

2nd Grade Math: Divide Using Related Multiplication Facts

Introduction to Division and Multiplication Facts

Division and multiplication are closely related. Division is essentially the reverse of multiplication. Understanding this relationship helps students divide by using their knowledge of multiplication facts. For example, if they know that $4 \times 5 = 20$, they can also understand that $20 \div 4 = 5$.

Key Concept: The Relationship Between Multiplication and Division

- **Multiplication** is the process of finding the total when you have equal groups of something.
- **Division** is breaking a number into equal groups. It is the opposite of multiplication.

For example:

- $4 \times 5 = 20$ means there are 4 groups of 5, totaling 20.
- $20 \div 4 = 5$ means if you divide 20 into 4 groups, each group will have 5.

How to Use Related Multiplication Facts to Divide

1. **Understand the Division Problem:**
 - For example: $24 \div 6 = ?$
 - This means you are splitting 24 into 6 equal groups. You need to find out how many items are in each group.
2. **Think of the Related Multiplication Fact:**
 - The division problem $24 \div 6 = ?$ is asking: "What number, when multiplied by 6, equals 24?"
 - You can use your multiplication facts to solve this. If you know that $6 \times 4 = 24$, then you know that $24 \div 6 = 4$.

Example Problems

1. **Example 1: $36 \div 9 = ?$**
 - Think of the related multiplication fact: What number times 9 equals 36?
 - Since $9 \times 4 = 36$, the answer is 4.
 - **Answer:** $36 \div 9 = 4$.
2. **Example 2: $15 \div 3 = ?$**
 - Think of the related multiplication fact: What number times 3 equals 15?
 - Since $3 \times 5 = 15$, the answer is 5.
 - **Answer:** $15 \div 3 = 5$.
3. **Example 3: $48 \div 6 = ?$**
 - Think of the related multiplication fact: What number times 6 equals 48?
 - Since $6 \times 8 = 48$, the answer is 8.
 - **Answer:** $48 \div 6 = 8$.

Practice Using Related Multiplication Facts

1. **Problem 1:** $32 \div 8 = ?$
 - **Solution:** Since $8 \times 4 = 32$, $32 \div 8 = 4$.
2. **Problem 2:** $56 \div 7 = ?$
 - **Solution:** Since $7 \times 8 = 56$, $56 \div 7 = 8$.
3. **Problem 3:** $18 \div 2 = ?$
 - **Solution:** Since $2 \times 9 = 18$, $18 \div 2 = 9$.

Word Problems Using Division and Multiplication Facts

1. **Problem 1:**
 - **Question:** There are 24 apples. You want to put them into 6 equal groups. How many apples will be in each group?
 - **Solution:** $24 \div 6 = 4$ (since $6 \times 4 = 24$). Each group will have 4 apples.
2. **Problem 2:**
 - **Question:** You have 40 candies, and you want to give them to 5 friends equally. How many candies will each friend get?
 - **Solution:** $40 \div 5 = 8$ (since $5 \times 8 = 40$). Each friend will get 8 candies.

Practice Activity

1. **Using Multiplication to Divide:**
 - Write down division problems like $36 \div 6 = ?$, $28 \div 7 = ?$, and $45 \div 9 = ?$. Have students solve them by thinking of the related multiplication facts.
2. **Word Problem Activity:**
 - Create real-world division word problems. Ask students to use their knowledge of multiplication facts to solve them.

Conclusion

By understanding the relationship between multiplication and division, students can easily solve division problems using their knowledge of multiplication facts. This makes division faster and easier, as they recognize the connection between the two operations!