

Shopping with Fractions, Decimals and Percents

Lesson Summary

Students will use skills with fractions, decimals, and percents to create shopping lists, formulate sales price, sales tax, and total cost.

Major Topic and SOL

Math SOL (2009) 7.1, 7.4

Length of Unit

45 minutes

Student Objectives

In Mathematics the student will be able to:

- discuss the relationship between fractions, decimals, and percents
- make connections between fractions, decimals, and percents
- Apply knowledge of those connections by creating a shopping list, calculating discount, sales price, sales tax, and total cost.

In Language the students will be able to:

- Use a sales paper to discern information
- Write a detailed shopping list
- Discuss with group members how to create the shopping list

21st Century Skills

- Critical-thinking and Problem Solving
- Communication
- Collaboration
- Information and Media Literacy
- Contextual Learning

Assessment Evidence

- Students will be assessed using the attached rubric.
 - They will be assessed for accuracy of their math calculations as well as the comparison to the wish list.

Supplies/Materials/Technology

- Circular advertisements from the newspaper
- Charts given by teacher for practice work for assignment 1
- Calculators
- Order forms to use for shopping list

Lesson Plan

Motivation & Building Background:

- **Background:**
 - Students have studied the use of fractions, decimals and percents and have worked on learning to convert from one to the other.
 - They will work on the two attached activities prior to the beginning of this lesson.
 - They will work in groups of four and will review the concepts.
 - Students have a work folder and will also have the answer keys to check the work.
- **Motivation:**
 - Students will complete the SKITTLES lab to review the procedures of converting from fractions, to decimals, to percents.
 - They will make predictions and then verify the actual observations/results.
 - The students will then be asked to think about back to school or holiday shopping.
 - What are things they must think about when shopping with a limited amount of money? Sales price? Discount? Sales tax? Total cost?
 - They will then be asked to make a wish list. What would they buy if they had \$300?

Presentation

- After spending two class periods reviewing the use of fractions, decimals, and percents, students will then begin their “Shopping Experience.”
 - Each group will be given a sales circular for a local store.
 - They will be given \$300 to do some clothes shopping.
 - They must create a list of items that contains the original selling price, the sale price, the amount of discount, sales tax, and total cost.
 - Students will use the attached shopping list.
 - Once they have finished the actual shopping list, they will compare what they thought they could buy and what actually could be purchased.
 - An example will be completed in class prior to the beginning of the activity.

Practice/Application

- <http://www.quia.com/cb/34887.html>
- Skittles Lab
- Attached worksheet used for review before the shopping activity.

Color	Prediction	Actual	Fraction	Decimal	Percent
Red					
Green					
Orange					
Yellow					
Purple					
Total					

SKITTLES: Complete the chart above based on the bag of skittles given to you. You may use a calculator but you must show your work on the attached sheet of paper.

******Make your predictions before opening your bag.**

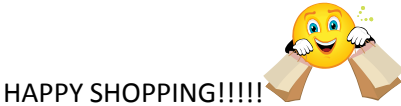
SHOPPING LIST

You have been given \$300 to spend on yourself. You may buy anything that can be found in the store circular that you have been given. You must create a list of items that contains the original selling price, the sale price, the amount of discount, sales tax, and total cost. Complete the following information for your list. You may not exceed the \$300 limit. Try to spend as close to \$300 as you can without going over. (BONUS: spend exactly \$300 and receive 3 bonus points!!!)

Name of Store _____
 Members of Group _____

	Item	Original Price	Sale price	Amount of Discount	Sales Tax	Total cost
Totals	# of items					Not to exceed \$300!!!

1. On the attached sheet show all of your math calculations! Even the ones for which you used the calculator!!!!



Teamwork

Name: _____

Teacher: _____

Date: _____

Title of Work: _____

Skills	Criteria				Points
	1	2	3	4	
Helping The teacher observed the students offering assistance to each other.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Listening The teacher observed students working from each other's ideas.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Participating: The teacher observed each student contributing to the project.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Persuading: The teacher observed the students exchanging, defending, and rethinking ideas.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Questioning: The teacher observed the students interacting, discussing, and posing questions to all members of the team.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Respecting: The teacher observed the students encouraging and supporting the ideas and efforts of others.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Sharing: The teacher observed the students offering ideas and reporting their findings to each other.	None of the Time	Some of the Time	Most of the Time	All of the Time	—
Total Points					—

Teacher Comments :

Rubric: Shopping List

- I. Following Directions: (25 points)
 - a. Used the given sales circular
 - b. Did not go over allotted amount
 - c. Completed the chart given
 - d. Showed all math calculations
- II. Accuracy: (25 points)
 - a. Math calculations correct
 - b. Correct operations used
 - c. Checked work

TOTAL: _____/50_____