4th Grade Math: Making and Interpreting a Table

Lesson Objective:

By the end of this lesson, students will be able to:

- Create a table to organize data.
- Interpret data from a table to answer questions.
- Use tables to solve real-world problems and make decisions based on data.

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1. Introduction to Tables

Explanation: A table is a way to organize information into rows and columns. Tables help us compare data and find patterns more easily. In this lesson, we'll learn how to create tables and use them to answer questions about data.

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2. Creating a Table

Step-by-Step Guide:

Example 1: Collecting Data

Problem: You are collecting data on the number of books read by your classmates over a month.

1. **Decide What Information to Include:**
    - Column 1: Name of Student
    - Column 2: Number of Books Read
2. **Create the Table Layout:**

Name of Student	Number of Books Read
Anna	5
Ben	7
Carlos	4
Diana	6
Ella	8

Example 2: Filling in the Table

Problem: A survey was conducted to find out how many hours each student spends on homework each week.

1. **Create the Table Layout:**

Student	Hours of Homework per Week
John	3
Emily	2
Michael	4
Sophia	5
James	3

3. Interpreting Data from a Table

Example 1: Analyzing the Table

Problem: Using the table of books read, answer the following questions:

1. Who read the most books?
2. How many books did Ben read?
3. What is the total number of books read by all students?

Steps to Solve:

1. **Who read the most books?**
   - Look at the "Number of Books Read" column. **Ella** read the most books with **8**.
2. **How many books did Ben read?**
   - Find Ben's row and look at the number of books read. **Ben** read **7** books.
3. **What is the total number of books read by all students?**
   - Add all the numbers in the "Number of Books Read" column: 5+7+4+6+8=305 + 7 + 4 + 6 + 8 = 305+7+4+6+8=30
   - The total number of books read is **30**.

Example 2: Comparing Data

Problem: Using the table of hours spent on homework, answer the following questions:

1. Which student spends the most time on homework?
2. How many hours does Michael spend on homework?
3. What is the average number of hours spent on homework per week?

Steps to Solve:

1. **Which student spends the most time on homework?**
    - Look at the "Hours of Homework per Week" column. **Sophia** spends the most time, with **5** hours.
2. **How many hours does Michael spend on homework?**
    - Find Michael's row and look at the number of hours. **Michael** spends **4** hours on homework.
3. **What is the average number of hours spent on homework per week?**
    - Add all the hours and divide by the number of students: $(3+2+4+5+3) \div 5 = 17 \div 5 = 3.4$(3 + 2 + 4 + 5 + 3) ÷ 5 = 17 ÷ 5 = 3.4(3+2+4+5+3)÷5=17÷5=3.4
    - The average number of hours is **3.4** hours per week.

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4. Practice Problems

Create Your Own Table:

Example 1: Create a table showing the number of pets each student has.

1. **Set Up the Table:**

Student	Number of Pets
Lily	2
Tom	1
Zoe	3
Max	2
Sofia	4

2. **Answer the Questions:**
    - Who has the most pets?
    - How many pets does Tom have?
    - What is the total number of pets?

Example 2: Use the following data to answer questions.

1. **Create the Table:**

Item	Price (in dollars)
Notebook	4
Pencil	1
Eraser	0.5
Ruler	2
Marker	3

2. **Answer the Questions:**
    - Which item is the most expensive?
    - How much does a pencil cost?
    - What is the total cost of all items?

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5. Word Problems Using Tables

Example 1: Inventory Table

Problem: A store sells apples, oranges, bananas, and grapes. Here is a table showing the number of each fruit sold in a week.

Fruit	Number Sold
Apples	50
Oranges	30
Bananas	40
Grapes	20

1. How many apples were sold?
2. What is the total number of fruits sold?

Solution:

1. **How many apples were sold?**
    - Look at the "Number Sold" column. **50** apples were sold.
2. **What is the total number of fruits sold?**
    - Add all the numbers: 50+30+40+20=14050 + 30 + 40 + 20 = 14050+30+40+20=140
    - The total number of fruits sold is **140**.

Example 2: Classroom Supplies

Problem: A teacher has a table showing the number of different classroom supplies.

Supply	Quantity
Markers	12
Notebooks	25
Pencils	40
Folders	18

1. How many notebooks are there?
2. What is the total number of supplies?

Solution:

1. **How many notebooks are there?**
   - Look at the "Quantity" column. There are **25** notebooks.
2. **What is the total number of supplies?**
   - Add all the quantities: 12+25+40+18=9512 + 25 + 40 + 18 = 9512+25+40+18=95
   - The total number of supplies is **95**.

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6. Review and Wrap-Up

- **Recap Key Concepts:** Review how to create and interpret tables, including reading data, finding totals, and making comparisons.
- **Discuss:** How do tables help us organize and understand information? Why is it useful to represent data this way?