

## Little Botanists: Counting Seeds and Watching Growth

### Materials Needed:

- Dry seeds (large, easy to handle: lima beans, kidney beans, or pumpkin seeds)
- Small, clear cups or jars (one per learner)
- Paper towels or cotton balls
- Water
- Crayons or colored pencils
- Plain paper or pre-printed number cards (1-5)
- Picture book about planting or seeds (e.g., \*The Tiny Seed\* by Eric Carle)
- Optional: Magnifying glass

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## Lesson Structure: The Magic of Seeds

### 1. Introduction: Hook & Objectives (Tell Them What You'll Teach)

#### Hook (5 minutes)

**Educator Talk:** "Hello, amazing learner! Look at this tiny thing I have in my hand. It's a seed! It looks like just a little rock, but inside this tiny seed is a secret. What do you think this little seed can grow into? If we give it a drink and a cozy bed, something amazing happens!"

*(Present the picture book and point to the cover.)*

#### Learning Objectives (Success Criteria)

By the end of this lesson, you will be able to:

1. **Math Goal:** Count seeds up to the number five and know that each seed gets its own number!
2. **Science Goal:** Tell me two things a plant needs to grow big and strong (like water!).
3. **ELA Goal:** Find and draw the first letters of our words: 'S' for Seed and 'W' for Water.

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### 2. Body: Content & Practice (Teach It)

#### Phase 1: Literacy and Story Time (I Do) (10 minutes)

##### Activity: The Seed Story

1. **Reading:** Read the chosen picture book about a seed journey. Use expressive voices and point to the pictures.
2. **Vocabulary Introduction:** Introduce and define three key words using simple actions:
  - **SEED:** (Hold up a seed.) "This is a seed! It sleeps until it's ready to wake up."
  - **WATER:** (Pretend to pour water.) "Plants get thirsty, just like us! They need water."
  - **SPROUT:** (Wiggle fingers up from the table.) "When the little plant starts to pop out, we call that a sprout!"
3. **Letter Recognition:** Point out the letters S (Seed) and W (Water) in the book or on a written card. "Ssss... sounds like a snake! Www... sounds like water washing!"

## Phase 2: Math and Science Exploration (We Do) (15 minutes)

### Activity: Counting Our Seeds for Planting

**I Do (Modeling):** "Watch me first! I am going to count four seeds. One, two, three, four. Now I know I have four!"

### We Do (Guided Practice):

1. **Seed Counting:** Place the number cards (1 to 5) on the table. Ask the learner to place the matching number of seeds underneath each card.
2. **One-to-One Correspondence:** Guide the learner to touch each seed as they say the number out loud, ensuring they stop at five. (E.g., "Touch it and say one! Touch it and say two!")
3. **Needs Discussion (Science Check):** Ask, "If we want our seeds to wake up and grow, what do they need? Do they need candy? No! They need a drink (Water) and a cozy blanket (Soil or the damp paper towel)!"

### Activity: Setting Up Our Experiment (Kinesthetic/Science)

1. **Preparation:** Dampen a paper towel or cotton balls slightly.
2. **Construction:** Ask the learner to carefully line the inside of the clear cup with the damp paper towel.
3. **Planting:** Instruct the learner to place their five counted seeds gently between the clear cup wall and the damp paper towel, so they can see the seeds clearly.
4. **Observation Plan:** Place the cup in a safe spot. "We have given our seeds a home! We will check them every day to see if we see a tiny sprout!"

## Phase 3: Creative Application (You Do) (15 minutes)

### Activity: Prediction and Letter Practice

**Success Criteria:** The learner will draw what they think the seed will look like in one week, and they will try to write the letters S and W.

1. **Prediction Drawing:** Give the learner paper and crayons. Ask them to draw the seed now (small circle) and then draw what they *predict* it will look like when it sprouts.
2. **Letter Practice (ELA):** On the same paper, encourage the learner to trace or draw the capital letter 'S' (for Seed) and the capital letter 'W' (for Water) using large, simple strokes.
3. **Share:** Ask the learner to explain their drawing. "Why did you draw the sprout going up?" (Formative Assessment Check).

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## 3. Conclusion: Closure & Recap (Tell Them What You Taught)

### Recap and Review (5 minutes)

### Q&A Check-In (Formative Assessment):

- "Show me on your fingers, how many seeds did we put in the cup?" (Checks Math Goal)
- "What is one important thing our seed needs to drink?" (Checks Science Goal)
- "What sound does the letter S make?" (Checks ELA Goal)

## Reinforce Takeaways (Actionable Conclusion)

**Educator Talk:** "You are amazing scientists and counters! Every day, we are going to look closely at our seed cup. This is called observing! We will watch the tiny miracle happen. Great job being a Little Botanist today!"

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## Differentiation and Adaptability

### Scaffolding (Support for Struggling Learners)

- **Math:** Reduce the counting goal to three seeds instead of five. Use only two number cards (1 and 2) for matching.
- **Science:** Use hand motions to reinforce vocabulary (e.g., pretend to rain when saying "water").
- **ELA:** Focus only on recognizing the letter S. Provide large tracing letters with arrows for guidance.

### Extension (Challenge for Advanced Learners)

- **Math:** Introduce simple addition by grouping the seeds (e.g., "If we take 2 seeds and add 1 more seed, how many do we have?") or count to 10.
- **Science:** Create a control group experiment: Plant two seeds in another cup but withhold water to see what happens. Introduce the word "sunlight" and discuss why the plant needs it too.
- **ELA:** Begin a simple observation journal where the learner draws the date and the changes to the seed daily.

### Universal Context Adaptations

- **Homeschool:** The lesson is highly flexible; the parent/educator can incorporate the planting into kitchen windowsill gardening.
- **Classroom:** The activities can be run in small groups or learning centers. The "You Do" drawing phase becomes an individual portfolio piece.
- **Training/Group Setting:** This lesson serves as an excellent model for teaching multi-sensory, integrated subjects to early childhood educators. The counting and planting can be a shared group activity (We Do) leading to individual observation logs (You Do).