SUPPLEMENTAL LESSONS

Mathematics Grade 7
2nd Quarter

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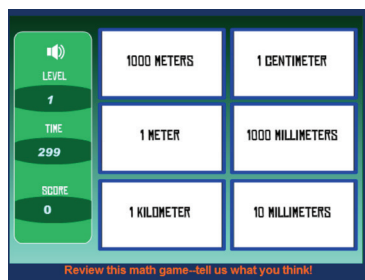
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2nd Quarter Grade 7
Supplemental Lesson Plan

Problem Solving Involving Conversion of Units of Measurement

I. Introduction

Review conversion of units within the same system of measurement using interactive online game. (Sample site: http://www.sheppardsoftware.com/mathgames/measurement/MeasurementMeters.htm)

II. Body

1. To motivate the class in the study of converting one unit to another, ask the students the following questions:

   a. When you go to a grocery store, and buy some food, what unit of measurements do you see? Is it in English system or in Metric system?

   b. Why do we sometimes see items in Metric system and others in English system?

   c. In the Philippines, what system of measurement do we use?

   d. Why is there a need to learn how to convert one unit to another unit?

2. Conduct a whole-class discussion on solving problems involving conversion of units of measure.

3. For practice, give the students problem sets using graffiti sheets.

    a. Group the students into small groups and have each group form a circle.

    b. Provide each student a copy of the graffiti sheets which contains the problem sets in conversion of units.

    c. Each member will choose an item to answer on the graffiti sheet. After everyone is done answering the first question, give an instruction to pass the sheet to the other member.

    d. As the sheet is received, the students will again choose another item to answer. This will continue until every item/question in the sheet is answered.

4. For more practice, let the students answer exercises on problem solving involving conversion of units online.

    (Sample site: http://mrnussbaum.com/measurement_games)

reset the game · Time left 4:38

» METRIC SIZE

1 meter
1 yard
1 foot
1 decimeter

» CLIENT ORDER · order no: 1

I'll have 202 centimeters of blueberry gum, 2 feet of grape gum, 3 inches of strawberry gum, 0.1 meters of apple gum, and please make it quick.

» GUM FLAVOURS

»» Blueberry
»» Grape
»» Strawberry
»» Apple

» BUBBLE GUM DISPENSER · Current gum info(in m)

» EARNINGS

0 $

SEND

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III. Conclusion:

Use the Exit Sheet (Lujan, 2011) below to facilitate the summary of the lesson and the students' understanding of measurements and their units.

I Understand	I Need Help
I learned... The lesson helped me...	I need help with... I have a question: _____
I Need Practice	**I Want More**
I am still confused about... I need to practice...	I could use this information... I wish I could...

Solving Problems Involving Algebraic Expressions

I. Introduction

Elicit the students' prior knowledge on solving problems involving algebraic expressions by using the Anticipation-Reaction Guide below:

Before	Problem	After
	You are standing at the San Juanico Bridge and accidentally dropped your cell phone. The cell phone's height (h; feet above the river) after t seconds is modeled by: **$h = -16t^2 + 1320$** a. What is the cell phone's height after 5 seconds? b. At what time will the cell phone hit the water?	

Knowledge:

Word problems involving Algebraic Expressions

Learning Competency

M7AL-IIg-2

- Solves problems involving algebraic expressions

II. Body

1. Tell the class that there are a lot of things in the real world that can be represented by algebraic expressions.

2. Discuss with the class solving word problems involving algebraic expressions using an illustrative example.

    The following mathematical statements describe cost and revenue in pesos from the production and sale of x units of toy cars. (e-Math 7, p. 167)

    Cost C of manufacturing: $C = 20x + 15$

    Cost M of marketing: $M = x^2 - 3x + 8$

    Revenue R from sales: $R = 2x^2 + 6x$

    a. What is the cost of manufacturing 50 units of toy cars?

    b. What is the cost of marketing 50 units of toy cars?

    c. Write a mathematical statement that represents the total cost of manufacturing and marketing x units of toy cars.

    d. What is the total cost of manufacturing and marketing 50 units of toy cars?

    e. What is the revenue from selling 50 units of toy cars?

    f. If we assume that profit is revenue minus total cost, represent the profit from selling x units of toy cars.

    g. What is the profit from selling 50 units of toy cars?

3. Discuss another example.

4. Assess the students' understanding of the lesson using response cards (Lujan, 2011).

    4 – Understands fully

    3 – Demonstrates an understanding or application of the goal

    2 – Minimal understanding

    1 – No understanding

KU

- Mathematical ideas can be used as tools to communicate real-life situations and relationships.

KQ

- How does the study of algebraic expressions promote understanding of real-life situations?

5. If most of the students gave a rating of 1–2, give one to two more examples. If most of the students gave a rating of 3-4, give the students practice exercises.

6. For skill building, let the students choose one of the following tasks:

   a. Create a word problem on algebraic expressions and answer.

   b. Teach a classmate who is having a difficulty on how to solve a word problem on algebraic expressions.

   c. Draw an illustration that involves how to solve algebraic expressions.

7. For enhancement, let the students answer an online quiz or activity. (Sample site: http://www.ixl.com/math/grade-6/write-variable-expressions-to-represent-word-problems)

Abby has r red peppers and 6 green peppers. Choose the expression that shows how many peppers Abby has.

○ $6 - r$
○ $r + 6$
○ 6
○ r

Submit

III. Conclusion

Let the students answer the "After" column in the Anticipation-Reaction Guide in the preliminary activity and then ask them to complete the statements:

"I've realized that _____."

"I've learned that _____."

"I've discovered that _____."

"I need help on _____."