### Part 2: Fill in the blank.

1. When animals sleep through the winter it is called \_\_\_\_\_.  
(hibernating / migrating)
2. When animals fly to warmer places for the winter it is called \_\_\_\_\_.  
(hibernation / migration)
3. In the summer, the days are the \_\_\_\_\_. (longest / shortest)
4. An invention allows us to grow plants all year round is called a \_\_\_\_\_.  
(arena / greenhouse)
5. In \_\_\_\_\_ the leaves change colour and fall off the tree. (autumn / summer)

### Part 3: Matching

Draw a line to match the season to the picture.



Winter



Spring



Summer



Fall



### Part 4: Written Response

Why do we have seasons?

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