

Title:	Graphing Book Favorites				
Grade(s):	4				
Subject(s):	Math				
Author:	Pam Morton-Rodgers, Jennifer Walker, and Lynne Williams				
Overview:	Gather data and graph the most popular types of books in the class.				
Content Standards:	MA (4)	<p>15. Represent categorical data using tables and graphs, including bar graphs, line graphs, and line plots.</p> <ul style="list-style-type: none"> - Collecting data using observations, surveys, or experiments. - Creating a tally chart to represent data collected from real life situations. 			
	TC (3-5)	<p>9. Use technology tools to organize, interpret, and display data.</p>			
Primary Learning Objectives:	Students will create a bar graph representing data collected concerning class members' preferred types of books.				
Approximate Duration of Lesson:	90 minutes				
Materials and Equipment:	Data sheets, Sticky notes, Literary Genre Chart on paper or board.				
Technology Resources Needed:	Laptop or desktop computer with Microsoft Excel, projector.				
Background/Preparation:	The class should have basic understanding of charts and graphs.				
Procedures/Activities:	<p>Step 1 Brainstorm a list of literature genres and discuss the characteristics of each. Examples: Biography, Mystery, Science Fiction, Plays, Fairy Tales, Fantasy, Folk Tales, Adventure, Informational, Poetry.</p> <p>Step 2 Individually, have students fill in the data sheet to indicate their favorite genre. Give the students about 5 minutes to complete. Then, allow the students to discuss, in groups, their favorite genres with classmates.</p> <p>Step 3 Give the students a sticky note; ask them to write the title of their favorite book on the sticky note. Have students place their sticky note on the Literary Genre Chart on the board. As each student adds a sticky note to chart paper under proper heading, ensure that he or she understands genre by encouraging him or her to explain why the book fits in that genre.</p>				

Step 4

After data is collected, the students will create a tally chart determining the favorite genre and the number of students who enjoy each genre. Using Excel and a projector, the teacher will create a bar graph display of data collected. Using Excel and a desktop or laptop, the students will create a bar graph display of data collected. The graph must include a title, and labels on the x and y axis.

Attachments:

Student data sheet; rubric

Assessment

Rubric

Strategies:

Name _____

Student Data Choices

1. Write the title and author of your favorite book.

2. I type of book I most like to read is _____

3. Using the data collected by the class, fill in the chart below.

Type of genre	Number of students who enjoy each genre
Biography	
Mystery	
Science Fiction	
Plays	
Fantasy	
Folk Tales	
Adventure	
Non-fiction	
Poetry	

Rubric for Graphing Book Favorites

CATEGORY	4	3	2	1
Type of Graph Chosen	Graph fits the data well and makes it easy to interpret.	Graph is adequate and does not distort the data, but interpretation of the data is somewhat difficult.	Graph distorts the data somewhat and interpretation of the data is somewhat difficult.	Graph seriously distorts the data making interpretation almost impossible.
Title	Title is creative and clearly relates to the problem being graphed (includes dependent and independent variable). It is printed at the top of the graph.	Title clearly relates to the problem being graphed (includes dependent and independent variable) and is printed at the top of the graph.	A title is present at the top of the graph.	A title is not present.
Labeling of X axis	The X axis has a clear, neat label that describes the units used for the independent variable (e.g., days, months, participants' names).	The X axis has a clear label that describes the units used for the independent variable.	The X axis has a label.	The X axis is not labeled.
Labeling of Y axis	The Y axis has a clear, neat label that describes the units and the dependent variable (e.g., % of dog food eaten; degree of satisfaction).	The Y axis has a clear label that describes the units and the dependent variable (e.g., % of dog food eaten; degree of satisfaction).	The Y axis has a label.	The Y axis is not labeled.
Neatness and Attractiveness	Exceptionally well designed, neat, and attractive. Colors that go well together are used to make the graph more readable.	Neat and relatively attractive. Microsoft Excel is used to make the graph readable.	The graph contains some elements.	The graph does not have required elements; title and labels.

*Rubric created on rubistar.4teachers.org