

The Flower Pot Hen

A book about representing data






Aim

The Flower Pot Hen investigates how a variable (heights of individual plants) changes over time. Students learn to construct and interpret vertical and horizontal bar graphs and describe the natural variation within a data set.

These whole-class and small-group activities provide students with the opportunity to:

- listen to a story about data representation
- describe how a variable changes over time
- use concrete materials to construct vertical and horizontal bar graphs
- use the *Teaching Tool* to construct vertical bar graphs
- identify features of a bar graph
- describe and interpret natural variation within a data set
- measure alternate variables within the same data set

Activities

1. Listening to the story
2. Using materials to act out the story
3. Using the teaching tool to act out the story 
4. Describing variation in a data set
5. Using the teaching tool to change the variable being measured 
6. Using the teaching tool to create and interpret data 

I. Listening to the story

Resources

- *The Flower Pot Hen*

Activity

Show the cover of *The Flower Pot Hen* and read the title aloud. Encourage students to predict what the story might be about. Now read the story, once through, in its entirety. Ask, **What happened in the story?** Encourage students to explain that the growth of each plant was being recorded over each double-page spread. Slowly re-read the story and discuss each double-page spread. Ask, **How could you measure the height of each plant?** Encourage students to suggest counting the number of bricks that fall between the base of the stem and the tip of each plant. Students can then work through each double-page spread to identify the height of each plant.

2. Using materials to act out the story

Resources

- Support 1 (see attached)
- Base-ten ones blocks

Preparation

Each group will need a copy of Support 1 and access to base-ten ones blocks.

Activity

Read aloud pages 8–9 of *The Flower Pot Hen* and have the students place blocks on their counting mat to show the height of each plant. Students can choose to arrange their copy of Support 1 vertically or horizontally. This will highlight the similarities between each arrangement. Inform students that one cube is equal to one brick. Students can then count their cubes to identify the height of each plant. Ask, **Which plant is tallest? Which plant is shortest? Is there much difference between the heights of the plants? What is the difference between the violet and sunflower? Which plant will end up the tallest? How do you know?** Repeat for each double-page spread in the story.



Data representation of pages 14–15



3. Using the teaching tool to act out the story



Resources

- *Teaching Tool*
- *The Flower Pot Hen*

Activity

Ensure all the students can see the *Teaching Tool*. Read pages 8–9 of *The Flower Pot Hen* and select a volunteer to recreate the scene by clicking and dragging each flower head onto the wall to show its height. Help them using the drawing tool to draw the stem of each flower. The remaining students then confirm that the height of each plant is correct. Ask, **Which plant is tallest? Which plant is shortest? Is there much difference between the heights of the plants? Which plant is growing the fastest? Which plant will end up tallest? How do you know?** Repeat for each double-page spread in the story. Highlight the inconvenience of having to continually count the number of bricks to identify the height of each plant. Suggest writing numbers along the side of the wall (vertical axis) to act as a reference point. Ask, **What numbers should we write?** Then invite a confident student to come to the front and number the axis.

4. Describing variation in a data set

Resources

- *The Flower Pot Hen*

Activity

Read pages 8–9 of *The Flower Pot Hen* and have the students describe the variation in height between each plant. Ask, **How much taller is the violet than the pansy? How do you know?** Encourage students to explain that you count the number of bricks that fall between the tips of each plant. Ask, **What number sentence can we write to show the difference?** Students can then come to the front and write an addition or subtraction sentence on the board. Repeat for each double-page spread in the story.



5. Using the teaching tool to change the variable being measured



Resources

- *Teaching Tool*
- *The Flower Pot Hen*

Activity

Ensure all the students can see the *Teaching Tool*. Read *The Flower Pot Hen*. Remind students that in the previous activities the heights of the plants have been compared after each measurement. Discuss the period of time between each measurement. Ask, **Do you think the plants were measured every hour, every day, every week, or every month?** Encourage students to justify their responses. Then have the students describe how they could show the growth of the same plant over the whole story. Use the drawing tool to write the period of time in which the students decided the measurements were taken below each pot (e.g. Week 1, Week 2, Week 3, Week 4 and so on). A confident volunteer can then come to the front and click and drag a flower head onto the wall above each pot. Once they have correctly positioned the heads to show the height of the plant, at each period of time, use the drawing tool to draw the stem for each plant. Repeat for each type of plant.



6. Using the teaching tool to create and interpret data



Resources

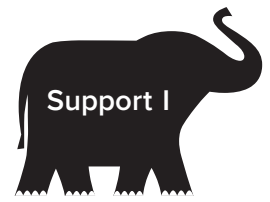
- *Teaching Tool*

Activity

Ensure all the students can see the *Teaching Tool*. Ask one student to come to the front and click and drag the flower heads to create a column graph. Help the student use the drawing tool to draw the stem of each flower and to write the name of each flower below a pot along the horizontal axis. The remaining students then interpret the graph and write at least one number sentence to show the variation in height between two plants. Students then alternate roles and repeat the activity.



Data Representation

[illegible]

Violet

[illegible]

Daisy

[illegible]

Pansy

[illegible]

Sunflower