

Money Math
Unit Study
Math 5th - 6th Grade
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The purpose of this Math unit is to introduce students to the value of money and help them understand the basic concepts of money using addition, subtraction, shopping, sales, percentages off, basic checkbook keeping, very basic budgeting, etc.

This unit is designed to take about 2 weeks, but could easily be expanded to take a month or so with a few additional activities and extra practice. I put this together for my 5th & 6th grade students but it could easily be adapted to older students as well. My students loved this unit!

Key Learnings

Write, add and subtract money using appropriate symbols

Use patterns to make generalizations and predictions

Count coins and dollars

Determine correct change to \$1.00 by counting

Estimate to the nearest dollar

Use correct symbols in writing money amounts

Construct and interpret data using a simple bar graph

Interpret data as represented in a simple table or chart

Count money up to \$10.00

Concept/Skill:

Use of money - adding, subtracting, shopping, sales, percentage off, sales tax, basic checkbook keeping, very basic budgeting, etc.

Day 1

Based on a lesson plan by Dawn Weisbrod <http://lessonplanspage.com/mathlawritemathstory56-hm/>

Instructional Objective:

Read the book "Alexander Who Used to Be Rich Last Sunday" aloud to the class

Set:

What were the steps that happened to make Alexander not rich anymore?

Was Alexander really rich?

What choices would you have made differently?

Were Alexander's choices good ones?

Acquisition:

Today we are each going to write a story using money in it. Similar to the story we just read.

Teacher will write a brief beginning to the story to model the idea on the board. Included will be each of the math problems within the story and their answers.

Students will each write a story of their own using at least 6 math problems. They will also need to put the problems and their solutions in the story. The story can be true about them or made up about them or a fictional character.

Consolidation:

Students will read their stories aloud and the students will each solve each problem and see if everyone can get the correct answer.

Review the rules of addition and subtraction of money. Remind the students to use the \$ sign and the decimal, etc.

Worksheet with 10 math problems of adding and subtracting money.

Students will turn in their story and a separate sheet of paper with their math work for each step of the problem.

Assessment: The students will be assessed on the accuracy of the math work in the story.

Day 2

Set:

Today you are each going to set up a checkbook in class. Just like an adult, you can learn to keep track of your money for the rest of this unit!

Set:

Can anyone tell me how a checkbook works?

Where does the money come from that is in the checkbook?

What happens if I don't do the right math and end up with the wrong answer in my check book?

Did you know that adults use math every single day?

Today we are going to begin learning about a checking account.

Acquisition:

Today, I am going to show you how to use a check book.

Each of the students will have a set of checks and a register from the templates attached.

Students will do some practice recording amounts in their check book. They will have their initial deposit, then they will have to pay a bill for desk rent, lunch, recess time, etc. All of these things will need to be recorded in their checkbooks along with the running balance.

Consolidation:

Students will do another worksheet on addition and subtraction of money amounts.

Review the rules of addition and subtraction of money. Remind the students to use the \$ sign and the decimal, etc.

Students can take a few minutes to decorate the cover of their checkbooks.

Materials:

Checks, check register, and covers for student check books.

_____ # _____

Pay to the
order of _____ \$ _____

_____ Dollars

_____ Memo _____ Signature

000000 000 000 0 0000

This check book belongs to:

Checkbook simulation

I set up different tasks/classroom jobs that get paid each day. Being on time to school also gets a payment. My jobs were line leader, secretary (paper passer/teacher's helper), recess clean up, classroom pet upkeep, trash, whiteboard, lunch clean up (wipe desks after lunch). You can use whatever classroom jobs you already have in place. The amounts prices /salaries are not as important as the process of daily doing entries into the check book and doing the math to keep it correct. I also set up monthly jobs that the students want to do that are real life jobs (pastor, teacher, doctor, brick layer, etc.) They choose a job that they will be employed at and I set the salary for each job based on real life equivalents. You could have your students do some research on the job and salary for each position if you wanted to.

Then, there are certain charges:

Desk rent, lunch and recess time, or whatever you want to charge for.

Each day, at the beginning of math time, the students will be given their payment for the jobs/coming to school on time, etc. and will then need to enter that into their checkbooks. They will need to deduct for their charges and fees as well.

You can make this as easy or complicated as you like. You could take it a step further and actually give the students cash and then have a banker that they have to go to, to deposit their money into their checking account or withdraw their money, or you could just have prices associated with the jobs on your job chart. Then students would know each day what the income would be.

Day 3

Based on a lesson by Jeff Anger and Susan Marchionda <http://lessonplanspage.com/mathestimation46-hm/>

Set:

Today we are going to do some practice on estimating!

What is an estimate?

Why would I want to be able to estimate something with money?

What would happen if I only had a certain amount of money in my wallet but wanted to buy groceries that cost too much?

Some grocery stores will only let you pay for the groceries with cash. Why would it be important to be estimate well?

Today we are going to do some estimating practice.

Acquisition:

Would you rather have your height stacked in pennies or your height in nickels stacked end to end?

What would be the price of your height?

