GYC101
Craig Slocum
Developmental Mathematics MTH 090

I will use this assignment next semester in Math 090 Ch.5 when we do conversions, proportions and rates. We discuss estimation and reasonableness in conjunction with proportions if students are confused about what "goes on top". Estimation is also used when we do order of operations and fractions. This assignment will be used to practice estimation, rates and proportion in a real world context. Hopefully, students will become more aware of their individual consumption and their ability to enact change.

MATH 090 SUSTAINABILITY GARBAGE ASSIGNMENT

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How many pounds of garbage does the average person produce in a day?

1.) What information do you need to estimate this quantity?

2.) Give your best estimate (in any way you feel is valid) of the number of pounds the average person produces in a day. Describe your reasoning:

3.) Using your estimate from #2, answer the following. Show your work:

Convert your rate to:

a.) Pounds per week

b.) Pounds per month

c.) Pounds per year

Estimate the following. Describe your reasoning and show your work:

4.) How many pounds does your family produce in a week?

5.) How many pounds does our class produce in a month?

6.) How many pounds does our campus produce in a year?

7.) Which of the rates you have estimated "impresses" you the most? Why?

8.) How much do you think the average person can reduce their garbage output? Do you think you can reduce your garbage output by that amount? What would be the savings (as a rate) if you did?

9.) Give an estimate for another "consumption rate" of your choice. Describe your reasoning and show your work.

Course Learning Outcomes:

1.) The student will perform addition, subtraction, multiplication, and division on rational numbers.
2.) The student will apply the concepts of arithmetic correctly in problem solving.

Learning Outcomes:

1.) Students will make assumptions and use estimation.
2.) Students will work with rates and conversions in a real world setting.
3.) Students will analyze their impact on the environment.
4.) Students will explore the concept of sustainability.
5.) Students will write about mathematical concepts.

Scoring Rubric (30 Points total):

Question 1: 0-2 pts. Students gives reasonable information needed to form an estimate

Question 2: 0-2 pts. Student give s a reasonable estimate

Question 3: 0-7 pts.

0-1 Student uses estimate from #2
0-3 Student uses correct conversion factors
0-2 Student computes correctly

Questions 4-6: 0-6 pts. Total

0-1 pts. each Reasoning
0-1 pts. each Correct computation

Question 7: 0-3 pts. Answer
0-1 pts. Reason

Question 8: 0-2 pts. Answers
0-1 pts. Computation

Question 9: 0-3 pts. 0-1 pt. Description
0-1pt. Reasonableness
0-1 pt. Proper units