



Soccer Dot Plots Fractions

Grade 3

Line Plots and Mode

4 levels

Probing Questions

- How do you know when to kick the ball?
- How do you know where to place the dot on the number line?
- What does it mean when there are two dots above the same number?

What's Important Here?

In this introductory game, students are generating line plots based on their own data. Levels 2-4 require students to record their data on a scaled line plot.

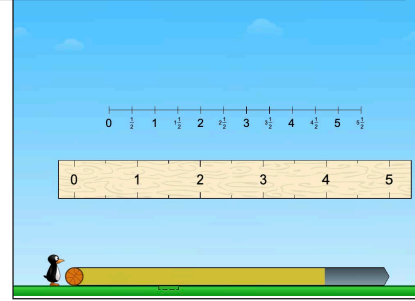
What do the Standards Say?

Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.

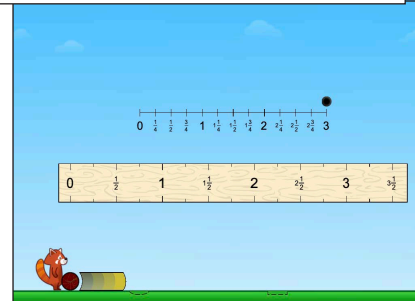
STMath.

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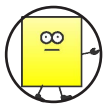
Students must watch the arrow to decide when to kick the ball.



The division of the ruler changes from level to level.



Line Plots and Mode - 1



Dot Plot Dimension Intro

Grade 3

Line Plots and Mode

4 levels

Probing Questions

- What do you notice about the rectangle people?
- What do you see on the line (dot) plot?

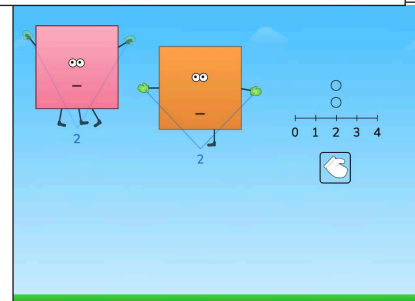
Supporting Struggling Students

Clicking on the attribute icons underneath the line plot makes that attribute appear on the rectangle people. Ask students to compare the those objects to the data on the line plot.

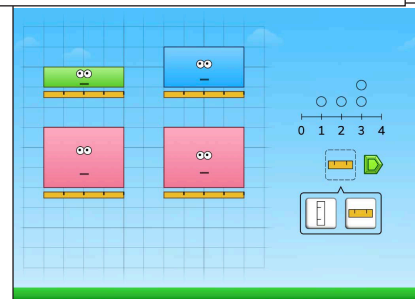
Uncover the Thinking

Ask students to share how they're solving the puzzles. Are they looking at the graph or the rectangles first? How do they eliminate choices? How do they describe the attributes?

In Levels 1-2, attributes appear when you click on the mitten or boot.



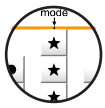
In Level 3 click on the ruler to move it to the rectangles.



Line Plots and Mode - 2

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Mode is Most

Grade 3

Line Plots and Mode

4 levels

Probing Questions

- What are you finding in this game?
- What does mode mean?
- How do you find the mode?

The Bigger Picture

The mode is the simplest descriptive statistic (others include median and mean). This game allows students to use the skills reading and creating line plots that they learned in the previous game.

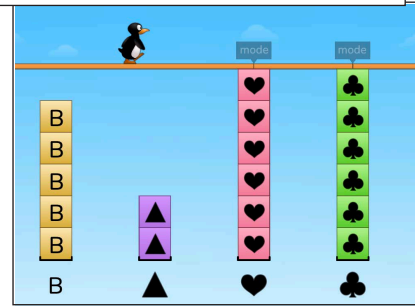
Classroom Connection

Gather real-world data on topics where mode is important. For example, the most popular cafeteria meal, TV show, book, author, etc. Discuss how data can be used to make these decisions.

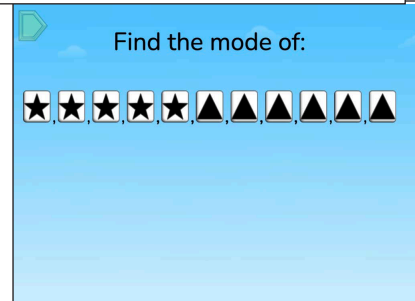
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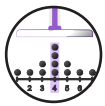
Some puzzles include more than one mode.



Level 4 uses less visual support.



Line Plots and Mode - 3



Mode Magnet

Grade 3

Line Plots and Mode

4 levels

Probing Questions

- What does the magnet do?
- How do you know which column to choose?
- What does mode/minimum/maximum mean?

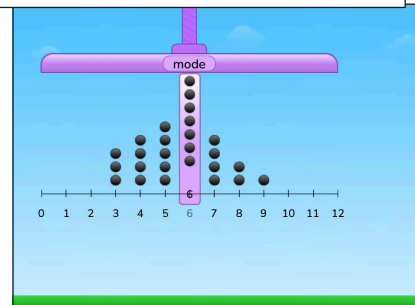
What's Important Here?

This game introduces vocabulary that teaches academic language that students can use to describe graphs.

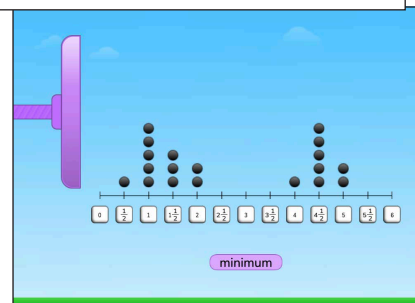
Something to Think About

This game distinguishes between minimum, maximum, and mode. It also creates an intuition about WHY there can be more than one mode, but there can't be more than one maximum or minimum.

Level 1 teaches how the magnet works.



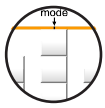
Level 3 introduces the terms mode, minimum, and maximum.



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Line Plots and Mode - 4



Mode Is Most Numeric

Grade 3

Line Plots and Mode

2 levels

Probing Questions

- What does mode mean?
- What will you see after you click?

Something to Think About

Students played a similar game in the Scale and Measurement in Graphing objective. This version replaces the visual with numbers.

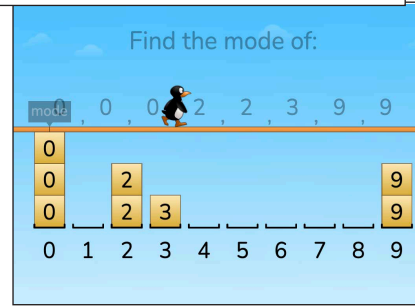
What's Important Here?

Mode is the simplest measure of central tendency and requires only the ability to count and to compare. It can encourage students to think of different ways to summarize the data before learning about summary statistics that require arithmetic like range, mean, and median.

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Students are now finding the mode of numerals.



Some puzzles present multiple modes.

