

Data Analysis and Statistics

Governor's Math Institute
Presentations 2002



Money

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Grade Level: PreK -2 **Content Area:** Statistics/ Data and Analysis

PA Standards Addressed:

- 2.6.3.A Gather, organize and display data using pictures, tallies, charts, bar graphs, and pictographs.
- 2.6.3.B. Formulate and answer questions based on data show on graphs.
- 2.6.3.C. Predict the likely number of times a condition will occur based on analyzed data.

NCTM Standards Addressed:

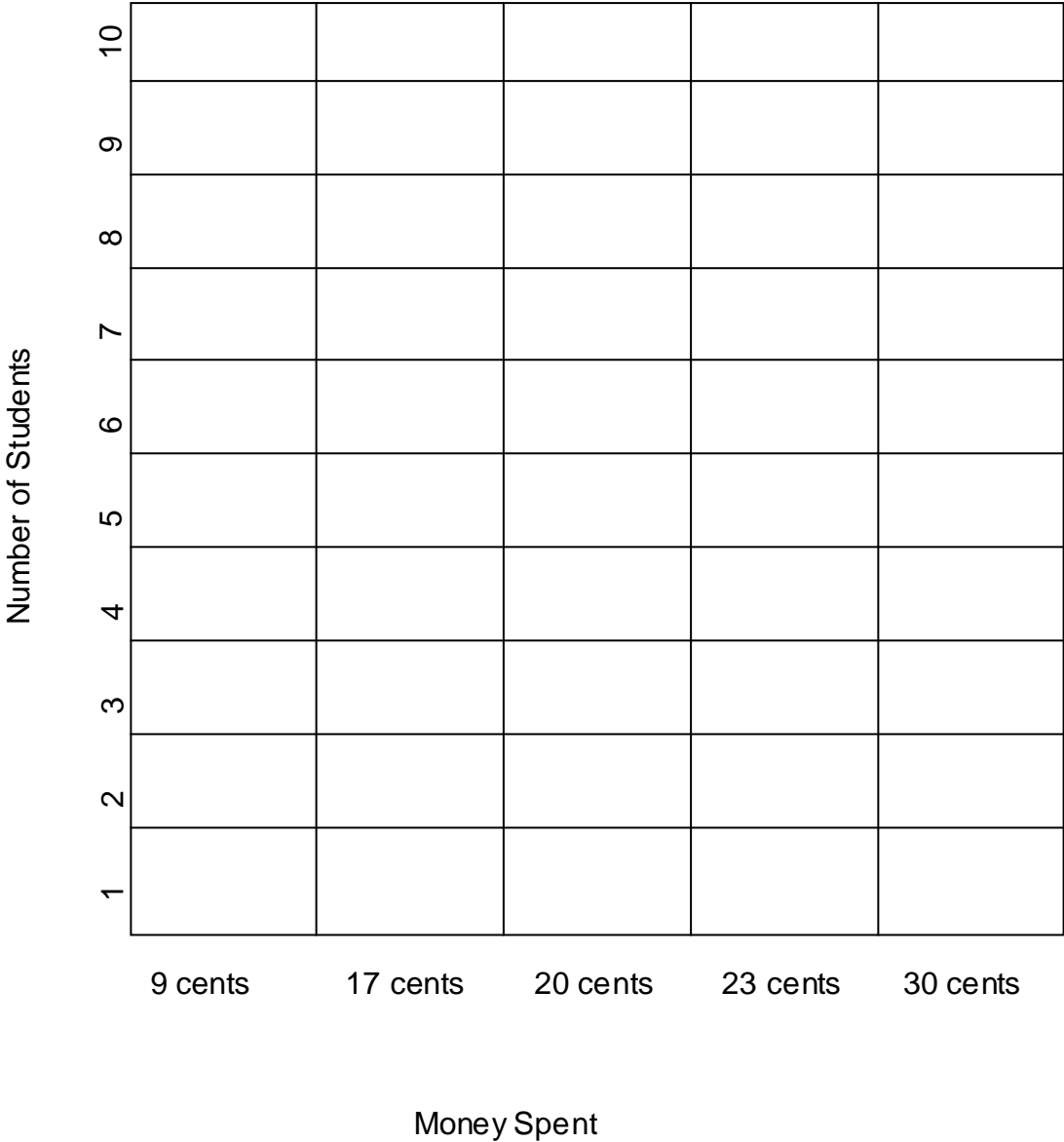
- Represent data using concrete objects, pictures, and graphs.
- Describe parts of the data and the set of data as a whole to determine what the data show.

Problem Name: How Much to Make a Puppet?

Our class has 21 students. We were making puppets for a puppet show! Each student had 30 cents to spend on supplies for the puppet. This is what the students spent:

- 2 students spent 17 cents
- 8 students spent 23 cents
- 5 students spent 30 cents
- 3 students spent 9 cents
- 3 students spent 20 cents

Make a graph showing how many students spent each amount of money.



