**NGSS Lesson Planning Template**

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| **Grade:** Kindergarten | **Topic:** What a seed needs to grow | **Lesson (number/title): 3** |
| **Brief Lesson Description: *Introduction/Foundational Lesson***Students will determine what a seed needs to grow. Students will have the opportunity to explore the need of water for a seed to grow. |
|  **Performance Expectation(s):** K-LS1-1 Use Observations to describe patterns of what plants and animals need to grow and survive |
|  **Specific Learning Outcomes:*** The student will be able to identify what a plant needs to grow.
* The student will be able to explain the affect of water and the absence of water on a seed.
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| **Narrative / Background Information** |
| **Prior Student Knowledge:**N/A |
| **Science & Engineering Practices:**Analyzing and interpreting data | **Disciplinary Core Ideas:**N/A | **Crosscutting Concepts:**Patterns |
| **Possible Preconceptions/Misconceptions** |
| **LESSON PLAN – 5-E Model** |
| **ENGAGE: Opening Activity – Access Prior Learning / Stimulate Interest / Generate Questions****Time: 20 minutes*** Read book The Tiny Seed by Eric Carle or listen <https://www.youtube.com/watch?v=ls6wTeT2cKA>

The students discuss the journey of a small seed as it travels through the seasons. Discussion questions might include:* + How does the seed change?
	+ What season provides the requirements for the seed to develop into a small plant?
	+ What environmental conditions are necessary for the tiny seed to grow?
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| **EXPLORE: Lesson Description – Materials Needed / Probing or Clarifying Questions****Time: 30 minutes for each session and ongoing for journal observations*** Divide students into two groups.
* All Students will need lima bean seeds that have been presoaked in water. In group 1, students will plant seeds in the garden soil. They will designate which seeds will receive water and which will not. Water the seeds to receive water right away.
* Group 2 students will also “plant” seeds in a Ziploc baggie. Half of the bags will have a wet paper towel included. Half will have a dry paper towel. Students will make sure all receive light to keep that as a constant.
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| **EXPLAIN: Concepts Explained and Vocabulary Defined**Gather students together have them make predictions on what they think will happen and why. Have students record in their journal their predictions. Tell students that they will be recording in their journal any observations that they make during the next four weeks.**Closing if done for the day:*** Listen to song The Needs of a Plant <https://www.youtube.com/watch?v=dUBIQ1fTRzI>
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| **ELABORATE: Applications and Extensions*****Day 2 and ongoing***Students will record their observations in their science journals. Students will continue to draw pictures/write about what they are observing in the garden and in the classroom with their lima beans.**Closing:*** Have a class discussion on what happened? What were your observations from your journal. Which beans were successful? Why? If they beans continue to grow, what will they need?
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| **EVALUATE:** **Formative Monitoring (Questioning / Discussion):*** Teacher observe discussion of the students.

**Summative Assessment (Quiz / Project / Report):*** Assess the student journals according to their observations through writing and pictures.
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| **Elaborate Further / Reflect:** |

**Materials Required for This Lesson/Activity**

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| **Quantity** | **Description** | **Potential Supplier (item #)** | **Estimated Price** |
| **20** | **Lima beans** | **IRC** |  |
| **10** | **Ziploc baggies** | **Teacher- class supply** |  |
| **10** | **Paper towels** | **Teacher** |  |
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