

Bananas! Bubble Gum! Which One?

Grades K-1

Master Teacher

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Time Allotment

30-40 minutes

Overview

Data is collected often and organized into charts. The video demonstrates how to collect data and different ways to organize the data. Students will collect data and organize it into a chart. Afterwards the students can access the Web site to see different ways to organize data. Using the information from the Web site, the students can organize their data into different graphs.

Differentiation of Instruction

This lesson plan was written for educable students with a vision impairment. It can be used in a regular education class. The video is close-captioned for the hearing impaired. The lesson could be an introductory lesson or a culminating lesson according to the level of the students.

Activities for this lesson are based on guidelines from SC Curriculum Standards Implementation Guide, Chapter Four, pages 7-8, 19. Differentiation of Instruction, [http://www.myscschools.com/offices/cso/IG/k5.htm](http://www.myscschools.com/offices/cso/SIG/k5.htm) modifications for special needs students are included in the lesson plan. The modifications support the achievement of the selected standards.

Subject Matter

Math

Learning Objectives

Students will be able to:

- ✎ State why we collect data;
- ✎ Collect data;
- ✎ Design and create a graph.

South Carolina Standards

(These Standards are available online at (<http://www.myscschools.com/Offices/CSO/>.)

I A PreK 1. Collect data related to familiar experiences by counting.

I A K I. Pose & answer questions about charts & graphs relating to familiar experiences (e.g., recording daily temperature, the lunch count, class attendance, and favorite flavors of ice cream).

I A 1 2 1. Collect data using surveys.

Media Components

Video

Math Monsters, Lesson 1: "Data Collection," is a lively video where four monsters discover how to collect and organize information.

Web Site

Mrs. Renz's 4th Grade Class

(<http://www.redmond.k12.or.us/patrick/renz/Math%20Web%20Sites2.htm#Graphing>) This site will be used as a

Culminating Activity. The site has many different kinds of math lessons. Let's Graph demonstrates graphs and lets students design their own graph. Table & Graphs discusses the different kinds of graphs followed by a quiz. Data picker has an interactive game. Interpreting Data Activity has an activity, data sheet, and test.

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Materials

Per student:

paper

pencils (plain and colored and at least one for each student)

graph paper

one of each type of graphs (bar, pie, line, chart)

(**Note to Teacher:** You must create these graphs, they are not included in the lesson plan.)

Adapting NTTI Strategies for Deaf/Hard of Hearing and/or Visually-Impaired Students

Adapting Video

- ✎ Closed captioned and total communication for deaf students
 - Interpret (sign) closed-captioned video to provide total communication for deaf students.
 - Use visual communication to enhance understanding of the video scenes for students not reading at the vocabulary level of the captions.
 - Signing over narration helps students focus when an emphasis on certain information is needed.
- ✎ PAUSE strategy and closed captioned
 - When using closed captioned, pausing the video can cause the loss of 1-3 sentences of closed captioned as the pause is released and the video begins to play at the pause point. Suggestions for modifying the PAUSE strategy:
 - The teacher may need to rewind after the pause and then begin to play the video.

- Play closed captioned in longer segments and provide a video guide sheet with the **Focus for Media Interaction**.
- Play the video segments through from the beginning point to the ending point. The **Focus for Media Interaction** would be given at the beginning. Tell the students that they will watch the entire segment, and then watch it again, pausing for them to answer the focus task for each segment. Tell them some of the caption is lost at pause points, read carefully the first time.

✎ Non-captioned video

- Prepare to interpret (sign) the video for deaf students.
- Arrange for a qualified interpreter to sign the video. Plan the lesson in advance to allow time for this arrangement.

✎ Screen size for visually-impaired students

- Use a projection device with the VCR to project the video to a large screen.
- Allow students to sit close to TV or large screen.
- Determine how the students can touch the TV screen, if not by hand, then with a pointer (yardstick). Provide an opportunity for the visually-impaired student to touch or trace images if touch would enhance the learning.

Adapting Web Sites

✎ Web sites with audio

- Provide an interpreter for each hearing-impaired student.
- Use with small groups with teacher interpreting and guiding the activity.

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- Direct students to alternate text files for the video/audio if available.
- ✍ Screen size for visually-impaired students
 - Use a projection device with the computer to project to a large screen.
 - Allow students to sit close to computer screen or projector screen.
 - Determine how the students can touch the screen, if not by hand, then with a pointer (yardstick). Provide an opportunity for the visually-impaired student to touch or trace images if touch would enhance the learning.
- ✍ Web sites with total communication for the blind
 - Use sites encoded with Braille.
 - Use sites with audio.
 - Use sites that are easily read by text reader software. (Page is formatted from left to right allowing tab or arrow keys to move the reader through the text and images. Images have alternate text that identifies the image in relation to the text on the page.)