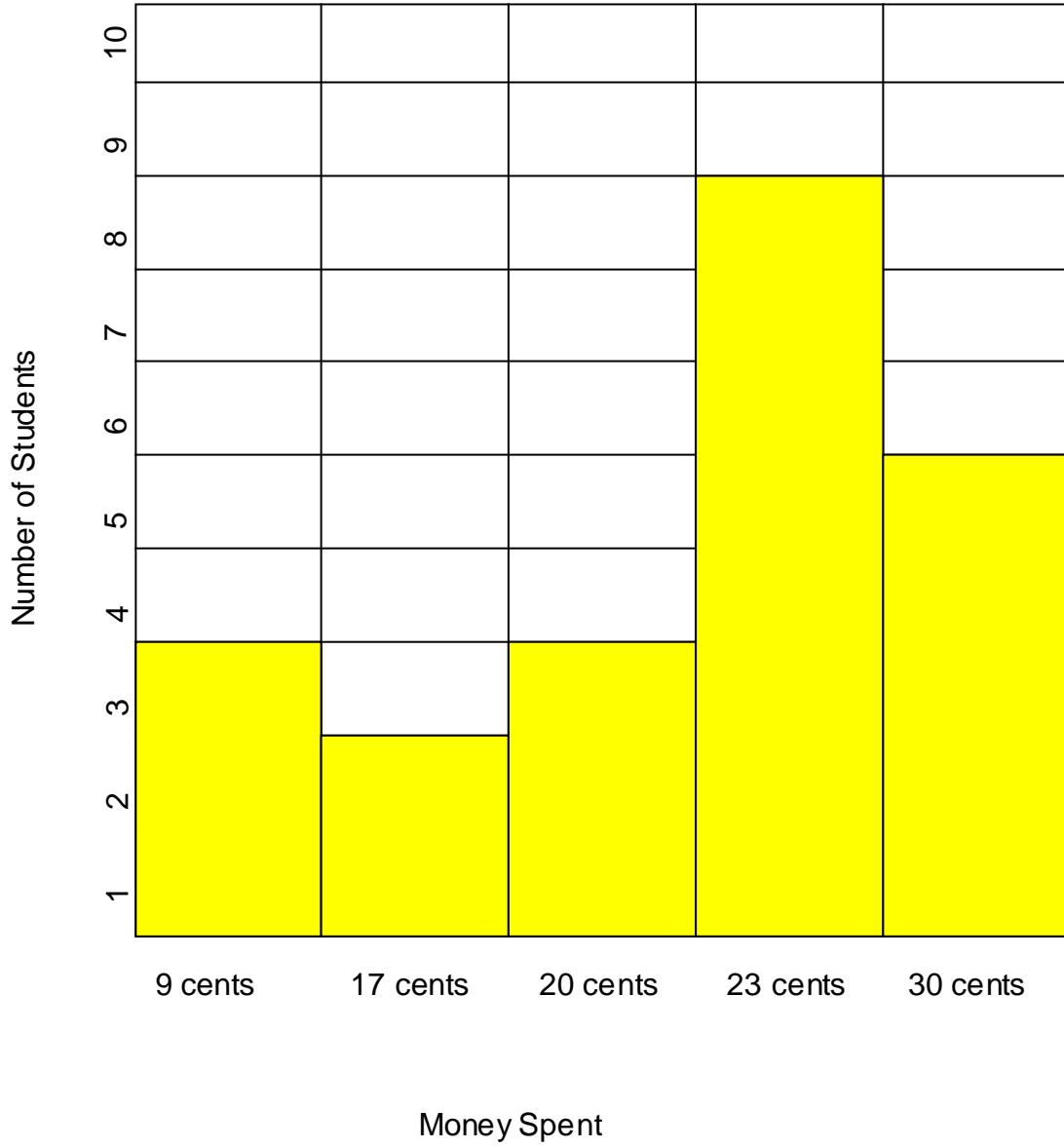
1. What amount of money was spent most often?

Explain how you know your answer is right.

2. Our friend Sally was absent today. How much money do you think she should bring tomorrow so she can make a puppet?

Why did you tell her to bring that much money?

Problem Solution(s):



1. What amount of money was spent most often?

- **23 cents**

Explain how you know your answer is right.

- **That amount was the highest or most on the graph so that was the most money spent.**
- **The table shows that the largest group of people spent 23 cents.**
- **8 people is bigger or more than 5, 3, or 2 people.**

2. Our friend Sally was absent today. How much money do you think she should bring tomorrow so she can make a puppet?

- **Any amount between 9 and 30 cents**

Why did you tell her to bring that much money?

- **9 cents: You need at least nine cents to make a puppet.**
- **17 cents: 2 students could make puppets for 17 cents**
- **20 cents: It was the middle amount, it was not too much or not too little.**
- **23 cents: The most students made a puppet for 23 cents.**
- **30 cents: It is the most you can spend and you could choose from any of the supplies. You can take any money left back home.**
- **Other amounts between 9-30 cents not on the graph: It is within the given range.**

Specific Rubric:

5. Advanced Understanding: The child has answered each of these components.

- The child graphed the information correctly.
- The child correctly identified the mode as 23 cents.
- The child explained that 23 cents occurred more frequently than any other amount.
- The child chose a money amount from 9 to 30 cents.
- The child's explanation supports the amount of money they told Sally to bring.

4. Satisfactory Understanding: The child has complete 4 components correctly.

3. Almost Satisfactory Understanding: The child has completed 3 components correctly.

2. Partial Understanding: The child has completed 2 components correctly.

1. Minimal Understanding: The child has completed 1 component correctly.

0. No Understanding: No attempt at a response.