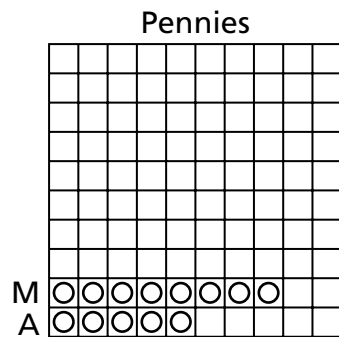


Teaching Unit 4 (Continued)

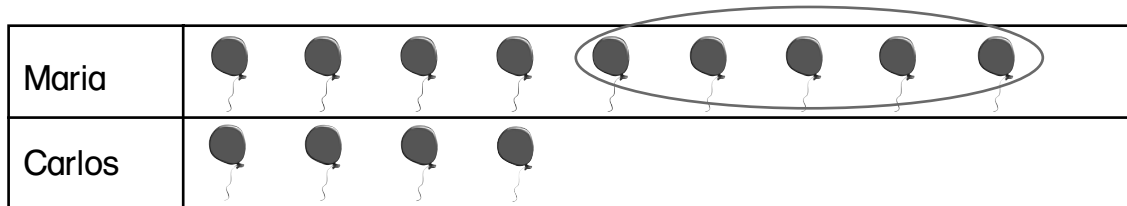
Math Background

Introduction to Picture Graphs

Picture Graphs Children begin learning how to make a picture graph by drawing one circle to represent each penny that two friends in a story problem have. Children learn how to label their graphs with the first initial of the friends' names and how to give the graph a title. Children then pose and answer questions about the data in the graph. Organizing information into a graph and describing the information are key processes in learning to work with data.



Using Comparison Language Children solve comparison problems depicted in picture graphs. They use the comparative terms *same*, *more*, and *fewer*, as well as the $>$, $<$, and $=$ symbols, to compare the information in the graphs. Because the pictures in the rows or columns of a picture graph are aligned, they can be easily compared to find how many more or how many fewer items would equalize the groups.



Maria has 5 more balloons than Carlos.
Carlos has 5 fewer balloons than Maria.
Carlos needs 5 balloons to have as many as Maria.

Introducing Tables Children will construct tables with rows, columns, headings, and numbers. Children will see how they can easily compare information when it is organized into a table. They will also have an opportunity to convert tables to picture graphs and pose and answer questions about all of these data formats.

Names	Stickers
Tom	3
Ana	9
Reggie	4

Introducing Bar Graphs and Circle Graphs

Bar Graphs Children move from picture graphs to bar graphs as they learn to convert a picture graph to a bar graph by shading the squares that have pictures in them. They change the numerical scale to the number line length model with numbers at the end of each square telling how many so far.



Children will read information in bar graphs and pose and solve problems using information in the bar graphs. They will use bar graphs in both horizontal and vertical form.

Circle Graphs Children learn how parts of a circle and the size of the parts can represent different information and values. They complete a circle graph using information from a bar graph. They compare bar graphs and circle graphs and find how each can be used for different purposes.

