

Lesson: Mathematics Grades 4-6 Data Analysis and Probability



Peter's Data

Introduction

Objective:

Students will read a picture graph to explore, interpret information and make inferences regarding rabbit clothes that have been lost at farms across the country.

Academic Content Standards

Students pose questions and collect, organize, represent, interpret and analyze data to answer those questions.

Students develop and evaluate inferences, predictions and arguments that are based on data.

- ❖ Ohio Academic Content Standards for Mathematics: #5, Data Analysis and Probability, Benchmark B and D (Grade 4); Benchmark A, C, D, E, and G (Grades 5,6).
- ❖ National Council of Teachers of Mathematics' Standards for School Mathematics: #5 Data Analysis and Probability.

Getting Started

Materials

- Graph (one per student, plus overhead transparency for full class viewing)
- Pencil
- Handout

Vocabulary

- Picture graph
- Main idea
- Conclusion
- Prediction
- Interval
- Interpret
- Icon
- Data

Technology

Spreadsheet programs, such as *AppleWorks* or *Microsoft Excel*, to create alternate graphs to use in class, teacher or student made.

Lesson

Orientation Activity:

Explain to the students that Peter Rabbit has become very frustrated because he is getting in so much trouble losing his clothes all the time. One day while Peter is browsing the Internet, he comes across a web site that has a graph that illustrates data

about all the little rabbits across the country that have lost clothing at farms near their homes. Peter quickly prints a copy of the graph to show his mom and sisters that he is not the only rabbit that loses his clothes in a farmyard.

Learning Activity

1. Pass out the bar graph to the students and/or present the graph to the class via the overhead.
2. Ask the students to share what they notice about the graph and give them a few minutes to explore it.
3. Ask students direct questions that identify different aspects of the graph (e.g., legend, labels, axes, title, etc.).
4. Once different parts of the graph have been identified, explain that the graph illustrates the number of shirts, pants, socks and shoes that rabbits have lost at farms across the country.
5. Ask: "How many shirts have rabbits lost?"
6. Ask: "How many pants have rabbits lost?"
7. Ask: "How many socks have rabbits lost?"
8. Ask: "How many shoes have rabbits lost?"
9. Identify how the intervals on the left side of the graph (the Y axis) increase by 20.
10. Ask students questions about the graph that will help them identify the main idea of the graph, draw conclusions and make predictions. Some sample questions are:
 - What items were lost most by the rabbits?
 - How many different items did rabbits lose?
 - Assume the graph illustrates the amount of clothing the rabbits lost in one year. If the rabbits continue to go to the farms, how many items (shirts, pants, socks, shoes) do you think the rabbits will lose next year?
 - Why do you think the rabbits lost more shoes than anything other item?

Evaluation and Follow-Up

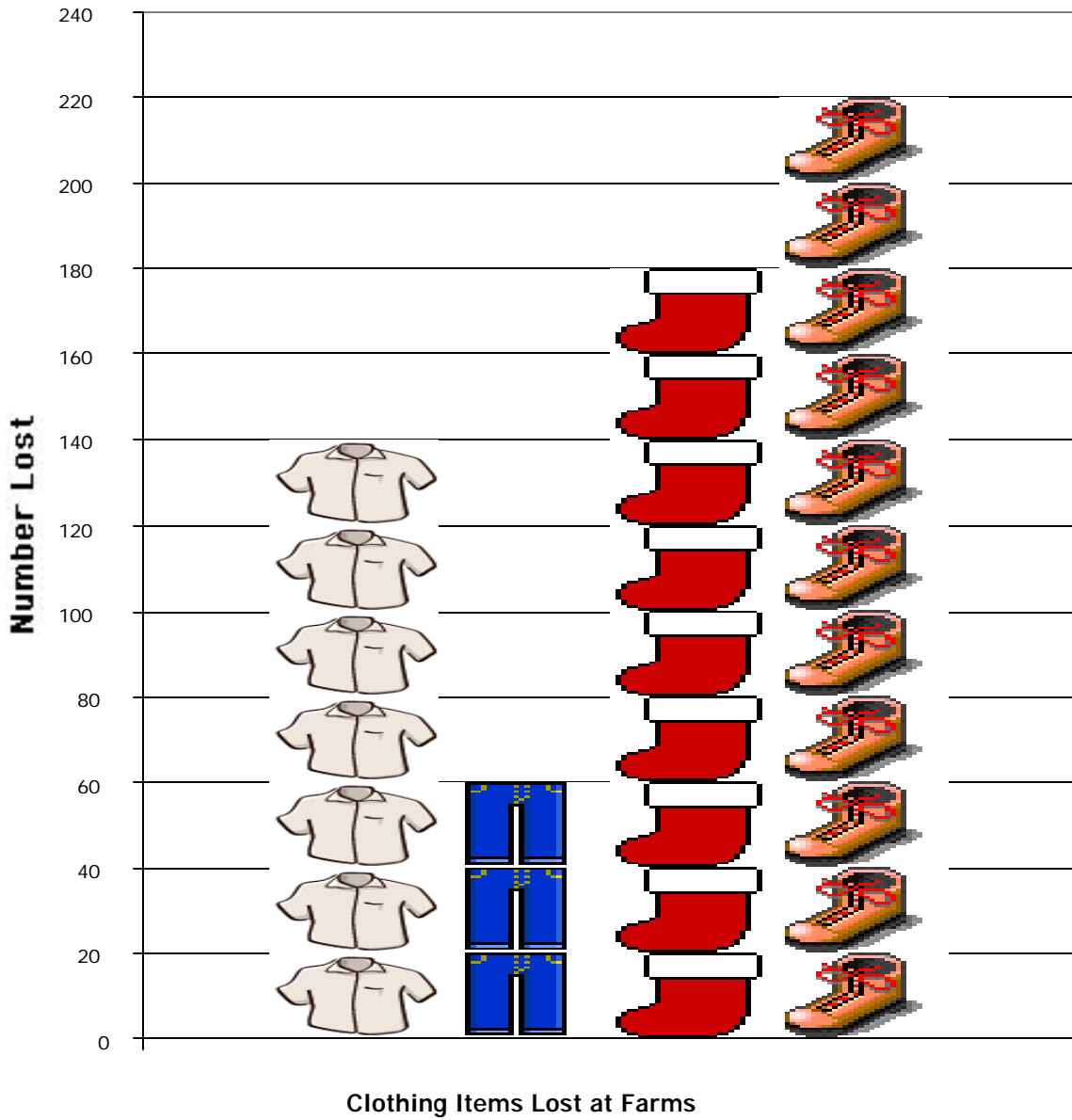
Assessment Tools and Methods:





Teacher will observe students and check their answers during class discussion.

Teacher can find or create other graphs and have students answer specific questions relating to the main idea, drawing conclusions and making predictions.

Handout

Lost Clothes



 Shirt	 Pants	 Socks	 Shoes
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