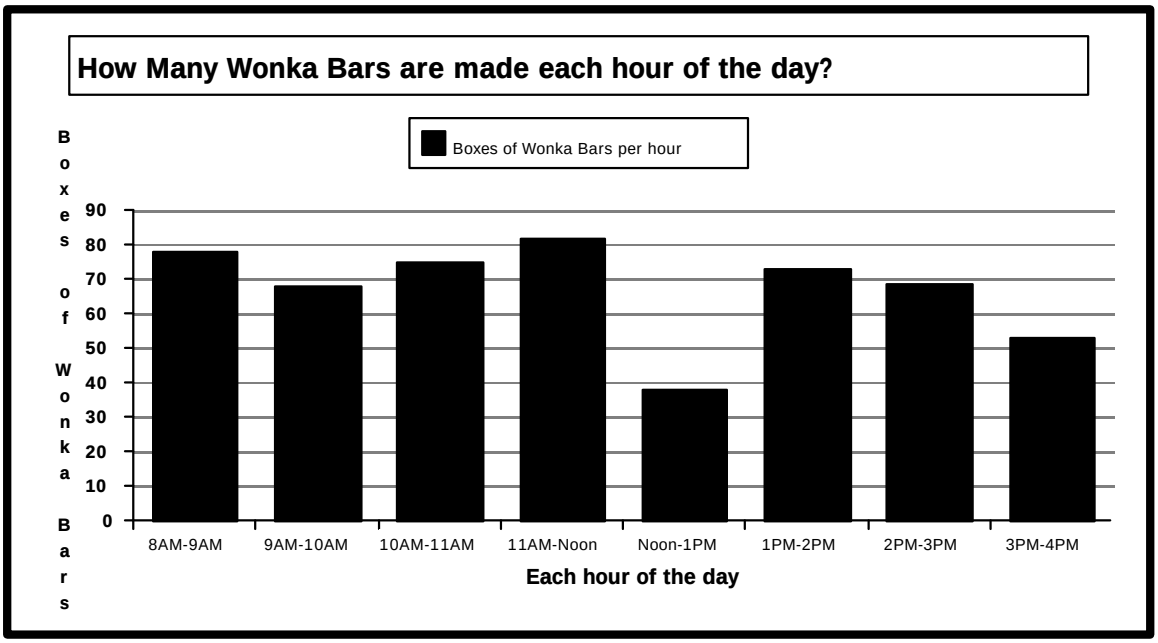
Lesson: Math Grades K – 3
Graphing

Reading a Wonka Graph

Introduction

Students will read and interpret data from a bar graph. The class will discuss questions about the graph and draw conclusions to find the solutions together.



State Outcomes

Patterns, Functions and Algebra Standard

8. Identify and describe quantitative changes, especially those involving addition and subtraction.

Data Analysis and Probability Standard

1. Collect and organize data from an experiment, such as recording and classifying observations or measurements, in response to a question posed.

2. Draw and interpret picture graphs in which a symbol or picture represents more than one object.

4. Support a conclusion or prediction orally and in writing, using information in a table or graph.

Getting Started

Materials

- Paper
- Pencil

- Graph(s) (one graph to present on an overhead and/or enough graphs on paper for individuals or small groups)

Technology

Use a spreadsheet program (such as AppleWorks or Excel) to create additional graphs of various types (pictograph, pie, line, etc.) for student exploration.

Vocabulary

- Bar graph
- Quantity
- Hour
- Conclusion
- Compare
- Contrast
- Title
- Range
- Labels
- Legend

Lesson

Set up:

Make an overhead transparency of the graph to be used for class discussion. It would also be helpful to make paper copies of the graph so that each student or small group of students has a graph that they may touch and visually explore at a close proximity.

Activity:

Present the graph to the class. As a large group, explore and discuss the graph with students. Point out items such as: *title, range, labels, legend,* and other specifics about the graph. During this discussion watch for students that are having problems comprehending the graph and its information. Once it seems as though students have grasped the concept of this graph, move on to the following questions. Begin working on the solutions to the questions as a class. Try to get to the point where the students are working on the solutions in small groups or individually. Make sure that each question is discussed as a class immediately after it has been worked on in small groups or individually. This will give the students immediate feedback as well as an opportunity to correct any mistakes or illogical thoughts immediately.

For younger students, adjust numbers on the Y axis of the graph so that the numbers are smaller/single digit; and/or adjust the time scale on the X axis of the graph so that it may be easier to comprehend.

Some questions that could be asked about the graph:

- How many hours are in a Wonka work day?
- Which hour were the most boxes of Wonka Bars made?
- Why do you think that the least amount of Wonka Bar boxes was made between Noon and 1 P.M.?
- Estimate the number of Wonka Bar boxes made in the morning hours.
- Estimate the number of Wonka Bar boxes made in the afternoon hours.
- Why do you think there were so few Wonka Bar boxes made during the last hour of the day?
- Approximately how many Wonka Bar boxes were made during the hour when the most candy was boxed?
- Approximately how few Wonka Bar boxes were made during the hour when the least amount of candy was boxed?
- Estimate the total number of boxes of Wonka Bars made on this day.
- Estimate the difference of Wonka Bar boxes made between the hour with the greatest amount and the hour with the least amount.
- How many hours in the day were more then 60 boxes of Wonka Bars made?

Handouts

It may be helpful if students have copy of the graph as well as the same graph viewed via the overhead projector.

Evaluation

Use the same graph or a similar graph and have each student answer teacher made questions where they would interpret information from the graph and be required to draw conclusions.