Each of the students will have a tally sheet for their estimate and actual amount for each exercise.

Students will first estimate the answer to how many for each way and will write that down. Then they will actually find out how many of each it would take. Then they will write that down. Then they will need to calculate the actual amount of money each way would take.

Consolidation:

Students will do a worksheet on estimating money amounts.

Review the rules of addition and subtraction of money. Remind the students to use the \$ sign and the decimal, etc.

Students can take a few minutes to finish decorating the cover of their checkbooks. Today, they will have a water bill, garbage bill, and a textbook fee to enter into their checkbooks.

Materials:

Pennies, nickels, rulers, 3 column charts.

Height estimation Worksheet

Name _____

Height in pennies	Estimate (how many pennies)	Actual
Height in Nickels	Estimate (how many nickels)	Actual

Day 4

Set:

Today we are going to learn how to plan a menu!

What is a menu?

Why would a menu be helpful?

How could a menu make it easier when you go grocery shopping?

How many of you have a menu at home?

Today we are going to make a menu for 5 days. Then we'll look at the store ads to find out the prices for the food items and see how much it would cost for five days of meals.

Acquisition:

We have already done a unit on nutrition, so we want to make sure that we include lots of good food in our menu like fruit and vegetables. Today, the students will each receive a monthly deposit into their checkbook for their monthly income.

Each of the students will have a menu sheet for planning. And then a grocery list for listing the individual items needed for that menu.

Students can brainstorm to come up with some menu items that could go on their menus. Once they have their menus made up, they will need to list the individual items that make up a meal (green beans, mac and cheese, etc.). Then, they will need to look through the grocery ads to find the prices for each of these things.

Consolidation:

There will likely be some items that won't have a price in the ads, so we'll take that short list across the street to the grocery store and find those prices.

Review the good nutrition rules and then compare the student's menus based on their nutrition and good money choices.

Students will add up the total amount for their 5 days of meals and compare their shopping lists with each other. They will need to write a check for their grocery purchase and add that into their register.

Menu/shopping Simulation

Materials Needed:

clipboard for each student
pencils
sheets of white paper
grocery store sales ads per student

Students will work in pairs to put together a menu for 5 days. This includes three meals a day. They will also make a list of each of the items needed to make the menu items. They will list each of these items on their shopping list.

Once the students have their list put together, give each pair a grocery ad to look for the items and write down the prices of the items. If they cannot find the items in the ad, they can take the page home and complete the shopping price list at home as homework, or you can take the class on a shopping field trip to complete their lists with prices.

If you want to extend the lesson, you could have a bunch of coupons that students could use to deduct the amounts from their prices and then total the price list. Remind them to write their prices with \$ and decimals so they are easy to add up. You could also have them estimate the amount and then add it and compare the totals.

Breakfast	Lunch	Supper

Day 5

Based on a lesson by Dr. Kathleen Wild

<http://lessonplanspage.com/mathofoodinventorymathwithgrocerysalesads24-htm/>

Set:

Today we are going to look at what coupons can do to our grocery costs!

What are coupons?

Where can you find coupons?

Would coupons save you money on the things you buy?

Do you want to save money when you go to the grocery store?

Today we are going to look at our menu and then figure out how much we could save if we had used coupons on our grocery lists.

Acquisition:

You can find coupons in many places. Sometimes they are in little blinking boxes on the shelf at the grocery store, sometimes they print out with your receipt, and sometimes they come in the newspaper or magazines. We are going to go on a hunt for coupons that match up to the items that you are buying and see if we can save some money on your groceries.

Each of the students will have a menu sheet for planning. Students will look through the coupons that I have made up for general items, and see which ones match the items on their menus. Then they will need to deduct the coupon amount from the price of the item and put the new price in the last column. Not every item will have a coupon. (You can also have parents collect coupons from the Sunday paper for several weeks so that you will have a large assortment of coupons for the students to choose from. Don't worry about expiration dates at this point because you are trying to get the students to see how valuable coupons can be and how much they can save.)

Consolidation:

Students will add up their new total with the deduction of the coupons and post that new total at the bottom of their menu/grocery list. They will also add up how much they saved by using coupons.

Review the benefits of using coupons and ask the students if it saved them any money.

Teacher will write the students a refund check for their coupons. They will need to mark this as a deposit in their check books. Tomorrow will be payday.

Materials: Menu Worksheet, coupons.

Day 6

Based on a lesson by Tania Yap <http://teachers.net/lessons/posts/2252.html>

Set:

Today we are going to go shopping in the classroom store!

Why would you need to know math when you go shopping?

If you were the store keeper, would you still need to know math?

What types of things do you like to shop for?

What type of thing would you sell if you had a store?

Today, we are going to be shoppers and sellers. We'll practice making change and making sure we have enough money to buy the items we want to buy.

Acquisition:

Shopping game instructions attached.

Each of the students will have a jotter book to keep track of their expenditures or purchases.

Students will play the shopping game. They can swap roles part way through so everyone gets a chance at both roles.

Consolidation:

Students will need to record their shopping or selling transactions and make sure they don't run out of money.

