

Bachelor of Education (Elementary) & Bachelor of Education (Secondary) STEM Unit Plan Template

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| Unit Title: <u>Classification of Living vs. Non-Living Things</u> | Number of Lessons: <u>4</u> | Time (in weeks): <u>2</u> |
| Name: <u>Makenna Ferster</u> | Subject(s): <u>Science</u> | Grade(s): <u>K-1</u> |

Rationale

This unit will help students understand the difference between living and non-living things. By exploring the characteristics that distinguish living things from non-living things, students will learn to use observation and critical thinking skills to identify and classify objects in their environment. This unit also connects to the environment and encourages students to reflect on the natural world around them.

Overview:

Throughout this unit, students will explore key characteristics of living things such as, growth, movement, breath, and food intake. They will compare these with non-living things that do not exhibit these characteristics. Activities will include outdoor exploration, songs, discussions, and group work, all aimed at engaging students in understanding what makes something "alive" vs. "non-living." Students will also gain an understanding of the concept of dead things and how they are different from non-living things.

CORE COMPETENCIES

| Communication | Thinking | Personal & Social |
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| <p>Communication:</p> <p>Students listen to others' ideas and share thoughts clearly, both in groups and individually.</p> <p>Use drawings, simple words, and actions to express ideas about living and non-living things.</p> <p>Collaboration:</p> <p>Collaborate and share information, ideas, and perspectives in a group setting.</p> <p>Connection to unit:</p> <p>Students go outside to observe their surroundings and identify living and non-living things. They will record their observations by drawing pictures and writing simple words in their journals.</p> | <p>Critical thinking:</p> <ul style="list-style-type: none"> - Develop the ability to differentiate between ideas using evidence and collecting observational data. <p>Students are encouraged to observe and identify characteristics of living and non-living things using real-world examples. Students watch a living vs nonliving slide show and provide their reasoning for identifying whether an object is living or non-living.</p> <p>Creative thinking:</p> <ul style="list-style-type: none"> - Invent new ways to demonstrate living and non-living characteristics. | <p>Personal awareness and responsibility</p> <ul style="list-style-type: none"> - Understand personal responsibility in observing and discussing the natural world. <p>Students go outside for an observational walk to identify living and non-living things. This experience gives students an opportunity to engage directly with their environment, encouraging them to take responsibility for their learning by observing and documenting what they see. Students must practice personal responsibility as they maintain their focus on the task, follow safety instructions, and respect the natural environment.</p> <p>Social responsibility</p> |

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| when students sing the song "It's Living! It's Living!", they will also use actions to help reinforce their understanding. This helps them express their thoughts through multiple modes of communication, including visuals and movement. | Students engage with the song "It's Living! It's Living!" where they act out the characteristics of living things, such as moving, growing, and breathing. This activity promotes creative thinking as students invent their own physical movements or gestures to represent what they believe living things do. | - Work collaboratively to share ideas and respect the contributions of others. Students engage in group discussions, where they will discuss whether things are living or non-living and share their reasoning. Students will work with peers to identify and document living and non-living things. They will collaborate by exchanging ideas and respecting each other's observations. |
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BIG IDEAS

(multiple subject areas for integrated unit)

| Subject Name | Subject Name |
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| Science: Living things have features and behaviors that help them survive in their environment. | Language Arts: Through listening and speaking, we connect with others and share our world. |

LEARNING STANDARDS

| Curricular Competencies | Content |
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| Observe and compare the characteristics of living and non-living things. | Classification of living vs. non-living things. |
| Identify and describe the basic needs of living things. | Understanding that living things grow and change, while non-living things do not. |
| Communicate ideas about living and non-living things in various formats (spoken, written, and visual). | The needs of living things (food, water, air, space, and growth). ☒ |

Prerequisite Concepts and Skills:

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| Recognition of familiar living things (animals, plants) and non-living things (rocks, toys). Ability to observe and engage in simple group discussions. |
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Teacher Preparation Required:

| Lesson # | Teacher Preparation Required (See Unit Plan Sample) |
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| Lesson 1 | - Characteristics of Living vs. Non-living things - Read aloud book "What's Alive?" by Kathleen Weidner Zoehfeld - Markers - Large, lined paper |
| Lesson 2 | - Write the lyrics for "It's Living! It's living." - Hands-on sorting activity (living and non-living items) |

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| Lesson 3 | <ul style="list-style-type: none"> - Is It Living or Non-living? - PowerPoint with photos of living vs non-living things - Worksheet with living vs non-living things and a T-chart - Scissors - Glue stick |
| Lesson 4 | <ul style="list-style-type: none"> - Outdoor Journal Adventure! - Organize students' journals - Pencils |

