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Grand Grocery Graphs
Literature/Math
Grades 1st - 4th

Approximate length - 5 days

DESCRIPTION:

This unit is teaching the concept of graphing through varied activities using food to do the activities. Children will learn about various graphs and be able to create their own graph using graph paper and the computer program “Graph Club”.

FAITH INTERGRATION:

The teacher would bring out the fact that as all things fit together in a graph, all things fit together in the world. God made a world that fits together and as we follow His plan, the world continues to have balance. It is only as we don't follow Him, that the world is falling apart.

CURRICULUM BENCHMARKS:

NETS #1 Students will demonstrate a sound understanding of the nature and operation of technology by learning to use the program “Graph Club”

NETS #3 Students using “Graph Club” will be able to use the “Steps of Organization for Creating a Graph” to create their own graphs.

NETS #4 Students will be able to interact with their peers in explaining their graphs and answering any questions about their graphs.

TEACHER PREPARATIONS:

Develop questions for introduction and discussion of each lesson
Collect graphing objects and pictures
Have computers on “Graph Club”
Find Literature Books for each day
Collect and have on hand all items from the materials list

STUDENT PREPARATIONS:

Students will need simple instructions in how to develop a graph on the computer and time to practice prior to doing the assignment

MATERIALS NEEDED:

Literature Books:

Bears! Bears! Bears!, Louise Caldigan & Nancy White, Scholastic 1996
Cheerios Counting Book, Barbara McGrath, Scholastic 1998
Just Graph It, Sandi Hill, Creative Teaching Press 1998
Mud Soup, Judith Head, Random House 2003
M & M’s Counting Book, Barbara McGrath, Charlesbridge 1994

Technology:

Graph Club 2.0 Deluxe, Scholastic 2003
Kid Pix Deluxe 3, Broderbund 2000
Printer

Other Supplies:

Graphing objects: pasta(multi-colored and multi-shaped), colored and black and white M & M’s, Fruit Loop cereal, and Harvest mix
Large Graphing floor chart and large student pictures, and smaller laminated student chart
Graph paper

DAY 1: INTRODUCTION - GRAND GROCERY GRAPHS

Questions: What is a graph?

Why would we make a graph?

What kinds of graphs do you know about?

Read - "Just Graph It!"

Discussion about the book - what did you see graphed in the book?

Make a list on the board

Read - "M & M's Counting Book"

Discussion about the book - what could you graph from this book?

Give each student a piece of graph paper. Have each student decide on a title for their graph about M & M's. Discuss how to number up the side and have each student number their graph.

Next give each student a small individual bag of M & M's (make sure they are the colored ones). Have each child open their bag and divide up the colors into piles. They now need to label the bottom of their graph according to the colors that they have. (Smaller children will need help with this) Then have each child color in how many of each color that they have. To make it colorful, have them use the same color as the M & M.

After students are finished then correlate the information on the board.

This can be great fun and interesting as all bags are not alike. First, find out the total amount of M & M's that each child has. Next, find out the amount of each color that each child has. Talk to the children about the results - they will surprise you and them.

Next, give each child another piece of graph paper. This time work with only the black and white M & M's. Have each child put a title on their graph. Label the bottom black and white.

Discuss that since they will only have black and white this time and that they will have more M & M's to graph do they want to use the same numbers as before? Would other numbers be more appropriate?

Have students number up the side of their graphs.

Give each child a large handful of M & M's and have them graph them.

Correlate the results on the board. The results will surprise you.

I keep all the black and white M & M's as we won't always be able to get them. Children will not be tempted to eat them when they know they are several years old. I do let them have several of the colored ones for lunch.

DAY 2: PICTOGRAPH

Read “Bears! Bear! Bears! Then go back to the section “What Do Hungry Bears Eat?” Discuss what they might eat.

Review what graphing is, what kinds of graphs there are, what kind of graph we did yesterday?

