SUMMARY

This lesson introduces the concepts of data, data collection, and representing categorical data using pictographs and bar graphs.

COMMON CORE STANDARD(S)

2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

DURATION

Two 45-minute classroom periods
Engage and Explore, Explain, Elaborate page 1—one 45-minute classroom period
Elaborate page 2, Evaluate—second 45-minute classroom period

MATERIALS

Whiteboard and whiteboard markers

ENGAGE AND EXPLORE

Introduce your students to the concept of collecting data based on attributes by doing the following activity.
Tell students you want to collect data about the class. Tell them that data is information that you have found and that you record using words, numbers, and pictures.
Have students all stand along one wall. Call out an attribute that students may have and ask students to steps forward if they have it. Some examples:

- Wearing blue
- Have a pet
- Like to dance
- Birthday in January, February, or March

Note: Avoid topics that may reveal the financial status of the family of your students. Avoid having children categorize themselves by gender.

When students step forward, have them count themselves by having each students say a number. Write the two categories on the board and record the numbers. For example, say: “We collected data about who is wearing blue and who isn’t. There are 6 kids wearing blue and 10 kids not wearing blue.”

Wearing Blue: 6
Not Wearing Blue: 10

After you finish the activity, tell students that today they will learn about different ways to represent data that they have collected.

**EXPLAIN**

**WATCH THE GENERATION GENIUS INTRO TO DATA: PICTOGRAPHS & BAR GRAPHS VIDEO AS A GROUP**
Facilitate a conversation using the Discussion Questions.

**ELABORATE**

Direct students to use their new understanding to complete the practice problem worksheets. Page 1 contains bare mathematical problems to solidify understanding of the process. Page 2 contains application problems for students to apply the process to solve real-world problems.

**EVALUATE**

Have students gather in groups of 2 or 4 to compare and discuss their answers to the problems. Allow students enough time to communicate with their peers about their process and their thinking. Encourage students to use correct mathematical language when discussing their process. Have each group choose two questions they want more information about, or they want to discuss as a class.

When groups are ready, take questions from students. Encourage groups to answer questions brought up by other groups.

Students can play the online Kahoot! quiz game located below the video. It provides downloadable scores at the end of the quiz game. Alternatively, you can use the paper quiz, or the exit ticket questions. All these resources are located below the video in the assessment section.