

Lesson summary - How to make a bar graph

This is a fourth-grade math lesson in which students use data to make a bar graph. In small cooperative groups, they write a list of steps explaining how to make a bar graph and work on the collaborative skill of taking turns when talking.

Prerequisite skills: Students should be able to label parts of a bar graph and interpret a bar graph.

Objectives

Students will list steps used to create a bar graph. Students in groups will take turns talking.

Materials

Large graph paper, markers

Procedure

1. Demonstration

Students may create the bar graph using data they have collected or they may use the data that is provided. Explain to students that in their small groups they will create a bar graph and then write the steps they took to create the graph. Explain that they will be working on taking turns talking in their small groups. Groups may have the speaker hold a designated object, such as a loose ball, to indicate it is that student's turn to talk or groups may have students speak in a specific order. Have groups determine how each student will take turns when speaking.

Direct students to turn to a neighbour and use Think-pair-share to explain the purpose of a bar graph (when you want to show data that can be read and

compared quickly). When they are finished, have the whole class stand up. Ask a student pair to explain when they would use a bar graph.

After the first pair shares their answer, ask other pairs who have similar responses to sit down.

Continue to have pairs share, and have pairs with similar responses sit down.

During whole group instruction, model how to make a bar graph using the data below.

2. Pet popularity

Type of Pet	Number of Pets
Parakeet	9
Dog	22
Cat	53
Hamster	7

3. Briefly discuss the data in the chart above.

Brainstorm parts of a bar graph with students. Use large graph paper to create a bar graph, thinking aloud throughout the process.

Steps in the Process

- Decide on a title for your graph (Pet Popularity).
- Draw the vertical and horizontal axes.
- Label the horizontal axes (Type of Pet).
- Write the names of pets where the bars will be (Parakeet, Dog, and so on).
- Label the vertical axes (Number of Students).

- Decide on the scale. Explain that you should consider the least and the greatest number shown on the graph. Discuss what range of numbers should be shown on this bar graph (Begin at 0 and count by 5s to 25).
- Draw a bar to show the total for each item.

4. Guided Practice

Have students write 5-7 words or phrases that explain the process of creating a bar graph.

Divide students into groups of 3 or 4. Review and assign group roles. Possible roles include Recorder, Questioner, Organizer, and Encourager. Remind students that the collaborative skill that they are working on is "taking turns talking."

Give students a time limit of 10 minutes and remind them that you will give them a 5-minute warning. Have students combine and order their 5-7 words or phrases and then use them to write the steps for making a bar graph. This should include the best of each individual student's list and will be the bar graph process the group presents to the rest of the class.

Check-in with each group to ensure that they understand the objectives.

Encourage students to use the class bar graph to help them.

5. Assessment

As students work in their groups, monitor their progress and reinforce collaborative behaviours. Note how individual students are doing on both the academic and collaborative tasks to help improve grouping in future lessons. Help groups who seem stuck or confused. Give students group-processing time to reflect on how they worked collaboratively. For groups who are slow to discuss issues ask:

- Were you able to take turns talking in your group?
- What kinds of behaviours helped you to take turns?
- Was your plan indicating whose turn it was to talk successfully?

6. Return to the whole class.

Have one student from each group explain the steps that their group wrote. Incorporate all groups' lists into one master list, keeping close to the actual order of steps you used. If the groups need help, ask some leading questions:

- Were there steps that needed to be done first?
- Was order important when writing your list?
- Which steps had to be written first?
- What words could I use to indicate the order of the steps?

See our library for more group activities.

Help your students learn how to analyze and present data

Use this lesson plan to help students learn how to read and create bar graphs and to work cooperatively in groups. Detailed steps are outlined to follow which will enhance your lesson and help your students be successful as they work in cooperative learning groups to complete creating the bar graphs.

Source:

