## Lab Unit 2 estimating answers

Objective:

## **ROUNDING VERSES NOT ROUNDING**

## Prerequisite skills

	Basic math Use of calculator Completion of Unit 1: learning problem solving techniques
Vocabulary	
	Rounding
Materials list	
	Recipe for beef strogganof
	Invoice from the purveyors
	Calculator
GLES	
Round and trund	cate whole numbers to a given number of digits: 1.1.7, 1.1.8, 5.3.1, 5.3.2
	cate decimal numbers to a given number of digits: 1.1.7, 1.1.8, 5.3.1, 5.3.2
EALRs or GLE	s (Taught & Assessed in Standards)

- MATH
- 1.1.7 Apply strategies and uses tools appropriate to tasks involving addition and subtraction of non negative decimals or like denominator fractions.

EXAMPLE: Select and use appropriate tools from among mental computation, estimation, calculators, manipulative, and paper and pencil to compute in a given situation.

1.18 Apply estimation strategies involving addition and subtraction of non negative decimals and like denominator fractions to predict results or determine reasonableness of answers

EXAMPLE:: Explain when an estimation or exact answer is or is not appropriate

- 1.1.8 Apply estimation strategies involving addition and subtraction of integers and the four basic decimals and fractions to predict results or determine reasonableness of answers. W EXAMPLE: Determine and explain when an approximation, estimation, or exact computation is appropriate and selects or illustrates a real life situation where estimation is sufficient.
- 1.1.8 Apply estimation strategies involving computation of rational numbers using addition, subtraction, multiplication, division, powers, and square roots to predict results or determine reasonableness of answers. W

EXAMPLE: Select, explain, and justify situations Involving rational numbers where estimates are sufficient and others for which an exact value is required. 1.1.8 Apply estimation strategies in situations involving multi step computations of rational numbers using addition, subtraction, multiplication, division, powers, and square roots to predict or determine reasonableness of answers. W

EXAMPLE: Use a variety of estimation strategies to predict results prior to computation.

EXAMPLE: Generate examples and explain how mathematics is used in everyday life.

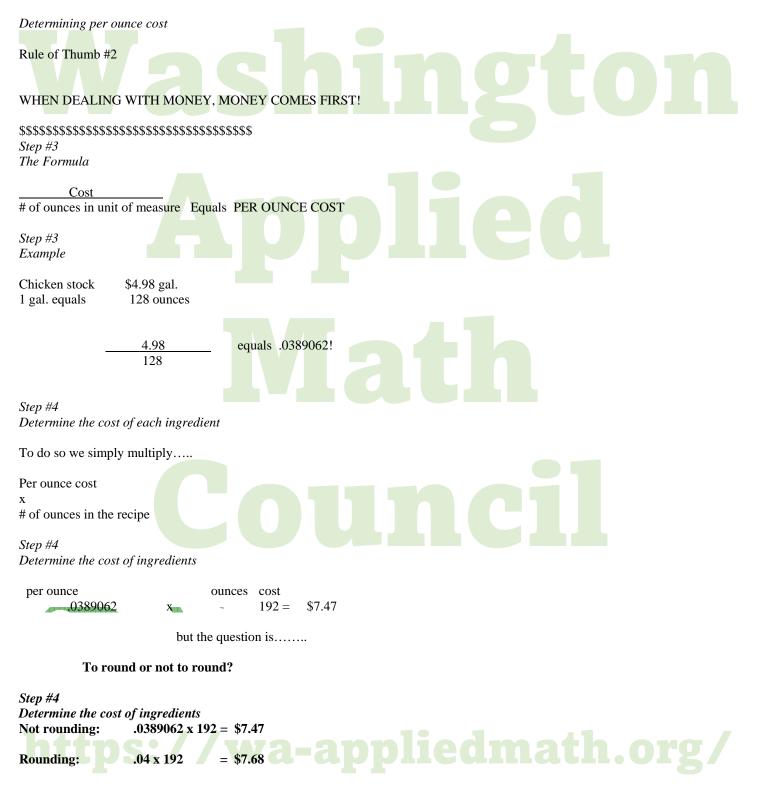
- 5.3.1 Understand that mathematics is used extensively in daily life outside the classroom.
  - EXAMPLE: Describe situations in which mathematics can be used to solve problems with implications in a classroom or school.
- 5.3.1 Understand that mathematics is used extensively in daily life outside the classroom.
  - EXAMPLE: Describe situations in which mathematics can be used to solve problems with local implications in a school or town.

5.3.2 Understand that mathematics is used in many occupations or careers. EXAMPLE: Describe specific examples of mathematics associated with a given career.

EXAMPLE: Describe the mathematics used by workers in a specific job.

Determine cost of product

Information supplied by your purveyor or where you purchase your food from.



Name 1:	(.	Leader)

Name 2: (Measurer)

Name 3: (Constructor)

Name 4: (Recorder)

## Lab Document –Lemon Power

Using a multimeter, measure the voltage of the following

	Voltage	Rounded to the	
		nearest hundredth	
1 Lemon			
2 Lemons			
3 Lemons			
4 Lemons			
Estimate a 5 <sup>th</sup> lemon			

Estimate how many lemons it would take to create a 12 volt system.

- a) Estimate what the voltage output would be of four lemons that were <sup>3</sup>/<sub>4</sub> the size in volume.
- b) Estimate what the voltage output would be of four lemons that were 1.5 times the size in volume.

If oranges are 2 thirds as powerful as lemons, estimate how many oranges would it take to make a 12 volt system.

What is your conclusion as to why there is a flow of electricity out of a lemon.

For early finishers: experiment with trying varying depths for your nails. Experiment with heavier and lighter wires. Try a penny instead of a copper nail.

https://wa-appliedmath.org/