Cross-Curricular Connections:

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| <ul style="list-style-type: none"> - Mathematics: Students count and sort objects during their outdoor exploration. - Language Arts: Students draw and write about their observations. - Physical Education: students engage in outdoor movement, exploring and acting out the behaviors of living things - Environmental Studies: Students to connect with nature and learn about local living organisms. |
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Aboriginal Connections/ First Peoples Principles of Learning:

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| <p>"Learning is holistic, reflexive, reflective, experiential, and relational."</p> <p>Students engage in outdoor activities exploring living and non-living things, creating hands-on experiences that connect them intellectually, emotionally, and sensorially to nature. These activities encourage students to reflect on their observations and personal experiences with the environment, deepening their understanding of the natural world.</p> |
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Universal Design for Learning (UDL)

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| <p>To support diverse learning styles, pictures, videos, books, and songs will be used to demonstrate the differences between living and non-living things. Students will also have the opportunity to express their understanding through drawing, speaking, or acting, encouraging creativity and confidence. Interactive, hands-on activities like outdoor exploration and song learning will keep students actively engaged, particularly benefiting kinesthetic and visual learners by allowing them to physically interact with the environment and creatively express their ideas.</p> |
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Differentiated Instructions (DI)

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| <p>For students who need extra support, visual aids will be used to reinforce important concepts, and extra time will be given for hands-on activities, ensuring all students feel supported in their learning. For students who need more of a challenge, they will have the opportunity to classify more objects on their own or tackle more complex examples, such as seeds or eggs, encouraging deeper thinking and problem-solving skills.</p> |
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Overview of Lessons:

Lesson 1

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| Name & Time (Minutes Allotted): | Living and Non-living (30 mins) |
| Learning Standards: Curricular Competencies | <ul style="list-style-type: none"> - Observe and compare the characteristics of living and non-living things. - Sort and categorize objects based on their observable characteristics. - Share observations and findings with others, using simple language and drawings to explain their thinking |

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| Learning Standards: Content | <ul style="list-style-type: none"> - Introduction to the characteristics of living things: growth, movement, breath, food intake, and reproduction. - Identification of objects or items that do not exhibit the characteristics of living things. |
| Instructional Objectives | <ul style="list-style-type: none"> - SWBAT identify and categorize living vs. non-living things. - SWBAT understand and discuss the five key characteristics that define living things: growth, movement, breath, food intake, and reproduction. - SWBAT Apply these characteristics to real-world examples and explain why some things are living and others are non-living. |
| Assessment: | <ul style="list-style-type: none"> - Observe during class discussions and the "Is it Living?" activity to assess students' ability to categorize and describe living and non-living things. - Students' participation during sorting and discussion activities, assess student understanding through their contributions and engagement. |
| Teaching Strategies: | <ul style="list-style-type: none"> - Engage students in inquiry-based discussions by asking open-ended questions and encouraging them to express their ideas about the characteristics of living and non-living things. - Present PowerPoint with images to help students visualize different objects and animals. Use visual examples. - Create opportunities for students to actively participate, helping them internalize the lesson content through hands-on experiences and discussions. |
| Materials: | <ul style="list-style-type: none"> - PowerPoint - Chart - Markers |
| Lesson Activities: | |
| Introduction/Hook: | <ul style="list-style-type: none"> - Gather students to the carpet in 3 rows (6 students/row). - Explain that they're going to learn what makes something alive. Say, "We're going to explore some special characteristics that make things alive. We'll read a book that will help us find the answers!" - Read <i>What's Alive?</i> by Kathleen Weidner Zoehfeld aloud to the class. Pause often during the reading to ask questions and encourage students to think about what's happening in the story. <p>For example:</p> <ul style="list-style-type: none"> - "Do you think a tree is alive? Why or why not?" - "What do you notice the dog is doing? Can it move on its own?" - "Does the dog grow or eat? How do we know?" - Show pictures from the book or use toy animals, plants, and non-living objects. - Once you are finished reading the book, redirect students' attention to the large, lined piece of paper. |
| Body: | <ul style="list-style-type: none"> - Once the story is finished, let the students know they're going to work together to create a list of characteristics that all living things share. You'll need a large piece of lined paper and a marker. |

