

2nd Grade Math: Reading Picture Graphs with Scales

Introduction

Picture graphs (or pictographs) are visual representations of data that use pictures or symbols to represent information. Learning how to read these graphs helps students understand data better and make comparisons easily. This lesson will focus on understanding how to read picture graphs with scales.

Key Concepts

- **Picture Graph:** A graph that uses images or symbols to represent data.
- **Scale:** A scale in a picture graph indicates how many items each picture or symbol represents. For example, one picture might represent 2 items instead of just 1.

How to Read Picture Graphs

1. **Identify the Scale:** Look at the graph to see what each picture represents.
2. **Count the Pictures:** Count the number of pictures or symbols to determine the total amount.
3. **Calculate the Total:** Multiply the number of pictures by the value indicated by the scale to find the total number of items.
4. **Answer Questions:** Use the graph to answer questions about the data, such as finding out which category has the most or least items.

Example of a Picture Graph

Example Graph: Favorite Fruits

Fruit	Picture
Apples	     (5)
Bananas	   (3)
Oranges	       (7)
Grapes	  (2)

Scale: Each fruit picture represents 1 fruit.

Interpreting the Graph

1. **How many apples are there?**
 - There are 5 apples.
2. **How many bananas are there?**

- There are 3 bananas.
- 3. **How many oranges are there?**
 - There are 7 oranges.
- 4. **How many grapes are there?**
 - There are 2 grapes.
- 5. **Which fruit is the most popular?**
 - Oranges are the most popular, with 7.
- 6. **Which fruit is the least popular?**
 - Grapes are the least popular, with 2.

Practice Problems

1. **Problem 1:** A picture graph shows the number of pets in a class.

- Dogs:    (3)
- Cats:      (5)
- Birds:   (2)

Questions:

- a. How many total pets are there?
- b. Which pet is the most common?

2. **Problem 2:** A picture graph shows the number of books read by students in a month.

- Fantasy:      (5)
- Mystery:    (3)
- Non-Fiction:        (7)

Questions:

- a. How many Non-Fiction books were read?
- b. How many more Fantasy books were read than Mystery books?

Practice Activity

1. **Create a Picture Graph:** Students choose their favorite snacks, draw a picture graph to represent how many of each snack they have, and create a scale (e.g., each picture represents 1 snack).
2. **Class Sharing:** Students present their picture graphs to the class and explain the data, including what the scale represents.
3. **Conclusion**

4. Reading picture graphs with scales helps students interpret data visually and understand how to communicate information effectively. By practicing with real-world examples, students gain confidence in their ability to read and analyze data!