

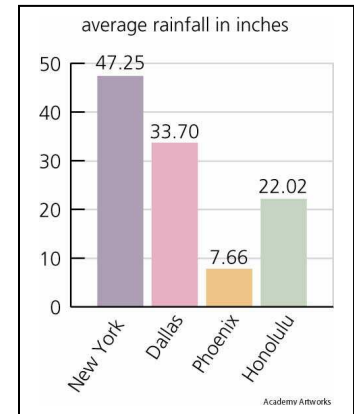
Algebra/Geometry Summer Institute 2006

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School: Davis Elementary, Greenwood, MS

Grade Level: Sixth

Show Me The Data!



1. Teaching Objective(s):

The students will:

- ⇒ Collect and organize data
- ⇒ Read and interpret bar graphs
- ⇒ Construct bar graphs

2. Instructional Activities:

Tell the students, "Today we will be learning how to collect, organize, and display data using a bar graph. Who can tell me what data are? What is a bar graph and what is it used for?" Allow time for discussion.

Lecture: Introduce lesson with definitions.

Data are pieces of information that you collect. For the students to have a better understanding of how data are collected, the teacher will ask each student to name his/her favorite sport. As the students call out their responses, the teacher will list them one by one on the board. Once this is complete, tell students "we now have a collection of data." In what circumstances have you had to collect data or had data collected from you? (Ex. Doctor's appointments, voting)

- Note: Talk about how data can be neatly displayed using a chart or graph.

- Here is what our data would look like when displayed in chart form.

Example of Data:

Sport	Tally
Softball	III
Football	III
Hockey	I
Basketball	III

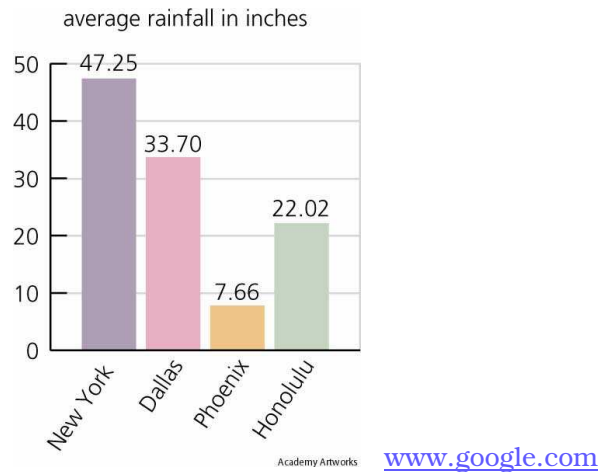


Define bar graph:

A bar graph is a graph that organizes a collection of data by using horizontal or vertical bars to display how many times each event or number occurs in the collection.

⇒ Have students demonstrate their understanding of horizontal and vertical by using their arms. (Ex: horizontal = hold arms straight out the left and right side, vertical = hold one arm straight up and one arm straight down to form a vertical line)

Say, “The following is an example of a bar graph. Let’s look at all of its parts. What type of data had to be collected? What information is represented on the horizontal axis, and what information is represented on the vertical axis? What do you notice about the numbers on the vertical axis?” (See Transparency #1, Sample Bar Graph)



Guided Practice

⇒ The students will now take the data that we collected earlier (favorite sport) and put it into a bar graph. The teacher will observe to check for understanding and provide assistance to students needing help. (See Handout 1, Our Favorite Sports)

⇒ Create graph together on the whiteboard and allow students to correct mistakes, as well as, ask questions.

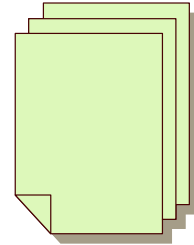
Partner Activity/Guided Practice:

- The teacher will group students into pairs.
- Each pair will receive a bag of M&M's.
- The students will group the M&M's by color and count the total in each group. (collecting data)
- They will take this data and create a graph.
- Students will need to label the x and y-axes as well as give the graph a title.

The teacher will monitor the pairs to check for understanding.