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| | <ul style="list-style-type: none"> - Ask the class, "What do you think makes something alive?" Start by writing their answers on the paper as you go along. Some helpful prompts might include: - "What happens to living things as they grow?" - "Can a living thing move by itself?" - "What do living things need to stay alive?" - "Do living things breathe? How do they do that?" - "What do living things eat to get energy?" <p>Discuss each characteristic in detail. For example:</p> <ul style="list-style-type: none"> - Show a picture of a plant growing or a dog getting bigger over time. - Show a video of animals moving or demonstrate how a toy car moves. - Discuss how plants breathe through their leaves and animals breathe through their lungs. Demonstrate how we breathe by having students take deep breaths. - Talk about how all living things need food or energy. Use examples like a dog eating, a plant absorbing sunlight, or people eating meals. <p>Talk about non-living things.</p> <ul style="list-style-type: none"> - After completing the list of characteristics of living things, move on to non-living things. Ask the students: - "What are some things you know that are not alive?" - "What's different about those things compared to living things?" - Show pictures or examples of non-living things (e.g., a rock, toy, or pencil) and discuss how they do not grow, move, breathe, or eat. Write these down on the chart as well, emphasizing the differences. |
| Closure: | <ul style="list-style-type: none"> - Gather the class back together and have a short discussion. Ask the students: - "Can anyone tell me one thing that makes something alive?" - "What is one thing that non-living things can't do?" - Refer to the chart you made earlier and go over the characteristics again. Reiterate that living things grow, move, breathe, and eat, while non-living things do not. - Ask the students to think of an example of a living thing and a non-living thing. For example: - "Can you think of a living thing that grows?" - "Can you think of something that is not alive?" - As they share their examples, reinforce the concepts by referring back to the chart you created together. |

Lesson 2

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| Name & Time (Minutes Allotted): | "It's Living! It's Living!" Song (30 mins) |
| Learning Standards: Curricular Competencies | <ul style="list-style-type: none"> - Identify and compare living things based on their characteristics. - Recognize and communicate key traits of living things. |
| Learning Standards: Content | <ul style="list-style-type: none"> - Reinforcing the characteristics of living things through song. - Creating connections between the physical characteristics of living things and their behaviors (e.g., growth, movement, need for food). |
| Instructional Objectives | <ul style="list-style-type: none"> - SWBAT learn and perform a song that reinforces the characteristics of living things. - SWBAT recall and share examples of living and non-living things based on their understanding of the characteristics of living things. |

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| | <ul style="list-style-type: none"> - SWBAT engage in an hands on sorting activity to show their understanding of living vs. non-living things. |
| Assessment: | <ul style="list-style-type: none"> - Observe students' participation in the song and discussion. - Assess students' ability to recall and categorize examples of living and non-living things. - Evaluate their engagement and enthusiasm as they perform and discuss the song's content. - Observe students' ability to connect the lyrics of the song with the actual characteristics of living things. - Observe how well students and differentiate living vs. non-living things during sorting activity. |
| Teaching Strategies: | <ul style="list-style-type: none"> - Create active engagement through group singing, encouraging students to participate energetically and confidently. - Use music to reinforce concepts in a fun, interactive way, helping students remember characteristics of living things. - Lead a group conversation where students can share and discuss examples of living and non-living things. - Set up sorting activity on desks. |
| Materials: | <ul style="list-style-type: none"> - Song Lyrics - Whiteboard and markers - Living vs. non-living items to sort |
| Lesson Activities: | |
| Introduction/Hook: | <ul style="list-style-type: none"> - Begin by telling the class, "Now that we've learned about the characteristics of living things, we're going to sing a fun song that will help us remember everything we've learned!" - Explain that the song will have movements to match the words. - Hold up the song lyrics on a chart or write them on a large piece of paper where all students can see. - If possible, display the lyrics in big, colorful letters, making it easy for students to follow along. - Break the song into short, simple parts and teach each line slowly: - First line: "It's living, it's living, it's living, yes, it is!" <i>Action:</i> Have students stretch their arms wide as if they're reaching for the sky to act out the idea of "living." - Second line: "It grows, it moves, it breathes, it eats!" <i>Action:</i> For "grows," have students stretch upward as they pretend to grow taller. For "moves," have them walk in place. For "breathes," have them take deep breaths and exhale slowly. For "eats," have them pretend to eat by bringing their hands to their mouths. - Sing the first line, then repeat it. Then sing the second line with the corresponding actions. Repeat the song several times to make sure the students are familiar with both the words and the movements. - As the song progresses, encourage students to lead certain parts. For example, let them choose an animal or plant to represent the "moving" action, or ask them to come up with their own way of pretending to eat. |
| Body: | <p>Set Up the Sorting Station: Set up a table or space with a collection of items (real objects or pictures) representing living and non-living things. For example:</p> <ul style="list-style-type: none"> - Living things: A plastic plant, a toy dog, a picture of a fish, a stuffed animal. |

