

Participant Demographic Information

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Classroom Demographic Information

- 20 students
- Ages 5-6
- Regular Education Classroom
- One student who has been identified as having a learning disability in the content area of mathematics.

Types of Technology currently used in classroom

- Computer
- Scanner
- Printer
- Kidspiration
- Inspiration
- Graph Club
- T.V.
- Overhead Projector
- VCR
- Tape Recorder

Description of Technology and how used

- The computer that is used is an Apple. It has a printer and a scanner connected to it. The computer has different software on it including CCC, Kidspiration, Inspiration, and GraphClub. It also has Internet on it. The computer is used for CCC's, looking things up on the Internet, and the students use the different software to help them during their studies.

Description of Technology and how used-cont'd

Students print things off using the printer and sometimes scan pictures of things they have brought in. The technology used in this classroom is primarily used for the extension of learning.

Description of Technology and how used- cont'd

- The T.V. and VCR are used to watch videos that enhance the students learning.
- The tape recorder is used to listen to taped reading books at centers or during group instruction.
- The overhead projector is not used very much but it is used sometimes to put information on the screen for the whole class to see.

Description of Unmet Needs

- Needs that are unmet include:
 - Can not make the connection between concrete objects to abstract objects.
 - Difficulty drawing inferences
 - Difficulty of displaying data correctly

Types of Additional Devices Needed

- Instructional:
 - More software for computer use
 - Camera
 - Video camera
 - Calculators
 - Personal dry erase boards

Types of Additional Devices Needed-cont'd

- Assistive:
 - Pencil grippers
 - Computer on screen calculator
 - Modified paper
 - Talking calculator
 - Adapted measuring devices

Implementation of Technology

Primary Learning Outcome

Can you make a graph of the marshmallows contained in your cup of cereal? Can you look at your graph and tell me how many of each shape of marshmallows were in your cup?

Assessed QCC

Grade: K

Mathematics

Statistics & Probability

25

Topic: Graphs

Standard: Constructs and interprets graphs using actual objects or pictorial representations.

Materials and Equipment

- Copy of attached graph paper for each student and teacher
- One or two boxes of Lucky Charms cereal depending on class size
- One cup for each student and teacher
- Large paper plate for each student and teacher
- Crayons for each student and teacher
- Display table in the front of the classroom
- Chalkboard with magnets or tape to attach sample graph
- Computer with software program Graph Club on it

Step 1

- Before class, have para-pro prepare cups with cereal for each student. Place cups, paper plates, and crayons on each student's desk. Gather students in whole group area of the classroom. State, "Boys and girls, today we will create and interpret or read a graph. A graph is a picture that tells you how many objects are in a group. Today we will make a graph to tell us how many marshmallow shapes are in your cup of Lucky

Step 1- cont'd

Charms cereal. Doesn't that sound yummy?" Let students respond. "We like to eat while we learn, but there are always rules to follow. Listen carefully to these rules. While you are making your graph, you may eat the cereal part of your cereal. You cannot eat the marshmallow shapes until I say you may. Does everyone understand?" Let students. Respond. State, "If you eat the marshmallow shapes before time, I will take your cereal and you will not participate."

Step 2

- Tell the students that in order to create their graph, they have to figure out what information they need to put into it. Have the students pour their cereal into the plate and discover the different shapes of marshmallows that they have. Have the students tell you how many different shapes there are. Once they have figured out that there are eight different shapes, show the

Step 2 – cont'd

class on a chart graph where we put the information about the eight different shaped marshmallows.

Step 3

- Using your cup of cereal, model to the students how they should separate their cereal and marshmallows. Tell the students to group the different marshmallows together in their different shaped groups. Show the class that you have 4 rainbows, so you will color in 4 blocks under the rainbows on the graph paper. Continue until you have graphed all of your marshmallows and the students have gained understanding.

Step 4

- Allow the female student with difficulties in math to go to the computer with her cereal grouped. She may be allowed to use the software Graph Club to graph her different marshmallows and shapes. This student may use the different object pictures on the program to make this lesson more memorable to her. If there are other students who are having difficulty with transitioning to abstract representations from concrete. During this time, the rest of the students should begin graphing their marshmallows on their given sheets.

Step 5

- The students must show the teacher their graph and their marshmallows before eating them. The teacher will circulate around the classroom with the attached checklist and record each student's mastery.

Assessment

- The teacher will observe each student's graph and ask him/her to interpret the graph. The teacher will record each student's mastery on the attached checklist.

Benefits of Technology Used

- The benefits of this technology being used are that this student may be able to gain some understanding of concrete to abstract. Another benefit is the student will be building a conceptual understanding of how to create and interpret graphs. This student will be able to display data appropriately. If this student wanted to see what this information looked like in the different types of graphs, they would be able to compare them: for example- bar, line, circle, table, and picture. This and other activities that require the use of Graph Club help build a solid conceptual foundation needed for success in school and in life.