3. Materials and References:

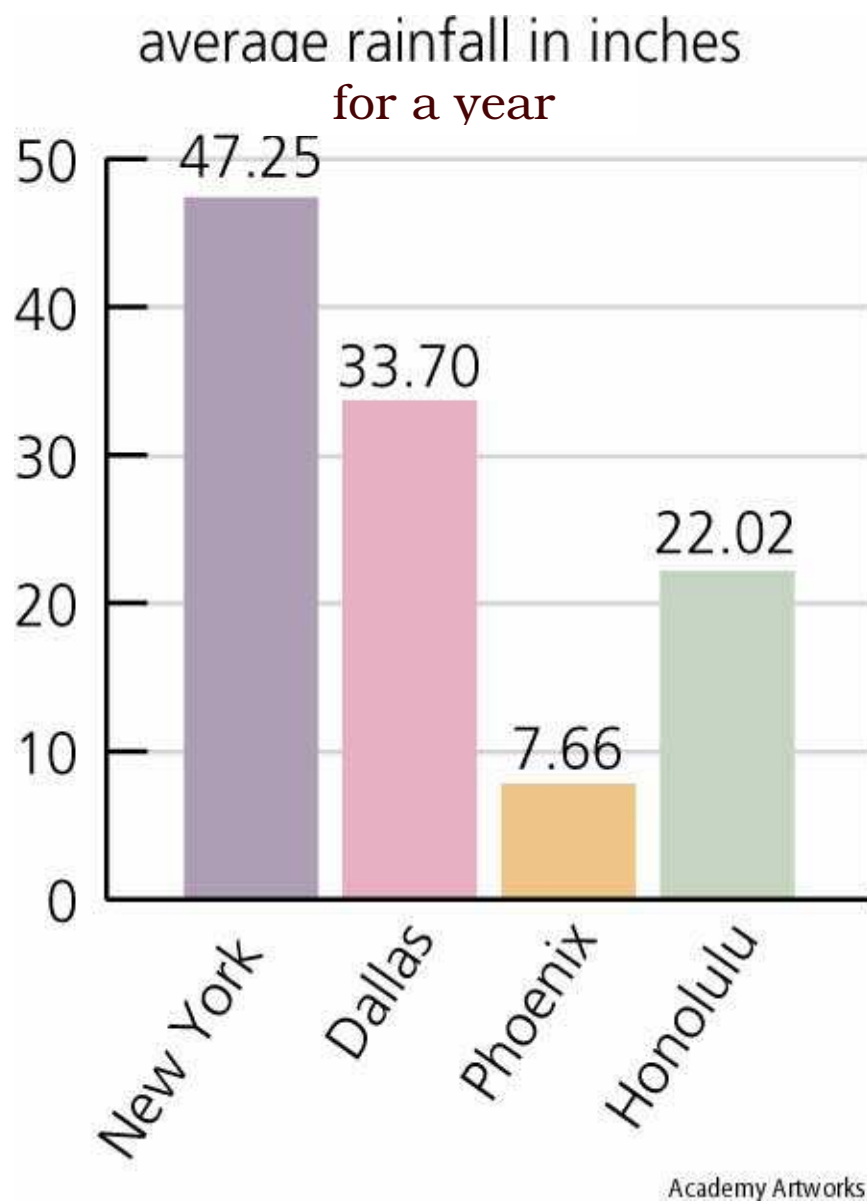
- ❖ McDougal Littell, *Passport to Algebra and Geometry*, page 208
- ❖ Glencoe, Pre-Algebra, page 50
- ❖ R.I.D.E.S. Material
- ❖ Computer
- ❖ Overhead projector
- ❖ Transparencies
- ❖ Teacher-made graphs/charts
- ❖ Whiteboard
- ❖ M&M's
- ❖ Stopwatch



4. Assessment

- The students will need a notebook and a pencil. The students will collect data. They will watch vehicles pass by for 10 minutes writing down each kind of vehicle they see (ex. Car, truck, van, SUV, etc.). They can do this in one of two ways depending on your individual setting. These two ways are: (a) the teacher can take his/her class outside and sit on the sidewalk or at the picnic tables to gather data or (b) the teacher can keep his/her students in the class and allow them to look out the window.
- After students have collected data, they will construct a bar graph using the data. (See Handout 2, Vehicles)
- The teacher will take the bar graph for a daily grade.

Transparency 1 Sample Bar Graph



What is the title of the graph?

What is represented on the vertical axis?

What is represented on the horizontal axis?



Handout 1 Our Favorite Sports



Directions: Display the data that was collected by the class on the following graph. Be sure to label the horizontal and vertical axis and give your graph a title.

Title of Graph: _____

