



Greedy Candy Grab

Introduction

Students will use estimation, prediction and probability while grabbing "candy" from a container and graph the results.

Ohio Learning 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.

Materials

- Paper
- Pencil
- Large paper for class graph
- Container(s)
- Many of the same object to represent candy (buttons, marbles, blocks, unifix cubes, etc.)

Technology

A spreadsheet program (such as Excel or AppleWorks) could be used to create a graph on the computer and compare the results to the class graph created by the students and teacher.

Vocabulary

- Estimation
- Prediction
- Probability
- Bar graph
- Quantity

Lesson

Set up:

Place numerous objects in a container that will represent "candy." There should be enough objects in the container that each student is able to grab one handful.

Activity A:

Each student will predict how many objects or "pieces of candy" they can grab out of the container with one hand.

Each student will grab one handful of objects from the container. Students will then count the number of objects they grabbed in their handful as numerals and record the number on their paper. A bar graph will be completed showing the class data and the number of objects or "pieces of candy" each student was able to grab. Use ordinal numbers while asking students for information (ie. How many pieces of candy were in our **first** handful? Our **second** handful contained how many pieces?).

For younger students: Use a small scoop of some sort so the number to count is smaller. Or, use larger objects so that students may not grab as many objects at a time resulting in smaller numbers to count.

Activity B:

Each student will predict how many objects or "pieces of candy" they can scoop out of the container using two hands cupped together. Prior to the students' estimations, a class discussion should occur that focuses on what has changed and how these changes may effect the outcome.

Each student will scoop two handfuls of objects from the container. Students will then count the number of objects they scooped in their hands as numerals and record the number on their paper. A bar graph will be completed showing the class data and the number of objects or "pieces of candy" each student was able to scoop. Use ordinal numbers while asking students for information (ie. How many pieces of candy were in our **first** scoop? Our **second** scoop contained how many pieces?). Hint: It might be helpful, for comparison, to place the result for Activity A and Activity B on the same graph so that the students may see the quantitative differences more easily.

Other options to change could be the number of objects in the container and the size of the container or the size of the "candy". Compare the results of all of the changes.

Activity C:

When you set up for this activity, place a special object in the container that represents the "Golden Ticket." Students will then estimate how many handfuls of "candy" will be grabbed before the golden ticket is found. One way to complete this activity is to have each student take a handful until someone gets

the "Golden Ticket". Another way is to have each student take as many handfuls as necessary to get the "Golden Ticket." This way may take a little longer, but at least everyone will get a golden ticket. Changing the number of "Golden Tickets" in the container could also vary the activity.

Whichever method is chosen for completing the activity, students should count and record the number of handfuls needed to obtain the "Golden Ticket". This data can then be graphed as small groups or a whole class.

Handouts

It may be helpful if students have a record sheet to record their information after they have counted their "candy".

Graph paper would also be helpful to have the students create their own graphs, as an option.

Evaluation

Give the students a teacher created graph and ask question that they can relate to the graphs and activities completed in class.