Seeds & Beads Lesson (Growing Plants) Plants — Grades K – 3

Adapted from Maricopa Agriculture Center by Helen Idzorek, Rita Abel and Katie Garrity

Objective:

- Identify the requirements for growing plants, K-3
- Explain the importance of each requirement for growing plants, K-3
- Compare and contrast the needs of humans and plants, K-4

Science Standard
The flow of energy and the recycling of matter are essential to a stable ecosystem. Science

Language Arts
Compare and integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (in a flowchart, diagram, model or graph); we will use a Venn diagram.

Materials Needed:

- 10-inch stretchy string or pipe cleaners; the pipe cleaners are easier for K-2 to use.
- Scissors to trim string or pipe cleaner
- 7 bead colors for each student
- Optional for expanded lesson – Venn diagram on paper or blank paper and pencil for each student.

Lesson:

Ask students this question (they will have a variety of answers). What does a plant need to grow?

<table>
<thead>
<tr>
<th>Answer</th>
<th>Seed</th>
<th>Tan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil/Nutrients</td>
<td>Black or Brown</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>Clear</td>
<td></td>
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<tr>
<td>Sunlight</td>
<td>Yellow</td>
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<tr>
<td>Care/Love</td>
<td>Red</td>
<td></td>
</tr>
<tr>
<td>=</td>
<td>Plant</td>
<td>Green</td>
</tr>
</tbody>
</table>

Then ask students if we need the same things to grow strong and healthy?

Give each student a string or pipe cleaner. Have students or helpers pass out beads each time you bring out a new colored bead. Ask student what color this bead might stand for when growing plants. Pass the bead colors out one at time, talking about each color and what it represents. Have the students place the beads on the pipe cleaner/string while you talk about the bead and what it represents.

(I have found that if I have beads separated into small zip lock bags, the lesson is easier to teach and the students stay focused on what we are teaching.)
Questions or discussion to have about each bead:

**Seed or plant piece – tan bead:** We need seeds for plants to grow. Discuss that it will take time for the seed to grow after planting it.

**Soil/nutrients – black or brown bead:** A seed needs soil to grow in. Soil is the top layer of the earth. Seeds grow in soil to become plants; directly or indirectly soil feeds most all life on earth. We humans need foods that give us nutrients, just like a plant. We get a lot of nutrients from plants.

**Water – blue bead:** Plants require water; living things are made up of mostly water, so a plant must be watered to grow. A human needs water to survive.

**Air – clear bead:** Air provides carbon dioxide for plants to grow. A plant takes CO2 in through its leaves and then gives off oxygen to help us breath. Older grades may want to talk about photosynthesis in the next lesson.

**Sunlight – yellow bead:** Sun gives light energy and is one source of heat. Plants and humans need sunlight to grow and survive.

**Care/love – red bead:** Plants need to be taken care of. You can take care of a plant by watering and feeding it nutrients, making sure it gets enough light and air. You need love and care as a human.

When you have all these components/parts, YOU can grow plants.

**Have adults help close each bracelet and trim off excess pipe cleaner or string with scissors.**

**After the bracelets are made, ask students to again review each bead and what it represents.**

**Expand lesson:**

Compare and contrast the needs of a plants and a human. Draw two circles on the board overlapping. List human needs and plant needs. A requirement that both will need will be placed in the overlapping area. This is called a Venn diagram. Students could draw or write about the needs of humans and plants.

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Plants
  Soil
  Seeds
  Air
  Care/Love

Human
  Food
  Shelter
  Water
  Clothing
  Exercise
  Light
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