

Project Title:

“Shopping for Life Skills”

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TABLE OF CONTENTS

- I- Goal*
- II- Course Outline*
- III- Lesson Plan*
- IV- Resources*
- V- Bibliography*

GOAL AND OBJECTIVES

BENCHMARK: MA.A 3.3.3

Student selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division. The students adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers to solve real-world problems using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.

- 1- Solve one-or-two step real-world problems involving whole numbers and decimals using appropriate methods of computation.
- 2- Solve world problems that involve addition, multiplication, and division of whole numbers and decimals.

BENCHMARK: MA.B 2.3.1-2

The student uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.

- 1- Measures length, weight or mass, and capacity using appropriate measuring instruments.

BENCHMARK: MA.B 3.3.1

The students solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.

- 1- Estimates the measure (length, weight or mass and capacity) of an object or figure and then compares the estimate with the actual measurement of the object or figure.
- 2- Estimates solutions to real-world problems involving measurement, including estimates of time, temperature, and money.

BENCHMARK: MA.B 4.3.2

The students select and use appropriate instruments, technology, and technique to measure quantities in order to achieve specified degrees of accuracy in a problem situation.

(Continuation of Benchmark)

- 1- Selects an appropriate measurement tool (for example, scales, rulers, thermometers, measuring cups, protractor, and gauges.)

LESSON PLAN

SUBJECT: MATH (basic operations)

GRADES: 6TH – 8TH.

OBJECTIVE:

By the end of this lesson students will solve problems that involve the basic operations with 85% accuracy.

- This lesson will lead into the use of multiplication and division in the next lesson.

MATERIALS:

Chips

Teddy bears

Flash cards (addition and subtraction)

Worksheet for each student with four word problems that involve addition and subtraction of decimals

Overhead projector and transparencies

Paper and pencil

Text: "Mathematics", Glencoe-6 Grade

RATIONALE:

It is essential that the students perform basic computations that involve the four operations.

This benchmark will help the students to learn and incorporate addition and subtraction into everyday life situations through the use of word problems. They will be using decimals only for this lesson. The word problems contain items of interest to them. Students should already be comfortable with regular addition and subtraction problems, so using word problems will force them to look at addition and subtraction in a different way.

EXPLICIT INSTRUCTION:

Depending on your students' level of cognitive development showing them an ad with food items and prices you would ask them the following:

- 1- What do you have to do to get some food items from a store?
- 2- How do you know if you have enough money to buy such food items?
- 3- How much money do I have?
- 4- How much money do I need to buy the selected food items from the ad in the newspaper?

Page 4- “Shopping for Life Skills”

- 5- What should I do to find out how much money I would have after buying the items if I have \$10 dollars only?
- 6- What should I do if I don't have enough money to buy the items?

Teacher will formulate these questions and she will state out loud how does she think she has to solve each question. Teacher will say what is on her mind. For instance, “I’ll make a list of the items I need.”

“I will check for their prices.”

“I need to know if I have enough money to buy the items. Well, here I need to know the total amount needed to pay for the items. So the operation that will tell me the total is addition because I have to add all the items’ prices to get the total figure.

“Well, if the money that I have is not enough, I will need to eliminate some items.”

GUIDED PRACTICE:

The class would be divided into small groups and each group will have an ad of food items. Each group has only \$22.15. They need to select the items they can buy and come up with the amount that they would have left after their purchases.

Teacher will work with the students, clarifying misconceptions, asking them questions for them to select the right operation, making accommodations for those who need re-teaching of the skills or extra time to accomplish the task involved. Based on their answers and participation, teacher will change strategies used, re-teach the skills needed, or add more practice.

INDEPENDENT ACTIVITY:

Students in small groups will solve the following problem:

You have \$13.26 dollars.

- 1- Select the food items you need to buy according to the ad in the newspaper.
- 2- Tell me how many items you can buy with the money you have.
- 3- How much money is left after your purchase?
- 4- What did you do when you noticed that you didn't have enough money?
- 5- Make a chart showing how you spent your money and explain the results to the class.

Teacher will circulate taking notes of their participation and will assign a grade to each group for their performance and presentation.

HOME LEARNING:

Provide students with a worksheet with some word problems that involve addition and subtraction of decimals to be collected in the next class.

LESSON PLAN

SUBJECT: MATH (measurement)

GRADE: 6TH-8TH.

PREREQUISITES:

- 1- Students must know the value of each coin of U.S. currency.
- 2- Students must provide the right amount upon request.
- 3- Students must know fraction representation and values.
- 4- Students must know the equivalent of an hour in minutes and seconds.
- 5- Home learning: Students should bring for this lesson the ingredients for baking a cake.