Present Kid Pix Slide Show - “Steps of Organizing and Graphing Information”. Discuss the slide show and the steps.

Next we are going to use pasta to represent the food that the bears might eat. Demonstrate how to make a Pictograph using symbols to represent other things.

Students are then given graph paper and pasta to use to make their own pictograph. Students will share and explain their graphs when finished. I suggest for this class that the students be paired up - older students with younger students.

DAY 3: LINE GRAPH

Review types of graphs and the steps of organizing a graph. Review slide show if needed.

Show and discuss with students the large floor graph chart. Talk about the laminated chart with all of the students pictures on it. Have the students decide how to ask the questions to make a graph using Harvest Mix. Have one group of students label the small graph and start to collect the data. Have another group organize and prepare the large graph. Have a third group be preparing how they will explain the data when they finish.

Children who collected the data will tell the rest of the class the information that they collected. The group making the graph will chart each child’s picture in the right spot. The last group can then explain the results of the graph.

Pass out the Harvest Mix and graph paper to each students and have them make a graph of their own. Remind them to label the title, kinds of mix, and decide on their number system that they will use before starting to graph.

Discuss the results of their individual graphing.

DAY 4: BAR GRAPH

Read “Mud Soup” and discuss the story and what kinds of food that the families brought to school? What kinds of fruit and vegetables do you like? If time you may want to write these on the board.

Review especially the “Steps of Organizing a Graph” If need be refer back the slide show.

Today we are going to introduce “Graph Club”. In groups of 2 (older students and younger one) will work together through the tutorial program at the beginning of the program. When finishing each group will then go to the regular program and try to make a graph. Students should have 5 - 10 minutes to get use to the program.

Students will then be told to go back to the beginning and start a new graph. They will need to change the title and symbols for their new graph. Using fruits and vegetables the students will make up a bar graph to publish. Once published and printed they need to be able to explain their graph to the class. If they have extra time before the rest of the class is finished they can try converting their graph to a circle or line graph and see the difference.

Students will share their graphs at the end of class.

DAY 5: CIRCLE GRAPH

Review the “Steps of Organizing a Graph” and their feelings about “Graph Club.

Read - “Cherrios Counting Book” and discuss how we could use Fruit Loops to make a graph. Remind them to use the steps!

Give each group of two students a package of Fruit Loops and using the “Steps of Organization” they will create a circle graph using “Graph Club”

Their final project will be to create, print, and explain their graph about Fruit Loops.

Projects will be due at the end of class.

FOLLOW-UP AND EVALUATION:

Students will bring to class something that they have graphed over the weekend. Their project will be completed and turned in when they come to school. A rubric will be used for their final and follow-up project.

Graphing : Grand Grocery Graphing

Teacher Name: **P Warren**

Student Name: _____

CATEGORY	4	3	2	1
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.
Neatness and Attractiveness	Exceptionally well designed, neat, and attractive. Colors that go well together are used to make the graph more readable. A ruler and graph paper (or graphing computer program) are used.	Neat and relatively attractive. A ruler and graph paper (or graphing computer program) are used to make the graph more readable.	Lines are neatly drawn but the graph appears quite plain.	Appears messy and "thrown together" in a hurry. Lines are visibly crooked.
Data Table	Data in the table is well organized, accurate, and easy to read.	Data in the table is organized, accurate, and easy to read.	Data in the table is accurate and easy to read.	Data in the table is not accurate and/or cannot be read.
Accuracy of Plot	All points are plotted correctly and are easy to see. A ruler is used to neatly connect the points or make the bars, if not using a computerized graphing program.	All points are plotted correctly and are easy to see.	All points are plotted correctly.	Points are not plotted correctly OR extra points were included.
Units	All units are described (in a key or with labels) and are appropriately sized for the data set.	Most units are described (in a key or with labels) and are appropriately sized for the data set.	All units are described (in a key or with labels) but are not appropriately sized for the data set.	Units are neither described NOR appropriately sized for the data set.

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