COASTing and Conversions

While you’re waiting, please pull out your phones and like “The Academic Achievement Center at TU” on Facebook
What is COAST?

A problem solving method developed by Norton Publishing Company.

Collect
Organize
Analyze
Solve
Think About It
Collect and Organize

• Rewrite down all the information given.
• Write down key words from problem.
• Figure out what you’re trying to get to.
Analyze

- Come up with anything you can infer from the problem.
- Figure out the equation needed.
- Ensure proper units are used and convert if necessary.
Solve

• Write down the formula.
• Fill in the numbers.
• Solve the problem!
• Put everything in proper sig figs
Think About It

• Most overlooked part of the problem solving process.
• Make sure your answer makes sense!
An Example (non science)

- Tania needed to borrow some money from David. She agreed to pay him back one and a half times the original sum, plus $60. She paid David a total of $228. What was the original amount she borrowed?
An Example (physics)

- If Elizabeth drove 10 miles in 5 minutes, how many miles per hour was she driving?
An Example (chemistry)

• 2 mols of an ideal gas are contained in a 5.0 L container with a constant pressure of 6 atms. What is the temperature of the gas?
Conversions!

• Similar to COAST
Collect and Organize

• Translate and rephrase all information and units.
• Write down key words from problem.
• Figure out what units you’re trying to end up with.
Analyze

• Write down any conversion factors.
• Make sure you have all the conversion factors needed to get the final answer/units!
Analyze

If you get stuck, it helps to draw everything out.
Solve

Start by writing what you’re given on the top.

If what you’re given has a top and a bottom, fill in appropriately.

i.e.) 10 g/mL -> 10 g
     1 mL
Solve

• Use the picket fence or multiplication method to cancel units on the top/bottom.

• Start by writing in units, then go back and fill in numbers.

• Solve and put everything in proper sig figs.
Think About It

- Make sure your answer makes sense!
- Is your final unit on the top or the bottom?
Think About It

- If you go from small to large (mm to m): you get a smaller answer.
- If you go from large to small (km to m): you get a large answer.
Examples

• How many inches are in 1300 m?
Examples

- If I have 10 L of a substance whose density is .5 g/cc, how large is it’s mass in kg?
Examples

• Susan has 20 lugs. There are 85 slugs in 10 bugs and 2 bugs to every lug. If three slugs fit inside Susan's bag, how many bags does she need to fit all her lugs?
Good Luck!

• Questions??

• Contact the Academic Achievement Center!

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