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| | <ul style="list-style-type: none"> - Non-living things: A rock, a toy car, a pencil, a plastic cup. <p>Explain Sorting Activity:</p> <ul style="list-style-type: none"> - Explain to the class that now they are going to sort objects into two groups: living and non-living. - "You will need to think about what makes something alive. Does it grow? Can it move? Does it breathe? Does it eat? If yes, it's living! If no, it's non-living!" <p>Show Visual Example</p> <ul style="list-style-type: none"> - Begin by holding up one object, such as a toy dog. Ask the class, "Can this dog grow? Can it move? Does it breathe? Does it eat?" As the students respond, help guide them to realize the dog is alive because it grows, moves, breathes, and eats. Then place it in the "Living" pile. <p>Have Students Sort Objects:</p> <ul style="list-style-type: none"> - Have students go to their desk and sort the objects into living and non-living. They should be able to explain why they think the object is living or non-living before placing it in the appropriate pile. For example: - For a toy car, a student might say, "It can't grow or breathe, so it's non-living!" - For a stuffed animal, they might say, "It doesn't grow, but it could move if I push it. It's non-living because it doesn't breathe or eat." <p>Class Discussion:</p> <ul style="list-style-type: none"> - After sorting, ask students questions like: - "What are some things that help us know if something is living?" - "Can you think of something at home that is alive or not alive?" - "Why do we say a plant is alive even though it doesn't move like animals?" |
| Closure: | <p>Review of the song and Movements</p> <ul style="list-style-type: none"> - Ask the students to recall the actions and what they represent. "What did we do to show that something grows? What did we do to show that something breathes?" <p>Sing the song one more time, letting the students perform the actions again.</p> |

Lesson 3

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| Name & Time (Minutes Allotted): | Is It Living? (40 Minutes) |
| Learning Standards: Curricular Competencies | <ul style="list-style-type: none"> - Observe and compare the characteristics of living and non-living things. - Use observations to sort and categorize objects based on specific traits. |

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| Learning Standards: Content | <ul style="list-style-type: none"> - Practice recognizing the differences between living things and non-living thing while noticing their characteristics. |
| Instructional Objectives | <ul style="list-style-type: none"> - SWBAT identify and categorize living vs. non-living things. - SWBAT understand and discuss the key characteristics that define living things: growth, movement, breath, food intake. - SWBAT apply these characteristics to real-world examples. |
| Assessment: | <ul style="list-style-type: none"> - Observational assessment during class discussions based on students' ability to recognize and describe the characteristics of living things. - Students' participation in identifying living and non-living things during the "Is it Living?" activity. - Assess their worksheet and their ability to explain their objects characteristics. |
| Teaching Strategies: | <ul style="list-style-type: none"> - Engage students in a guided discussion where they will express their ideas and thoughts about the characteristics of living and non-living things. - Present PowerPoint with images to help students visualize different objects and animals. Use visual examples. - Create opportunities for students to actively participate, helping them internalize the lesson content through hands-on experiences and discussions. |
| Materials: | <ul style="list-style-type: none"> - PowerPoint - Chart - Markers - Worksheet (draw object, is it living or non-living? Explain its characteristics, etc.) |
| Lesson Activities: | |
| Introduction/Hook: | <ul style="list-style-type: none"> - Hook the students by showing a picture of a living thing. - Ask the students "Is this living or non-living?" and "How do you know?" - Remind students of the song they learned two lessons ago to help them with key characteristics to help them differentiate living things from non-living things. - Go through a couple slides together and ask students to explain if it's a living or non-living thing and how they know. |
| Body: | <ul style="list-style-type: none"> - Explain the activity: - On one side of the board it says not living, on the other side it says living. - Students will be asked to stand up. - When the slides change, they will have to determine if the photo is of something living or something non-living. - When they know their answer, they will go to the side of the classroom that says either living or non-living. - Once students all pick a side, ask students to explain why they chose that side. - Repeat this about 6 times to ensure that students understand how to differentiate living vs nonliving things. - Extension to this activity: - Have each student draws a living or non-living thing on a worksheet. - They will answer, is your object living or non-living? What characteristic does your object have? |

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| | <ul style="list-style-type: none"> - Once they are finished, they can bring their worksheets to the teacher. |
| Closure: | <p>Once the activity is finished, ask them to reflect on what they've learned.</p> <ul style="list-style-type: none"> - "What did you notice about living things? What made them different from non-living things?" - "Was it hard to decide sometimes? Why or why not?" |