OBJECTIVE:

Students will learn and apply the right amount in milligrams, grams; half of a cup, a cup; $\frac{1}{2}$, $\frac{1}{4}$ of a teaspoon; temperature in Fahrenheit degrees; minutes and seconds in an hour with 85% accuracy level.

- This lesson will lead to recognize and apply conversions of deciliters, hectoliters, liters, pints, gallons, etc.
- 1- Mix of the ingredients to bake a cake.
 - 2- Set the temperature and time for baking the cake.
 - 3- Know of the value of each coin: penny, nickel, dime, quarter and a dollar bill (Accommodations based on students' cognitive development must be provided in order to obtain optimal results)
 - 4- Produce the right amount of a requested item.
 - 5- Purchase pieces of cake at different prices (Depending of the students' skills and individual strengths and weaknesses, accommodations must be granted to the students.).

MATERIALS:

Measuring spoons and cup

Scale

Oven

Baking pots

Forks, spatulas, servers, paper plates

Minute timer

Play money

Pot holder

Mixing bowl for dry and liquid ingredients

Food items: eggs, flour, sugar, oil/butter, milk/water, salt, baking soda, baking powder, and vanilla extract

Recipe for baking a regular cake from scratch

RATIONALE:

Students will apply knowledge of diverse instruments of measurement, value of currency, and equivalence of an hour in minutes and seconds.

EXPLICIT INSTRUCTION:

Teacher will demonstrate to students how to solve the steps involved. Also, considered will be students' cognitive development and strengths and their learning styles, and strengths in order to provide the necessary accommodation based on their individual needs. Teacher will think aloud about how to solve each question that comes to her mind relating to the lesson such as:

- How much water do you drink at one time?
- How much is one cup of water, $\frac{1}{2}$ of a cup of oil?
- How much is half a teaspoon of water?
- How do you follow a recipe?
- How do you mix the ingredients?
- How long does it take for the cake to bake?
- Can I provide 0.36 cents using play money?
- What measuring instrument should one use to get $\frac{1}{4}$ of a cup of oil?
- Which is more: 0.99 cents or 0.79 cents?
- The temperature in Miami is 85 degrees Fahrenheit and 62 degrees Fahrenheit in Brooklyn, which city has the higher temperature?

GUIDED PRACTICE:

Students will be divided into small groups and will perform the following activities stating out loud the rationale for:

Cluster One:

- A timetable of the class
- The weight of a paper clip, a book, a pen
- Determining what type of instrument of measurement should be used to obtain the weight of the above items

Cluster Two:

- Tell me the time and mark it in the classroom clock:
FIFTEEN MINUTES PAST FOUR
TWO-THIRTY
SEVEN MINUTES PAST TWELVE

Cluster Three:

Give me $\frac{1}{3}$ of a cup of water

Give me one tablespoon of honey

Can you add a tablespoon full of salt to the eggs you are frying? Explain

Cluster Four:

Provide the following:

0.13 cents, 0.72 cents, 1 dollar and 38 cents, and 2 dollars with 19 cents.

Which is more: 0.89 cents or 0.39 cents? Explain.

All four groups of students will be performing one activity at a time and at teacher's instruction will rotate to the next cluster. These activities will be done and mastered according to the students' development and knowledge of the subject. Make the necessary corrections or provide additional activity for the students to master the skills of this lesson. Also, offer accommodation as part of the differentiated instruction to obtain optimal results.

INDEPENDENT ACTIVITY:

Students divided into 4 groups will combine ingredients for baking a cake. Each group will have the ingredients necessary for this activity.

Students will demonstrate measurement skills of the ingredients and the appropriate use of the materials and disposal of the garbage into the garbage container.

Students will set the time for the baking of the cake (45 minutes).

Students will provide the correct amount of money from the list of prices written on the board using coins (4 amounts).

After the cake has cooled, it will be cut into slices to be sold in class.

Each group will have a chance to provide the right amount as the price per slice of cake is being called out.

The summative assessment will generate grades for each student who provided the right amount, mixed, and used the proper measuring instruments for the ingredients of the cake. It is expected that students respond with 85% accuracy level.

HOME LEARNING:

Make a timetable to indicate the activities you do from the time you wake up to the time you go to bed. Break them down into hours, minutes, and seconds.

LESSON PLAN

SUBJECT: MATH (Setting of the classroom store)

GRADES: 6th – 8th.

PREREQUISITE:

Students are to bring empty containers of food items that they and their parents use at home.

Students must have the skills, for writing decimals as they are dictated, and performing addition and subtraction, as part of this lesson.

OBJECTIVE:

At the end of this lesson, students will add the cost of food items paid for, provide the correct amount in play money, and know how much money is left after purchase with 85% accuracy level.