Review the importance of math in everyday situations.

Today is payday. Students will record their paychecks in their checkbooks. They will also need to write a check for tithe.

Day 6 – Shopping Game Instruction

Prior to the beginning of class, cut out pictures, or use objects from the classroom and set up prices for each of them. Remember, the students will only have \$45 so don't make the items too expensive.

- *Review how to add and subtract money.

- *Assign students to work in pairs and then, within each group, designate one buyer and one seller. They will stay within this pair for the assignment.

- *Buyers will go on a shopping spree to buy 3 items using their money. Once they buy an item, they keep the price tag. They will need to pay for the items with their play money.

- *When they buy the item, they will need to record the price on their paper.

At the end of the shopping, they will total their purchases and find out how much they have left.

- *Then, they will count their play money to make sure it matches.

- *Sellers will display their goods along with the price tags.

- *Once the item is sold, they will give the price tag to the buyer.

- *After each sale, they will record the item and the amount on their worksheet.

- *At the end of the selling, they will add their earnings to the \$45 they began with.

- *Then, they will count their play money and add to tally.

- * Students may use jotter books or graph paper to do calculating the totals if they need help keeping the decimals aligned.

At the end of the assignment you could have the students exchange tally sheets to double check their partner's math.

Day 7

Set:

I have two bottles of shampoo and they are both \$1.00. Which one would you choose to buy if you were buying shampoo? (Use two bottles that have different ounces)

How could you tell if one is a better price?

Can you always tell if one is a better price or not?

How you find out the unit price for the item?

Sometimes stores give you a hint. Can you find the hint on these labels? (have unit pricing on the labels as well as the product price.)

Today we are going to do some investigating to see if we can figure out which of these items is a better price.

Acquisition:

You will need your calculator, pencil, price list, and your thinking cap to do today's project.

Students will each have a shopping list of various items. Each of the items for sale will have two items and each will be for a different price and different unit prices.

Consolidation:

Students will need to write the items on their shopping list into their price list and then compare the unit price. Then they will need to indicate which item is a better buy.

Review the process of finding unit price. Talk about how this can really help when you are shopping or comparing.

Today, the sewer bill is due, as well as the tuition bill for school. They also need to pay for their pet's vet bill.

Materials:

Price list, grocery list, duplicate items with placards with price and unit size on them.

Day 8

Based on a lesson from ABCTEACH.COM

Set:

Today we are going to use math to build a tower.

How do you think a builder uses math?

Does a builder use a menu?

Would a building need to find out the price per unit?

Could a builder make better choices for price if they shop around and compare prices from one store to the next? (Like unit pricing comparison)

Today you are going to try to build the tallest tower using the least amount of money for your materials.

Acquisition:

You will work in groups of three or four.

Worksheet to record the amount of items used in the tower and their cost.

Students will use the price list and the building materials to try to build the tallest tower in a given amount of time.

Consolidation:

Students within each group will be responsible for different parts of the project, recording, building, etc.

Measure each of the towers and compare the final cost of materials to determine the winners.

Today you need to pay the electric bill and also pay the dentist. If you didn't use your noise credit, you will receive a refund of \$2.00 that will need to be recorded in your checkbook.

Materials:

Worksheet and tally sheet available at http://www.abcteach.com/free/p/project_towerbuilding.pdf

Day 9

Set:

Today we are going to review the different things we've learned in this unit.

Ask questions to review their current knowledge and how it applies to current, daily situations.

We are going to do some practice problems that will use all the things we've learned in this unit on money. (adding, subtracting, checkbook basics, prices with coupons, unit prices, comparing prices, etc.)

Acquisition:

You will work on these worksheets by yourself, but if you get stuck, you can ask a friend to help you remember what we learned.

Worksheet - review for the test tomorrow.

Students will do the worksheet.

Consolidation:

We will do one of each type of question on the board together to review the principles.

Review all the ways that we use math in our everyday life. Talk about how we can make better money choices. Reread the Alexander book from the first day and see if the students would make different choices now.

Today, the students need to pay the Dr. bill, and to buy stamps at the PO. Record these checks in the check book and register.

Materials:

Alexander book, review worksheet for your unit test over the materials covered. You may want to have some word problems, unit price, discount (coupons) problems, a practice problem or two from the check registry, etc.

Day 10

Give the students the unit test.

Once they have completed their test, they will make a savings jar.

This idea is from http://www.abcteach.com/free/c/craft_savingsjar_upperelem.pdf

Materials:

Clean, dry, glass jar with lid for each student

Acrylic paint or multiple colors of finger nail polish.

Fine tipped paintbrushes

Yarn or string for putting the label on

Cardstock or construction paper for a label

Flat screwdriver and hammer

Students will paint scene on the outside of the jar that will remind them of their savings goal. Let the paint dry.

Cut a tag and decorate the label. Once the jar is dry, students can wrap string around the mouth of the jar and hang the tag on it.

Use the screwdriver and hammer to poke a hole in the lid of the jar –big enough for change to go through.

Students can use the jar to start saving for whatever project they are planning on. (ie vacation, computer, camp, etc)