Lesson 4

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| Name & Time (Minutes Allotted): | Outdoor Exploration! (40 Minutes) |
| Learning Standards: Curricular Competencies | <ul style="list-style-type: none"> - Compare the characteristics of living and non-living things in the environment through observation and classification. - Record and communicate findings through drawing and writing. |
| Learning Standards: Content | <ul style="list-style-type: none"> - Observing and documenting living and non-living things found outdoors. - Understanding key differences between living and non-living things in their natural environment. |
| Instructional Objectives | <ul style="list-style-type: none"> - SWBAT identify and classify living and non-living things found outdoors. - SWBAT use drawings and writing to document their observations of living and non-living things. - SWBAT demonstrate the ability to apply knowledge about the characteristics of living things to real-world examples. |
| Assessment: | <ul style="list-style-type: none"> - Observe students as they explore and document their findings, offering guidance as needed. - Assess students' ability to distinguish between living and non-living things through their observations and journal entries. - Provide feedback on their ability to reflect on the characteristics of living things in their documentation. - Review students' journal entries and drawings to check for understanding of key concepts. |
| Teaching Strategies: | <ul style="list-style-type: none"> - Explain the safety expectation before going outside. - Take students outdoors to actively engage with their environment and explore living and non-living things. - Encourage students to record their observations through drawing and labeling objects in their journals, which helps reinforce learning in a creative and personal way. |
| Materials: | <ul style="list-style-type: none"> - Journals - Pencils |
| Lesson Activities: | |
| Introduction/Hook: | <ul style="list-style-type: none"> - Hook the students in by showing them a video of living vs non-living things: Bing Videos - Review the key characteristics of living and non-living things discussed in the previous lesson. - Show the students their journals and explain that they will be going outside to find and document examples of living and non-living things. <p>Expectations:</p> <ul style="list-style-type: none"> - Explain the objective of the activity: students need to find at least four living things and four non-living things. |

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| | <ul style="list-style-type: none"> - Discuss how they will record their observations by sketching and labeling what they find in their journals. <p>Explain Outdoor Rules!</p> |
| Body: | <ul style="list-style-type: none"> - Take the students outside and slowly walk around the school as student make observations and write in their journals. - Encourage students to observe their surroundings closely and look for examples of living and non-living things. - Remind them to focus on the characteristics of living things as they explore. - As students find living things, have them sketch what they see and label the characteristics that make it alive. - For non-living things, encourage them to observe and note why these things are non-living (e.g., they don't grow, move, or breathe). - Circulate around the class and provide guidance as needed. Help students who might be unsure whether an item is living or non-living, gently prompting them to think critically about the characteristics they've learned. - Encourage students to ask questions if they are unsure, such as: - "Does this thing grow?" - "Can it move?" - "Does it need food or water?" - Ensure that students are accurately documenting their observations by sketching and labeling the items they find. |
| Closure: | <ul style="list-style-type: none"> - Gather students back in the classroom and have them sit in a circle or at their desks. - Ask students to share some of the things they found outside, both living and non-living. Invite them to explain why they classified each item as living or non-living based on the characteristics they've learned. - Encourage a brief discussion on any surprising findings. Did any students find something unexpected, like a plant that seemed non-living or a rock that was mistaken for a living thing? - Use this time to reinforce the key characteristics of living things and clarify any misconceptions. |

Resources:

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| <ul style="list-style-type: none"> - "Is it living?" PowerPoint - "What's Alive?" - Bing Videos |
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Extensions to Unit:

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| <p>Students will observe and document a living organism, such as a plant or pet, for one week, tracking changes like growth or behavior. They will present their findings through drawings, reports, or slideshows. This project helps students understand the life cycle and characteristics of living things. Materials include observation journals and optional photos. Assessment will focus on the accuracy of their tracking and presentation.</p> |
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Reflections and Revisions

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| <p>This science unit plan definitely challenged me, especially since I've never taught K-1 before. Understanding the developmental level of these students was tough, making it hard to create activities that are appropriately challenging. One of the hardest parts was planning the lesson durations, as I</p> |
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know young students in K-1 may have shorter attention spans, so it's tricky to gauge how long each activity should be.

However, there were aspects that went well. I feel like I've improved the beginning section of the unit plan, jumping back and forth between the BC curriculum and my unit plan feels much easier. I'm proud of the lessons I've created, and I'm excited to see how they work in practice. I reached out to my teacher mentor for feedback, and she said the lessons look appropriately leveled. Overall, I feel that I was able to create a solid unit plan. I'm looking forward to seeing it come to life in the classroom!