

LEARNING PLAN – Grade 5

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<p>Exploratory Activities Given statistical data written in a narrative format, students are allotted a specified brief time period to answer a set of questions based on the data presented. Following that, students are presented similar information in graphical form and are allotted an identical time period to answer a set of questions based on the data in the graph.</p>	<p>CONCEPT Data Analysis through graphical representation</p>
<p>Concept Development Activities Coordinate Grids Lesson: Spy and Detective Hit or Miss Graphs Lesson: Toss Across Number Fun Graphing Links Can You Catch Up? What’s the Best Deal? Writing Questions from Graphs Graphic Stories How Large Is It? The Foot, the Whole Foot, and Nothing but the Foot! Learning Center Activities: A Peek at Probability Mystery Art Left/Right Dominance Graph It! Hidden Rods</p>	<p>Materials and Resources <i>TAKS Mathematics Preparation Grade 5</i> <i>TEXTEAMS Institute Grades 3-5 Navigating Through Data Analysis and Probability in Grades 3-5, NCTM</i> <i>50 Problem Solving Lessons, Grades 1-6, EAI Education</i> <i>Navigating Through Algebraic Thinking in Grades 3-5, NCTM</i> <i>Visual Tools, 25 Math Graphs, Creative Mathematics</i></p> <p>Road maps “Tossable” objects Meter/yard sticks Stop watches Thermometers Centimeter grid paper Dice Crayons/colored pencils Ketchup packets (3 per student pair) Container of ice and water Thermos of warm water 9-inch plastic plates Metric rulers Permanent felt tip markers Washable felt tip markers Cardboard wedges cut at 45° angle Paper towels Kitchen tongs Collection of various graphs Prepared Center Activities Ball Jacket Baseball bat</p>

Basic Facts and Standard Algorithms Formalized

- Locate ordered pairs on a coordinate grid; name them
- Collect and display data graphically using real graphs, pictographs, bar graphs, line graphs, circle graphs, Venn diagrams
- Answer questions based on graphic representation
- Formulate questions from graphic representations
- Explore mathematical concepts presented in graphic form
- Determine the best type of graph to convey specific types of information
- Conduct experiments, graph the results, and interpret the graph
- Design further investigations to evaluate conclusions
- Explore relationships between variables
- Interpret relationships expressed in a line graph

Assessment

Performance Assessment: Student groups will be given only the information collected in daily attendance graphs done in class. Each group will construct a graph given a specific criteria, i.e., key = 2 students; use only odd numbers on the y-axis; make a circle graph, etc. After completing the graph with all appropriate labels, each group member assumes the responsibility for writing a question that can be answered by using at least 2 pieces of information presented in the graph.

When groups have finished, they should rotate through the other groups, writing their answers to other groups' questions.

Related TEKS

The student will:

- 5.9** Recognize the connection between ordered pairs of numbers and locations of points on a plane; locate and name points on a coordinate grid using ordered pairs of whole numbers
- 5.13A** Use tables of related number pairs to make line graphs
- 5.13B** Describe characteristics of data presented in tables and graphs including the shape and spread of data and the middle number
- 5.13C** Graph a given set of data using an appropriate graphical representation such as a picture or line
- 5.14A-5.16B** Underlying Processes & Mathematical Tools

TAKS Objective 5**Originality and Creativity*****Student Products***

Written Given a line graph with no labels along either axis, students will write stories describing the actions that the graphs reflect.

Verbal Compare/contrast the information presented in 2 different graphical representations. Tell why you think one is a better way to present the information than the other.

Kinesthetic Students conduct teacher-approved surveys and then represent the information in a real graph, using themselves to construct bar graphs or circle graphs. Students can also "walk" the lengths of the bars representing the information and compare the distances walked. Transition can be made from the real graph to a pictorial representation to the abstract.

Visual Choose a USA Today snapshot. Represent the same information using a different type of graph. Make your graph attractive enough to catch the reader's attention.