Session 25: Percentage

Session Title	Percentage
Objectives	By the end of this lesson, students will be able to: 1. Understand the concept of percentage as a part of a whole. 2. Convert between fractions, decimals, and percentages. 3. Solve real-life problems involving percentages (e.g., discounts, tax, interest).
Topic	1. Percent to Fraction 2. Percent to Decimal 3. Decimal to Percent
Materials Required	1. Work sheets 2. Real life examples 3. Visual Aids – 100-grid charts 4. Pie charts 5. Number lines for illustrating percentages.
Methodology	Step-by-Step Demonstration – Clearly model each conversion (percent to fraction, decimal, etc.) and use visual aids.
Session Duration	90 Minutes

Intro Activity (75 minutes):

Begin with a question: "What does 50% off mean during a sale?" (15 minutes)

Explain the concept of percent as “per hundred” using real-life examples (e.g., discounts, grades, statistics).

Symbol: %

Example: 50% means 50 out of 100.

Why We Use Percentages?

1. Percentages help us compare things easily.
2. They're used in real life like:
3. Discounts in shopping (20% off)
4. Test scores (You got 80%)
5. Battery level (Phone at 30%)
6. Interest on money (Bank gives 5%)

Game Name: “Percentage Pop Quiz!”(20 minutes)

Objective: Warm up students with quick, fun percentage questions to activate prior knowledge.

Setup:

1. Divide the class into two teams.
2. Use flashcards or a whiteboard.
3. Each team takes turns answering questions.
4. One point for each correct answer.

Example Questions:

1. What is 50% of 100? (Answer: 50)
2. What percentage is half of something? (Answer: 50%)
3. Convert 0.25 to a percentage. (Answer: 25%)
4. You got 8 out of 10 on a quiz. What’s your percentage? (Answer: 80%)
5. What is 25% of 80? (Answer: 20)
6. A pizza is cut into 4 equal slices. If you eat 1 slice, what percentage did you eat? (Answer: 25%)
7. Which is more: 40% or 3/10? (Answer: 40%)
8. True or False: 100% means the whole thing. (Answer: True)

This is an activity to see what students know. This should be done together after class.

Percentage Problems with Answers (40 minutes)

1. Finding a percentage of a number:

   Formula: Percentage of a number = Percentage/100 x number

   Example: What is 20% of 150?

   20/100 x 150 = 0.2 x 150 = 30

2. What is 20% of 150?

   30/20 x 100 = 1.5 x 100 = 150

3. What is 25% of 200?

   Write the percentage as a fraction:

   25% = 25/100

   Multiply by the number:

   25/100 x 200 = 50

   Answer: 25% of 200 is 50

4. Ravi scored 72 marks out of 80 in a test. What percentage did he score?

   A: (72/80) × 100 = 90%

5. A shopkeeper gave a 20% discount on a ₹500 bag. What is the discount amount?

   A: 20% of ₹500 = (20/100) × 500 = ₹100

6. 3. A water tank is 75% full. If its total capacity is 200 liters, how much water is in the tank?

   A: 75% of 200 = (75/100) × 200 = 150 liters

Fraction to Percentage Conversion

Method: Multiply the fraction by 100 and add the percent symbol (%).

Examples:

1/2 × 100 = 50

3/4 × 100 = 75

2/5 × 100 = 40

Decimal to Percentage Conversion

Method: Multiply the decimal by 100 or move the decimal point two places to the right.

Examples:

0.5 = 50

0.25 = 25

0.875 = 87.5

Review Questions (5 minutes):

1. What does “percent” mean? Can you explain it with an example?

Follow-Up Task (10 minutes):

Home Work

1. A T-shirt is priced at ₹800. There is a 25% discount.
   - Discount amount?

     (25 ÷ 100) × 800 = ₹200
   - Final price?

     (₹800 − ₹200 = ₹600)

2. A water bottle has 1.5 L of water. 40% has been used.
   - Used water?

     (40 ÷ 100) × 1.5 = 0.6 L
   - Left?

     (1.5 − 0.6 = 0.9 L)

Expected Learning Outcomes:

Knowledge Building:

- Understand the concept of percentage
- Enhanced academic vocabulary

Skill Building:

- Speed and accuracy
- Critical thinking

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