



Beans

Standard Connection:
 ELA.RL.PK4.10; ELA.W.PK4.7
 M.CC.PK4.3; M.MD.PK4.3
 S.T.PK4.1; S.PS.PK4.1
 SS.OV.PK4.2; PD.FM.PK4.1
 PD.SHS.PK4.5

Enduring Understanding(s):

- Light things grow and have life cycles.

Essential Question(s):

- How do people impact the environment in positive or negative ways?
- How do living things respond and adapt to their environments?

Materials	Vocabulary	Books
<ul style="list-style-type: none"> • <i>Zinnia's Flower Garden</i> • groups children created in <i>Sorting Beans</i> • tweezers or small tongs • magnifying glasses • seed activity template (see Resource) • writing utensils 	<p>attribute: a particular shape, size, or color</p> <p>bean: a type of seed harvested for food</p> <p>garden: a section of ground where herbs, fruits, flowers, or vegetables are grown</p> <p>group: a collection of things or people</p> <p>measure: to determine length, weight, etc.</p> <p>plant: a living thing that grows in the ground using the sun for food</p> <p>seed: part of a plant that grows into a new plant</p>	

Intro to Centers	
Preparation: Set up materials.	
"In <i>Zinnia's Flower Garden</i> , Zinnia planted a garden . What do you notice?"	Show illustrations. Children respond.
"She planted seeds . Here are images of seeds . What do you notice?"	Show images. Children respond.
"The seeds' attributes - their shapes, sizes, and colors - are different."	
"Here are the groups of beans - a type of seed - you created."	Show groups from Bean Sorting.
"Today at Puzzles (Manipulatives), you can use the beans to measure , count, and create your name with these materials."	Show materials. Model.
"This says, 'How many beans on a line?' I will put lima beans on the line."	Model.
"Now, I will put chickpeas - another type of bean - on the line."	Model (using a second template). Children respond.
"Lima beans and chickpeas are different sizes. Ten lima beans are as long as fifteen chickpeas."	Model.

During Centers:

Support children in recording their observations with writing, drawing, and/or tally marks (*12 lima beans = triangle*). Compare and contrast how bean size affects how many beans are needed in the templates. Compare and contrast how children place beans ("*You placed the beans on the line so they are touching each other, with no space between them*"; "*You spread out the beans in the triangle,*" etc.)

Guiding Questions During Centers:

- How does the bean size/shape affect how they fit on a line/in a shape, etc. (templates 2, 4)?
- Does your line/shape have more/less beans than your friend's line/ shape? Why? How do you know (templates 2, 4)?
- How can you show the number of beans in these two groups (template 3)?
- Which name uses the most/least amount of beans (template 1)? Why?

Thinking and Feedback:

Invite children to share their processes. Encourage children to describe the challenges they might have encountered.

Documentation:

Collect samples of the children's work as well as photographs and/or video of their process; use the documentation to launch a discussion during Thinking and Feedback.

Provocation:

Encourage children to document their observations with graphs (template 1).

Differentiation/Accommodation:

For Intro to Centers, children with limited verbal skills can use a pre-programmed voice output device to answer questions about the story. (Keep in mind these will likely be closed-ended questions, as those are easiest to program into devices.) This can also be used to help students answer Guiding Questions. During Centers for children with spatial and/or fine-motor challenges, enlarge templates, use masking tape on the table, and use contact paper to minimize rolling beans.