

3rd Grade Math Lesson: Multiply by 6

Objective:

- Students will learn to multiply numbers by 6, understand the pattern of multiplying by 6, and apply it to solve problems.

1. Introduction to Multiplying by 6

- **Start by asking:**
 - "Who can count by 6s?" (Allow students to try, guiding them if necessary.)
 - Write the multiples of 6 on the board: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60.
- **Explain:**
 - Multiplying by 6 means adding groups of 6. For example, 6×3 means "three groups of 6" or $6 + 6 + 6 = 18$.

2. Key Concept: Multiplying by 6

- **Present examples:**
 - $6 \times 1 = 6$
 - $6 \times 2 = 12$
 - $6 \times 3 = 18$
 - $6 \times 4 = 24$
 - Continue up to $6 \times 10 = 60$.

Explain: Multiplying by 6 can be thought of as adding groups of 6. For example, 6×4 means 4 groups of 6, and $6 + 6 + 6 + 6 = 24$.

- **Visual Aid:**
 - Use a number line to show jumps of 6.
 - Draw arrays (e.g., 6 rows of 3 dots) to visualize how 6 multiplied by a number creates equal groups.

3. Pattern of Multiplying by 6

- **Discuss Patterns:**
 - Notice that the digits in the products of 6 repeat or follow a pattern. For example, the ones digits in 6×1 , 6×2 , 6×3 are 6, 2, 8, and then continue.
 - Use examples like:
 - $6 \times 1 = 6$
 - $6 \times 2 = 12$
 - $6 \times 3 = 18$
 - $6 \times 4 = 24$
 - $6 \times 5 = 30$
 - Highlight the alternating pattern between even digits (6, 2, 8, 4, 0).

Activity:

- Have students fill in the missing products in a table to see the patterns clearly.

4. Guided Practice

Solve problems together as a class.

1. **Problem:** $6 \times 3 = ?$
 - **Solution:** 18
 - **Explanation:** You can add 6 three times ($6 + 6 + 6$) to get 18.
2. **Problem:** $6 \times 5 = ?$
 - **Solution:** 30
 - **Explanation:** You can add 6 five times ($6 + 6 + 6 + 6 + 6$) or recognize that 6×5 is halfway to 60.
3. **Problem:** $6 \times 7 = ?$
 - **Solution:** 42

Activity:

- Students will solve multiplication facts with 6 in their notebooks and share their strategies with a partner.

5. Independent Practice

Students will complete a worksheet with the following problems:

- $6 \times 2 = \underline{\quad}$
- $6 \times 4 = \underline{\quad}$
- $6 \times 8 = \underline{\quad}$
- $6 \times 9 = \underline{\quad}$
- $6 \times 6 = \underline{\quad}$
- Word problems:
 1. "Samantha bought 6 packs of stickers, each with 4 stickers in them. How many stickers does she have in total?"
 2. "There are 6 tables at a party, and each table has 5 chairs. How many chairs are there in total?"

6. Conclusion and Review

Recap Key Points:

- Multiplying by 6 is like adding groups of 6.
- Multiplying by 6 follows a pattern: the products repeat in a specific order.
- You can use skip counting, arrays, and number lines to help with multiplication by 6.

Exit Ticket:

- Ask each student to solve 6×7 and explain how they found their answer.