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Lesson Subject(s)/Title: Measurement and Data

Lesson Date(s): April 25th, 2019

Course & Grade(s): 3rd Grade, Math

INSTRUCTIONAL MATERIALS:

- whiteboard
- large paper
- writing utensils
- graphs
- data charts
- dice

ESSENTIAL QUESTIONS/ SUBSIDIARY QUESTIONS:

- How can data be collected?
- How can data collected be represented visually? In what ways?
- How can we use data and graphs to draw conclusions?

PURPOSE:

The purpose of this lesson is to teach students the importance of data collection and to help students understand how data can be represented in different types of graphs.

SPECIFIC LEARNING OBJECTIVES: (clear, observable)

1. Students will collect data in groups in order to practice data collection.
2. Students will use data they collected to complete data charts.
3. Students will use their data charts to make a graph that represents their data in order to learn how data is represented.
4. Students will work on their cooperative learning skills by working in groups and among their peers to collect and explain data.

STANDARDS:

CC.2.4.4.A.2.: Translate information from one type of data display to another.

CC.2.2.4.A.4: Generate and analyze patterns using one rule.

Sensory Register	STM	LTM
Attention Recognition Perception	Focus Organization Rehearsal Visualization	Connections Elaborations Meaning

Facets of Understanding

1. Explanation
2. Interpretation
3. Application
4. Perspective
5. Empathy
6. Self-Knowledge

Multiple Intelligences

1. Linguistic [words]
2. Visual [pictures]
3. Mathematical [numbers & reasoning]
4. Kinesthetic [hands-on]
5. Musical [music]
6. Interpersonal [social]
7. Intrapersonal [self]
8. Naturalist [nature]

Multiple Exposures [4 x 2]

1. Dramatization
2. Visualization
3. Verbal

Complex Interactions

1. Discussion
2. Argumentation

Bloom's Taxonomy

1. Knowledge [Verbatim]
2. Comprehension [Own Words]
3. Application [Problem-Solving]
4. Analysis [Identify components]
5. Synthesis [Combine information]
6. Evaluation [Decisions]

Aspects of the Topic

1. Facts
2. Compare
3. Cause/Effect
4. Characteristics
5. Examples
6. Relationships

9 Effective Strategies

1. Similarities and Differences
2. Summarization and Note Taking
3. Reinforcing Effort and Providing Recognition
4. Homework and Practice
5. Nonlinguistic Representations
6. Cooperative Learning
7. Setting Objectives and Providing Feedback
8. Generating and Testing Hypotheses
9. Questions, Cues, and Advanced Organizers

DIFFERENTIATION STRATEGIES:

(See below)

ANTICIPATORY SET:

For the anticipatory set, students will discuss different types of graphs and how they can be used to represent different types of data.

APPLY/ DEEPEN NEW KNOWLEDGE:

(See below)

CLOSURE/ASSESSMENT:

(See below)

HOMEWORK: (optional)

There will be no homework for this lesson.

EVALUATION/ASSESSMENT OF STUDENTS:

(See below)

INSTRUCTIONAL PROCEDURES:

	Below Grade Level	On Grade Level	Above Grade Level
Main Lesson: <i>“Explain what the lesson topic is” (i.e., Elapsed Time)</i>	This lesson focuses on making observations and using those observations to collect data to put in a bar graph.	This lesson focuses on collecting data and using that data to make a bar graph.	This lesson focuses on collecting data, selecting a graph to represent data, and then actually making a graph that represents that data.
Work Station	For the below grade level, a graph will be provided to them, along with data headings that they have to collect by asking other students what their favorite ice cream flavor is. Students will fill in student responses in their chart and then will make their graph representing this data on the graph paper provided (bar graph). This gives students the opportunity to collect data, use data to fill in a graph, and use that graph to draw	For the on grade level group, the students will have the chart and graph provided for them, but will have to select which data they want to report on and will have to collect and fill in this data themselves by asking their classmates what their favorite ___ is. Students will present their graph to the class once completed. This gives students the opportunity to collect data, use data to fill in a graph, and use that graph to draw	For the above grade level group, the students will have to select which data they want to make a graph on, as well as which type of graph they want to use to represent their data (bar graph, pie chart, line graph, etc.). This gives students opportunity to collect data, use data to fill in a graph, and use that graph to draw conclusions.

	conclusions.	conclusions.	
Game Station	Students will roll a dice and will record in a chart how many times they get each number (5 times of getting the number 3, etc.). Students who get 5 of the same number first, win!	Students will roll a dice and will record in a chart how many times they get each number (5 times of getting the number 3, etc.). Students who get 5 of the same number first, win!	Students will roll a dice and will record in a chart how many times they get each number (5 times of getting the number 3, etc.). Students who get 5 of the same number first, win!
Assessment	Students will be assessed on their completion and discussion of their graph.	Students will be assessed on their completion and discussion of their graph.	Students will be assessed on their completion and discussion of their graph.