

MANCHESTER COLLEGE
Education Department

LESSON PLAN by: Joanna Sajda, Emily Quandt, Ashley Vice, and April Zuber

Lesson: What's Your Favorite Planet?

Length: 45 min-1 hour

Age or Grade Intended: 4th Grade

Academic Standards:

Math

4.6.1 Represent data on a number line or in tables, including frequency tables.

4.6.2 Interpret data graphs to answer questions about a situation.

Performance Objectives:

1. After polling the class, the students will create a class graph of the results with 100% accuracy.
2. After polling the class, the students will be able to read the results on a graph with 100% accuracy.
3. After completing the graph, the students will “make the graph talk” by putting post-it-notes with important information on them all over the graph with at least 10 connections.
4. After studying the graph, the students will make a table to correlate the results with 80% accuracy.

Advanced Preparation by Teacher:

Before beginning this lesson the students will have already done an assortment of research pertaining to the various characteristics of each planet. The materials needed for this lesson include giant post-it-notes, markers, mini post-it-notes (nine colors), and regular sized post-it-notes. The students will also have had a general introduction to working with graphs and how to read them.

Procedure:

Introduction/Motivation: This lesson allows the students to get hands on experience working with graphs and tables. It will also use some actual information from the class as the data for this experiment. The students will get to express which planet is their favorite. ☺ We will begin by asking some questions to peak the student's interest.

- List the nine planets. (Knowledge)
- What differences exist between the planets? (Comprehension)
- What are some reasons for those differences? (Comprehension)
- (Tell them to just think about this question.) If you could go to one planet, which one would you go to? (Knowledge)

Step-by-Step Plan:

- Tell the students that we are going to take a class poll of everyone's favorite planet!
- First we are going to make the graph to fill the information on.

- How many spaces are we going to have along the x-axis if it represents all of the planets? (Knowledge)
- After they answer I will write each of the planet names along the x-axis.
- We will also think of a label to identify what information the x-axis is telling us.
- I will then tell the students that they are going to put their heads down on their desk, and when I call the name of their favorite planet, they are to raise their hands.
- I will stick the appropriate colored mini post-it-note on their desk in accordance to what each student's favorite planet was.
- After all of the students have voted, the class will post the results on the graph.
- One planet at a time, the students will stick their post-it-notes above the appropriate planet along the x-axis.
- After all of the post-it-notes have been placed on the graph, we will then label the y-axis depending on how many votes each of the different planets received.
- We will then label the y-axis.
- The students will then split into 5 groups.
- Each group is going to develop two phrases that will help "make the graph talk."
- They can do this by choosing information among the graph to write out. For example: "I am Jupiter, the class's favorite planet!"
- After the class has made the graph talk, we will reconvene as a whole class.
- We will then transfer the information from the graph into table format.
- In one column (planets column) each of the planets will be listed.
- The other column will contain the number of students that said that planet was their favorite.
- This will give the students two ways to look at the same information.

Closure: To close this activity we will read the book The Planets in Our Solar System by Franklin M. Branley and Kevin O'Malley. This will reinforce some of the characteristics of the planets that we just worked with.

Adaptations/Enrichments:

Since we are doing this activity as a class, the student's with special needs will have guidance throughout the entire lesson. Students with special needs will also have peer help because they are working in small groups for a short portion of the lesson. Gifted students can help think of a third way to illustrate this information.

This activity helps meet three of Gardner's Multiple Intelligences. This activity helps meet the needs of bodily-kinesthetic learners because they get to move around and post their favorite planet on the graph. Also each of the small groups are "making the graph talk" which provides class interaction with the graph itself. This activity also reaches out to interpersonal learners because the students actively work in small groups or a large group for most of this activity. These students get to work interactively with other students on formulating ideas and making decisions. The third intelligence this activity can relate to are the logical/mathematical learners. The students

have an opportunity to read and work with graphs and tables, which promotes their mathematical talents.

Self Reflection:

- Did all of the students participate in the activity?
- Did the students make the connection between the graph and the table?
- Did the students understand the information the graph contained?
- Did the students understand the information the table contained?
- Did “making the graph talk” help the students make a connection to the activity?
- Were the students engaged?