**NGSS Lesson Planning Template**

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| **Grade:**  **Kindergarten** | **Topic:**  **Seed vs. Nonseed** | **Lesson (number/title):**  **3** |
| **Brief Lesson Description: *Introduction/Foundational Lesson***  In this lesson students will explore what makes a seed and seed and how to tell the difference between a seed and a nonseed. Students will have the opportunity to plant seeds and nonseeds to see what turns into a plant. | | |
| **Performance Expectation(s):**  K-LS1-1 Use observation to describe patterns of what plants and animals need to survive. | | |
| **Specific Learning Outcomes:**   * Students will be able to identify a seed when given a seed and a non seed. * Students will be able to write a “How to” story on how to plant a seed. | | |
| **Narrative / Background Information** | | |
| **Prior Student Knowledge:** | | |
| **Science & Engineering Practices:**  Analyzing and Interpreting Data  Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.  ▪Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1) | **Disciplinary Core Ideas:**  LS1.C: Organization for Matter and Energy Flow in Organisms  ▪All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1) | **Crosscutting Concepts:**  Patterns  ▪Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1) |
| **Possible Preconceptions/Misconceptions** | | |
| **LESSON PLAN – 5-E Model** | | |
| **ENGAGE: Opening Activity – Access Prior Learning / Stimulate Interest / Generate Questions**  **Time needed: 15 minutes**  **Seed Sorting**  **Part I**  **Step 1:** Remind the students about the time when they dissected, or opened up, the seed. Remind them about the job of a seed. (To grow into a plant). Tell them today we are going to discover what seeds are and what are not seeds.  **Step 2:** Distribute a plastic bag, paper plate and magnifying glass to each student. Invite the students to sort their objects any way they like: size, kind, color, shape, etc. Remind them to use their magnifying glasses to observe the objects. Ask students why they sorted a particular way. After a few minutes, ask the students to stop. Ask volunteers to explain how they sorted their objects.  **Part II**  **Step 1:** Tell students that now they are going to sort their seeds into two groups: seeds and not seeds. Allow a few minutes for students to resort their objects.  **Step 2:** Gather the students together and distribute a seed, twig, lego, or piece gravel to each student. If two students have the same kind of object, that is fine. Ask: Who thinks they have a seed? Who thinks they do not have a seed? Ask them to separate into the two groups (seeds and no seeds). Assist the students in identifying their object. After a few minutes, have them share and identify their objects. Help them name the objects (e.g., flower seed, corn seed, bean, gravel, etc).  **Step 3:** Send the students back to their seats. Allow them to make any adjustments in their sorting.. Invite them to label any of the objects. Some may label them as “seed,” while others may be more specific if they know the name (e.g., pumpkin seed, nut)  **Step 4:** Gather the students together and have them share what they discovered about the objects that were seeds compared to the objects that were not seeds. Discuss how the seeds themselves differ? | | |
| **EXPLORE: Lesson Description – Materials Needed / Probing or Clarifying Questions**  **Time needed: 30-40 minutes**  **Materials: Seeds and Non-seeds from lesson 1**  **Part I**  **Step 1:** Go to the garden. Ask students if everything a seed needs to grow is in the garden.  **Step 2:** Distribute seeds and non-seeds to students. Have each student make a garden marker for their seed or non-seed. They can use a popsicle stick with the name written on it.  **Step 3**: Go to the garden. Demonstrate to students how to plant their seed or non-seed in their Kindergarten bed. Make sure they are planted not too deeply so that they students will be able to observe a change within the next 30 days  **Step 4:** Have the students plant each of their seeds and non-seeds. Have students place their marker next to their seed that they planted.  **Part II**  **Step 1:** Each day, have the students check their seeds and draw and label what they observe. You may not want to record each day, but have the students write the day on the [Seed Growth Recording Sheet](http://teacher.scholastic.com/LessonPlans/pdf/april05_unit/SeedsGrowthRecord.pdf) . Students will need to make sure that the plants receive water during their observation period.  **Step 2:** After a few days, have the students compare the seeds and growth or lack of growth. | | |
| **EXPLAIN: Concepts Explained and Vocabulary Defined**  **Seed**  **What do seeds need to grow?**  **Nonseed**  **What happened to it?** | | |
| **ELABORATE: Applications and Extensions**  ***Day 2 (optional)***  Now that students are looking for seeds and nonseeds, the teacher can set up a center in the classroom for the students to explore and try and label different kinds of seeds. Students can sort the seeds and nonseeds and write a sentence explaining why it is a seed or a nonseed. | | |
| **EVALUATE:**  **Formative Monitoring (Questioning / Discussion):**   * Given an object, students are able to identify if it is a seed and give an explanation why.   **Summative Assessment (Quiz / Project / Report):**   * Students are able to sort seeds and nonseeds correctly on the sorting sheet. | | |
| **Elaborate Further / Reflect:** | | |

**Materials Required for This Lesson/Activity**

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| **Quantity** | **Description** | **Potential Supplier (item #)** | **Estimated Price** |
|  | **Variety of seeds for exploration** | **IRC** |  |
|  | **Variety of “non seeds”: rock, lego, bouncy ball, etc.** | **teacher** |  |
|  | **Magnifying glasses (optional)** | **IRC** |  |
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