

3rd Grade Math: Rounding Numbers to Estimate

Lesson Objective:

By the end of this lesson, students will:

- Understand the concept of rounding numbers.
- Apply rounding to estimate sums, differences, products, and quotients.
- Use estimation strategies to solve real-world problems.

1. Introduction to Rounding

What is Rounding?

- Rounding is a way to simplify a number to make it easier to work with, by changing it to a nearby number that ends in zero (or other specific place values).

Why Do We Round Numbers?

- Rounding helps us make quick estimates.
- It's useful for mental math, shopping, measurements, and more.

2. Rules for Rounding

Steps for Rounding:

1. **Identify the Place to Round:**
 - Look at the digit in the place you are rounding to (e.g., nearest ten, hundred, thousand).
2. **Look at the Digit to the Right:**
 - If this digit is **5 or higher**, round **up**.
 - If this digit is **4 or lower**, round **down**.
3. **Change the Digits After the Rounded Place:**
 - Any digits after the rounding place become **zero**.

Examples:

- **Rounding to the Nearest Ten:**
 - 53 rounds to **50**.
 - 78 rounds to **80**.
- **Rounding to the Nearest Hundred:**
 - 256 rounds to **300**.
 - 432 rounds to **400**.

3. Estimation Using Rounding

What is Estimation?

- Estimation is finding an answer that is close enough to the exact answer but simpler to calculate.
- We use rounding to estimate sums, differences, products, and quotients in math.

Examples of Estimation:

1. Estimating a Sum:

- Problem: $237 + 489$
- Round the numbers: $240 + 490$
- Estimated sum: **730**

2. Estimating a Difference:

- Problem: $645 - 378$
- Round the numbers: $650 - 380$
- Estimated difference: **270**

3. Estimating a Product:

- Problem: 42×19
- Round the numbers: 40×20
- Estimated product: **800**

4. Practice Problems

Activity 1: Rounding to the Nearest Ten

- Round the following numbers to the nearest ten:
 1. 68
 2. 47
 3. 92
 4. 34
 5. 81

Activity 2: Rounding to the Nearest Hundred

- Round the following numbers to the nearest hundred:
 1. 563
 2. 249
 3. 826
 4. 375
 5. 982

Activity 3: Estimating Sums and Differences

- Estimate the following sums or differences by rounding:
 1. $165 + 328$
 2. $498 - 217$

3. $823 + 134$
4. $712 - 345$
5. $569 + 279$

Activity 4: Estimating Products

- Estimate the following products by rounding:
 1. 63×28
 2. 47×19
 3. 52×33
 4. 89×12

5. Real-World Application of Rounding and Estimation

Activity: Estimating the Cost

1. **Materials:** Play money, item price tags.
2. **Instructions:**
 - Set up a mock store where each item is priced between 30 and 99.
 - Have students estimate the total cost of two or more items by rounding the prices first.
 - Example: If one item costs \$78 and another costs \$34, round to \$80 and \$30, then estimate the total as \$110.

6. Wrap-Up

Key Points to Remember:

- Rounding simplifies numbers by changing them to the nearest ten, hundred, or other place values.
- Estimation is useful for quickly calculating sums, differences, products, and quotients.
- Rounding and estimating help in everyday situations, such as shopping and budgeting.

Exit Question: Can you estimate the sum of $236 + 489$ using rounding?