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| <b>Revision Date</b> | April 21, 2020 |
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**Department of Curriculum & Instruction**

**First Grade Science**

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| <b>Unit</b>                | 1 - 08 Investigating Plants  |
| <b>Time Frame</b>          | 3/29-4/30  |
| <b>Big Ideas</b>           | <ol style="list-style-type: none"> <li>Plants have structures (parts) with specific functions (jobs) that help them survive within their environments.</li> <li>Living things have basic needs that must be met in order to survive, while nonliving things do not.</li> <li>We can sort and classify living and nonliving things based on whether or not they have basic needs and the ability to produce offspring.</li> </ol> |
| <b>Essential Questions</b> | <ol style="list-style-type: none"> <li>What are some plants parts (structures) that help them survive within their environment?</li> <li>What basic needs must be met for living things to survive?</li> <li>How can we sort and classify living things and nonliving things?</li> </ol>   |

| <b>TEKS / Student Expectations</b>  | <b>Skills</b>          | <b>Concepts</b>   |
|---|------------------------|---|
| <b>TEKS 1.10B</b> (10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to identify and compare the parts of plants; | Identify, Compare      | <b>PARTS OF PLANTS</b> <ul style="list-style-type: none"> <li>• Roots</li> <li>• Stems</li> <li>• Leaves</li> <li>• Flowers</li> </ul> Fruit  |
| <b>TEKS 1.2(C)</b> The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to collect data and make observations using simple tools.  | Collect<br><br>Make    | The student will be required to collect data and learn how to appropriately use them.<br><br>The students will be making observations using the tools such as measuring length with nontraditional measuring devices. |
| <b>TEKS 1.2(D)</b> The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to record and organize data and observations using pictures, numbers, and words.                               | Record<br><br>Organize | Students should start learning how to record data, they can draw pictures, make tally marks, use picture graphs, use real world objects, numbers, and words.  |



|   |                                       |   |
|---|---------------------------------------|---|
| <p><b>TEKS 1.3(C)</b> The student knows that information and critical thinking are used in scientific problem solving. The student is expected to describe what scientists do.</p>  | <p>describe</p>                       | <p>They should be able to describe the actions of a good scientist that are similar to the tasks that they do in the classroom. These tasks include:</p> <ul style="list-style-type: none"> <li>• Questioning</li> <li>• Observing</li> <li>• Measuring</li> <li>• Classifying</li> <li>• Investigating</li> <li>• Predicting</li> </ul> <p>Communicating</p> |
| <p><b>TEKS 1.4(A)</b> The student uses age-appropriate tools and models to investigate the natural world. The student is expected to collect, record, and compare information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as aquariums and terrariums.</p> | <p>Collect<br/>Record<br/>Compare</p> | <p>INFORMATION USING TOOLS</p> <ul style="list-style-type: none"> <li>• Computers</li> <li>• Hand lenses</li> <li>• Collecting nets</li> <li>• Notebooks</li> <li>• Materials to support observations of habitats of organisms</li> <li>• Aquariums</li> </ul> <p>Terrariums</p>  |

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| <p><b>Tier I Instructional Strategies – Classroom Instruction for All Students</b></p> |
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**Prior Content Connections**

Kindergarten

- K.10B – Identify basic parts of plants and animals

**Misconceptions:**

Students may think that grass, trees, and other plants die in the winter and are born in the spring, rather than understanding that plants grow throughout the year.

Students may think that living and growing movement makes an animal alive or that a seed is dead, rather than understanding that plants grow from seeds.

Students may infer that plants are not alive because they do not move, rather than plants having basic needs and the ability to reproduce.

Students may think that plants must have soil to grow, rather than understanding that some plants grow in water or other mediums.

Students may think that plants don't grow in the winter, rather than understanding that plants grow all year.

This unit is designed to allow you to spend time talking about plants, ecosystems, and how plants grow. It is especially long to give you adequate time to grow plants in different ecosystems and allow for the students to see the needs of plants in reality.

**1.10B** - Use clear cups and watch them grow. You could start them in egg cartons and once they have rooted and produced their first leaves, transplant them to larger clear cups or to an indoor or outdoor garden. Have the students monitor their growth daily. If you grow them in separate cups you could place some samples in different locations or provide different resources to see how they grow. At the end, you can have a salad / salsa / vegetables that your class grew.

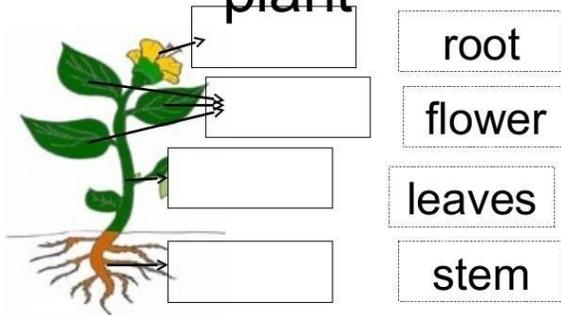
Studies have shown that kids behave differently when they interact with plants on a timely basis.

Set up tables in their journals where they can track the changes made by drawing pictures or taking measurements.

| Day     | 1   | 2   | 3   | 4   | 5   |
|---------|---|---|---|---|---|
| Picture |  |  |  |  |  |

As the students learn about raising the plants, they will learn about the parts of a plant. Discuss each part and talk about what it does.

## The parts of a plant



Make a list of the plants that they know and if we eat them. example:

| Plant we eat | Root | Stem | Leaf | flower | Seed |
|--------------|------|------|------|--------|------|
| Carrot       | X    |      |      |        |      |
| Lettuce      |      |      | X    |        |      |

|        |   |   |   |  |   |
|--------|---|---|---|--|---|
| Potato | X |   |   |  |   |
| Celery | X | X | X |  | X |

## Critical Writing Prompts



- Look at the picture of the fish. What does it do all day? How do you know it is living?  
You want to start growing plants at home. Write a list of the things you'll need to tell your parents so you can grow some food.

## Vocabulary

Living organism – requires food, water, and space, and grows  
Nonliving object – does not require food, water, or space, and does not grow

Nutrients – substances that an organism needs to live, survive, and grow

Offspring – a living organism that is made when a plant or animal reproduces

Organism – a living thing that can function on its own

Producer – an organism that makes its own food (e.g., plants)

System – a collection of parts that work together

Terrarium – a habitat where plants and animals can grow and be displayed indoors

Air

Animal

Energy

Environment

Grow

Light

Movement

Objects

Plant

Shelter

Space

Survival

Water

## Resources

*\*The suggested resources are one of many ways to address the TEKS student expectation.*

[ThinkCentral textbook](#)

[Lead4wad Instructional Strategies Playlist](#)

[Cornell](#) university study on gardening and students growth