Lesson 58: Identify the Base, Percentage, and Rate in the Problem

Week 1

Objective

Identifies the base, percentage, and rate in the problem.

Value Focus: proper choice of food, cooperation, alertness.

Prerequisite Concept and Skills:

- Define percentage, rate or percent and base**.**

Materials: hundred grid cardboards, crayons, fraction strips

References:K to 12 Curriculum Guide (M5NS-IIIa-138) Lesson Guide in Mathematics 5 pp. 417
Lesson Guide in Math 6 p 311

Instructional Procedure:

A. Preliminary Activities

1. Drill

Drill on percent

Parade of Colors
Materials: 5 pieces of hundred square grid cardboard and crayons
Mechanics:
a. Divide the class into 5 groups.
b. Distribute cardboards, one of each group.
c. Let pupils shade different portions with different colors.
Example: green-12%, yellow- 25%, blue- 20% red -35% indicate the % for the unshaded part.
d. The first group to present work accurately done wins the game.

2. Review

Concept Development
Material: fraction strips
Mechanics:
a. Form 5 groups.
b. Distribute fraction strips equally among the groups and place them face down in a pile.
c. Pupils look at the top card, name fraction and the name percent for the fraction.
d. The group with the most number of correct responses wins the game.

3. Motivation:

Action Song (Body Exercise)
Tune: Are you Sleeping
Title: Fraction to Percent

(One-fourth) 4x (Twenty-five) 2x
(One-fourth change to percent) 2x

(Twenty-five percent) 2x

One-half = 50%
One-fifth = 20%
Three-fourths = 75%
Two-fifths = 40%

B. Developmental Activities:

1. Presentation

Acting Out: My Favorite Fruit
Mechanics;
1. Divide the class into 8 groups.
2. Teacher will presents a question: If you were to choose which fruits would you like to eat everyday?
3. Each group decides on their favourite fruit among the fruits posted on the board.
4. Teacher request the 8 group leaders to stand at the back of the classroom.
5. As the teacher gives the signal, the leaders go to the fruit the fruit chose.
6. The teacher ask the leaders to explain their choices.
7. Let the pupils form the ratios for each fruit chosen: number of groups who chose the fruit To the total number of groups.
8. Convert the ratios to fractions then to percent.

Discussion
a. How many group are there? 8
b. How many chose apple? 6
c. How do we write it in percent? 75%

Say: We can write:

75% of 8 = 6

We deal with the three elements: rate, base and percentage:

75% of 8 = 6

Rate

Base

Percentage

The relationship among the three is:

R x B = p or P = R x B

75% is the rate. The number written with the word “percent” or with the symbol “%”

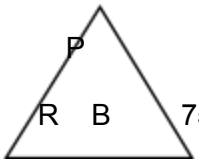
It can be expressed as a ratio of fraction $\frac{75}{100}$.

8 is called the base. The total or whole and it is the number that usually follows the phrase

“percent of” or “% of”.

6 is called percentage. It is the part of the whole.

We can also use the Techan's Triangle to identify rate, base and percentage.



2. Performing the Activities

A. Using flashcards. Identify the rate, base and percentage.

10% of 90 = 9	12% of 250 = 30	25% of 800 = N

B. Have the pupils work in group. The teacher gives problem statements wherein the pupils

Identify the rate, base and percentage:

Group 1:

Paolo listen very well to the teacher during the discussion of the lesson. When they were given a 5-itm test he got 4 correct answer. He has a grade of 80%.

Group 2:

There are 40 pupils in a class. Seventy-five percent of them are present. 30

pupils are present.

Group 3:

Monique invited 300 kids to her party. Only 15% of the kids did not showed up.Forty-five kids did not attend the party.

Group 4:

Shiela got 90% of a 20-item test in Science. She answers 18 item correctly.

3. Processing the Activity

Let the group present their output. Check their work one at a time. How did you find the activity? How can we identify the rate? base? Percentage?

Say: We can identify the rate easily because it is the number with the symbol % or number with the word "percent". Base is the whole number which you take the percent while percentage is the part of the whole. We can also use Techan's Triangle to identify the rate, base and percentage.

4. Reinforcing the Concept and Skill

Discuss the presentation on Explore and Discover on page ____ of LM Math Grade 5.
Ask the pupils to work on items 1 to 10 under Get Moving, on page ___ of LM Math 5

Check the pupils' answers. For mastery, have them answer the items under Keep Moving on page _____ of LM Math Grade 5.

5. Summarizing the Lesson

Lead the pupils to give the following generalization by asking:
How can you identify the rate, base and percentage?

> Rate is the number written with the word “percent”. It is express in percent form.
>
> Base is the total or whole and it is the number that usually follows the phrase “percent”.
>
> Percentage is the part of the whole.
>
> Techan’s Triangle is also used in identifying rate, base and percentage.

6. Applying to New and Other Situation
Ask the pupils to do the activity under Apply Your Skills on page ____ of LM Math 5

C. Assessment
Identify the rate, base, or percentage in the following problems.

1. 50% of 78 = 39
2. 10% of 60 = 6
3. A 20% or P 4 600 is the down payment for a brand new TV set. The original price of the TV set is P 23 000.
4. Carlo invest P 750 000 at $6\frac{1}{2}$ % simple interest a year. His interest is P 48 750.
5. Melissa has 120 kilograms of rice. Her mother sold 105 kilograms. Is she right to tell her mother sold 87.5% of what she sold?

D. Home Activity

Identify the R, B, and P in the following statement.

1. 180% of 200 is 360
2. 35% of 90 is 31.5
3. P 100 is 4% of P2 500
4. 51 children, $66\frac{2}{3}$ % of them are boys, 34 are boys
5. 16 is 20% of 80