Prep for Teachers

- ✍ Preview and cue the video.
- ✍ Preview and bookmark the Web sites.
- ✍ Load the Shockwave plug-in (available free at <http://www.macromedia.com>) onto each computer. The Let's Graph program works best with the browser Netscape.
- ✍ Assemble student materials and create the graphs listed under **Materials**.

- ✍ When using media, provide students with a **Focus for Media Interaction**, a specific task to complete and /or information to identify during or after viewing of video segments, Web sites, or other multimedia elements.

Introductory Activity

Step 1: Pass out paper and pencils to the class. State that you want to find out the favorite candy bar of the class. Discuss the following:

- ✍ How do we collect the information?
- ✍ How do we organize the information?
- ✍ How do we show (represent) the information?

Organize the students into small groups to let them plan how they would answer those questions. Write some of the answers on the board. Save those answers.

Step 2: Introduce the students to the vocabulary words *data* (fact, information) and *graph*. Show the students different graphs.

Make sure the students understand data means information or facts about something.

Step 3: Tell the students that they are going to watch a video about four math monsters named Addison (+), Mina (-), Split (\div) and Multiplex (x). In this video the students need to find out the three most popular kinds of pancakes among the monsters.

Learning Activities

Step 1: To provide students with a **Focus for Media Interaction**, ask them to raise their hands when they know what the monsters' problem is. **PLAY** the video where Addison is standing by a stove and

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singing, “Flip ‘em. Flip ‘em.” The screen will start showing the other monsters and they will also be singing. PAUSE the video when Multiplex asks, “How can we do that?” A moving question mark will appear on the screen. Repeat the focus question.

(They need to know what kind of pancakes their friends like.)

Ask the students what they think the monsters will do. Ask them how they think the monsters will collect the information. Write answers on the board.

Step 2: To provide the students with a **Focus for Media Interaction**, tell them to watch how the monsters collect their information. Tell the students to pay attention to how the monsters record the information they collect. RESTART the video at the pause point. Addison will say, “I have an idea.” PAUSE the video when all the monsters say, “But how?” A moving question mark will appear on the screen. Ask the students to name the different ways the monsters collected the information. (*Answer: chart, stacks, checks, list*) Write their answers on the board.

Ask the students what the word data means. REWIND the video to the picture of Mina holding a crayon and saying, “We will each go with a crayon....” PLAY until a monster says, “That’s a lot of monsters to ask.” STOP the video. Ask the students to define data.

Step 3: To provide the students with a **Focus on the Media Interaction**, ask them how can the data (information) be organized? Accept all answers and write some on the board. Tell the students to watch to see how the monsters organize all the data. RESTART the video at the pause point. Addison will be holding a piece of

graph paper and say, “How about this.” The monsters put all the data on a piece of graph paper. STOP the video when the graph in Addison’s hand appears on the screen showing the total amount for each pancake. Check for comprehension by asking, “Why do we collect data?” (*Answer: to find out information*) Ask, “How do we collect data?” (*Answer: survey, ask questions, etc.*)

Culminating Activity

Break Time

Step 1: Tell the students that we are going to open a break room where we will sell some popular snacks and we need to find out three drinks, fruits, and snacks that students want.

Step 2: Divide the students into three groups to collect data about the different items (drinks, fruit, snacks). Let the students decide how they will collect the data.

Step 3: Have the students collect their data and report it to the class in an organized form.

Step 4: Bookmark and access the following Web site:

Mrs. Renz’s 4th Grade Class

(<http://www.redmond.k12.or.us/patrick/renz/Math%20Web%20Sites2.htm#Graphing>). A list will appear of the different graphing activities. Access each activity on an equal amount of computers. Demonstrate how to do each activity before the students try them. Each of the three teams needs to take turns at each of the four activities.

To provide students with a **Focus for Media Interaction**, specific task to complete while viewing, direct the student teams to access the Web sites and explore the different graphs. The students will have to decide which kind of graph (pie, line, bar, etc.) they

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want to use for their information about snacks.

The students will use the information from the Web site and design their own graph depicting the data they collected.


Cross-Curricular Extensions

Social Studies: Explain how sociologists often use questionnaires to collect information about people. Have students work in teams and design a questionnaire, collect the data, and report the findings.

Math/Reading: The students could conduct

a survey of popular reading books and graph the data.

Community Connections

 Take the students to visit an insurance agent. Insurance companies often use data to set rates. Explain the level and special needs of your students so the agent will explain his or her job in a way the students understand.

Ask the agent to explain the kinds of data he or she collects and how it is used. Ask the agent to show the students representations of data collected.