MATERIALS:

Empty containers of food items

Scissors, markers, paper and pencil

Advertisements from a newspaper

Tape and glue

Use the shelves available in the classroom to set up the store. If there are none available, use big boxes from the cafeteria instead

Cash register/calculator

Play money

A list of items needed to buy

RATIONALE:

Students will learn the different activities involved in running a classroom store. They will recognize the importance of performing the basic operations using paper and pencil and corroborating the accuracy of their answer through the use of a calculator/cash register.

EXPLICIT INSTRUCTION:

Based on students' knowledge and cognitive development, students would be involved when open questions are formulated by the teacher. Questions such as:

What do you need to open a store?

What types of stores do exist? "Grocery (food) stores; department stores, hardware stores, car dealers; furniture stores (showroom); office supplies stores; pet shops, etc.)

What can you find in a store?

Who are the person(s) who work at a store? (Stock workers; cashiers; sales people; customer service representatives; managers; security officers, and janitors)
What are their duties?
What skills do you need to work in a store?
What do you need to do to know if you have enough money to buy the necessary items from a store?

What will you do if at the store you find out that you do not have enough money to buy the items selected?
What would you do to learn how much it will cost you to buy several items?
Which type of operation would you use to find out how much money is left after paying for the items you bought?

Teacher will formulate the questions out loud for all to listen. At the same time she will share with the students what is on her mind when she reads a question. Also she will express her rationale for the decisions she makes to select the right operation to be used in the different questioning. Teacher will encourage students' participation if they have the skills to do so. At the same time, she will encourage students to provide their rationale for their decision and will demonstrate how to add the prices and how to find out how much money is left

GUIDED PRACTICE:

Students divided into small groups will write what is involved in the opening of a store. They will write an ad to bring customers to their store.
They will provide incentives to customers to buy at the store.
They will select a name for their store (per group) and make a banner using the software available in the classroom.
They will copy the prices from the advertisement section in the newspaper and write the prices correctly as dictated by one member on each group
They will tag each product with the right price.
If you buy the items written on the board, how much would you pay?
If you only have \$15 dollars, how many items would you be able to buy?
How much money is left after buying some items?

Teacher will circulate and assist them to come up with the right operation, amount, etc. Accommodation would be provided to the students. Upon teacher's discretion and students' performance, lesson would be re-teach or more activities would be included to obtain mastery of the skills.

INDEPENDENT ACTIVITY:

Students in small groups will perform the following activities:
Selection of the best banner for the classroom store.

Page 10- “Shopping for Life Skills”

Each group will write the decimals dictated and solve the word problems given to them. Each group will set different amount of money for each item to be purchased at their store.

Each member of the group must provide the correct amount to buy an item from the store.

How much money do they have left?

Within each group, some students would work at the store while the other members of the same group would be the customers. The teacher will circulate among them and will take notes of their performances. This summative assessment will generate the necessary modifications of strategies and setting of the skills for future lessons.

Each group will receive a grade for their performances.

HOME LEARNING:

A picture/drawing of your favorite store.

Make a list of the items sold at that store.

If you have an account with the store of \$37.58, what can you buy? Or, how much would you need to buy your favorite item?

What type of operation would you use to find out the answers for the last two questions?

Present your assignment at the beginning of the next class.

- *The culmination of all the skills learned will take effect when the students go on a field trip to the stores nearby the school to purchase items for their families. They should bring the list of items needed with the right amount to pay for the items; bring coins to pay for their fare to/from their school to the store; if lunch was included on this field trip, students should bring the money to buy their own lunches at the near fast food restaurant of their selection.*
- *They need to have a chance to apply what they have learned and to realize the importance of knowing the value of U.S. currency. This field trip offers them an opportunity to decide by themselves, to receive help from their peers, to be responsible for the decisions they make, to be courteous to others, and to follow rules they need to follow in the community in which they live.*

RESOURCES:

Websites:

www.internet4classrooms.com/teachertools.html

This website contains a section with worksheets for your selection based on student level.

www.aplusmath.com/flashcards/index.html (At this website you will find money worksheets available to you for free)

www.econedlink.org/lessons/print.cfm?lesson=EM63

www.ateacherstuff.com/pages/490.shtml

www.usmint.gov/kids/coinNews/50sq/

www.thinkfinity.org

www.EdHelper.com

www.lessonplanspage.com

www.webcrawler.com

www.busyteacherscafe.com (You will find activities about time using hours and minutes.)

www.atozteacherstuff.com/pages/490.shtml

www.funbrain.com/cashreg/index.html

MATERIALS:

Play money, flash cards on addition and subtraction, and big practice clock from different MDCPS-approved catalogs.

BIBLIOGRAPHY:

Books with worksheets about coins and bills already approved by MDCPS are available through different publishers’ catalogs.

Text: Mathematics by Glencoe. Grades: 6th – 8th