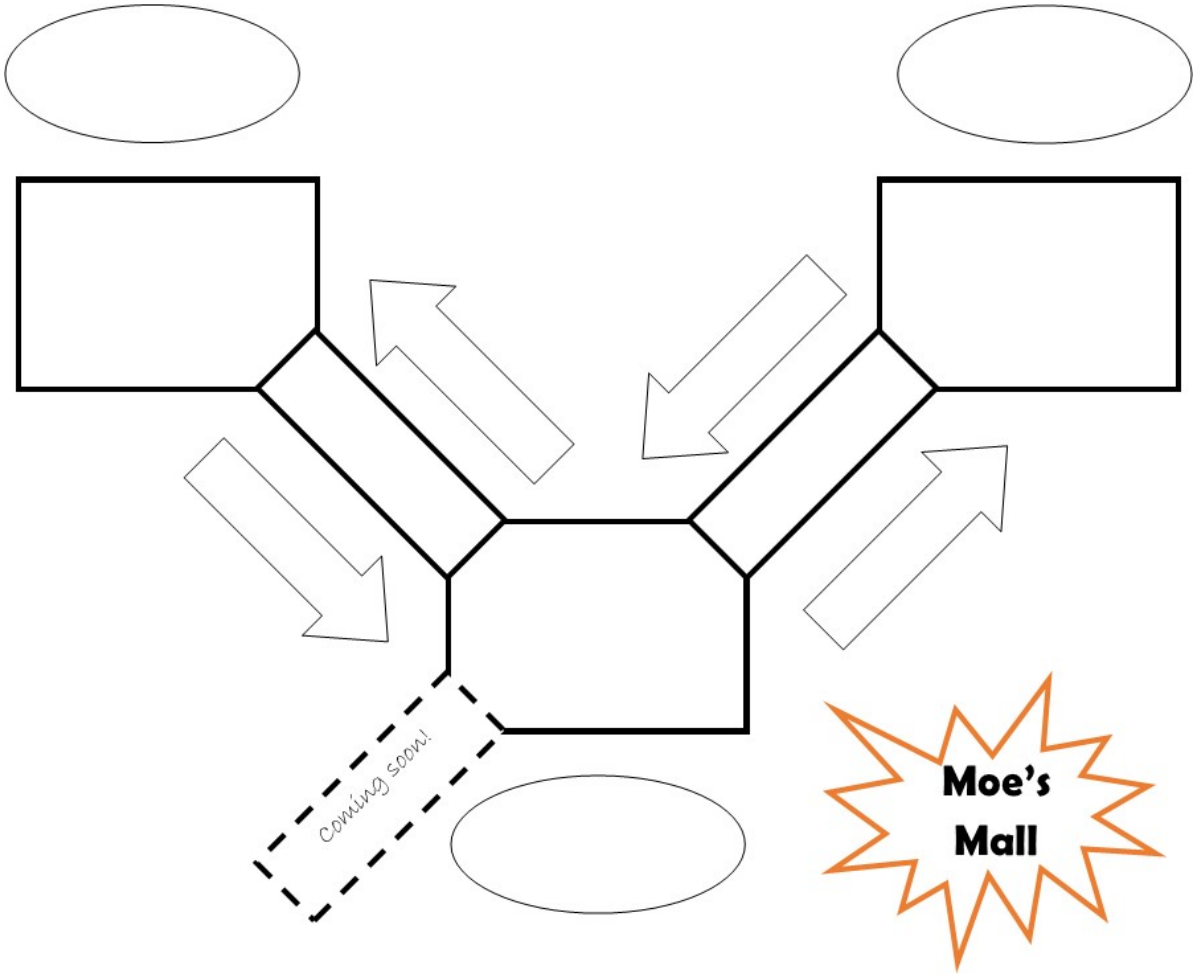
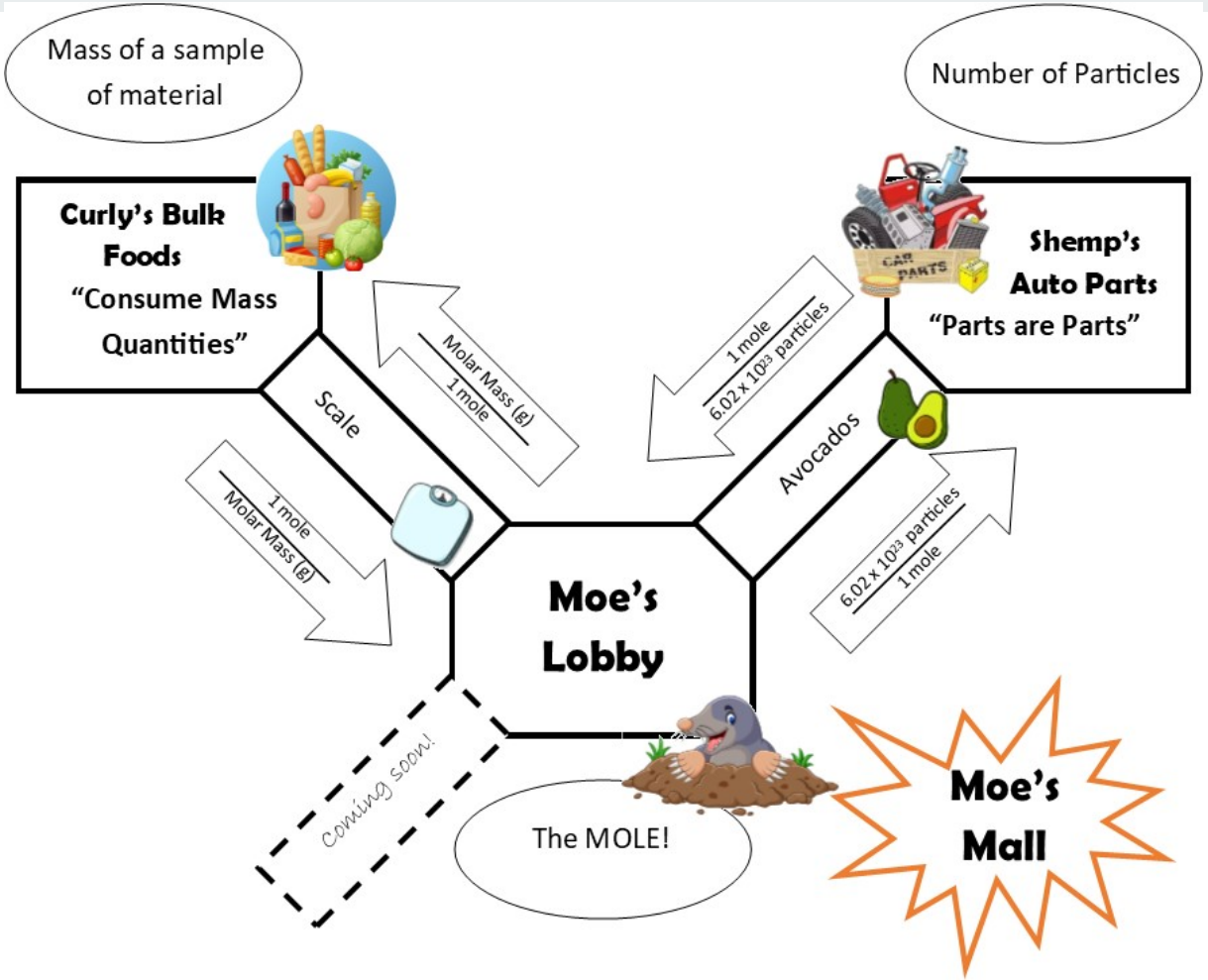
Welcome to Moe’s!

The Four Stooges


coming soon!
Moe's
Mall


Mass of a sample of material
Number of Particles
Curly's Bulk Foods
"Consume Mass Quantities"
Shemp's Auto Parts
"Parts are Parts"
Scale
Avocados
Molar Mass (g)
1 mole
1 mole
6.02 x 10^23 particles
1 mole
Molar Mass (g)
6.02 x 10^23 particles
1 mole
Moe's Lobby
Coming soon!
The MOLE!
Moe's Mall

Check for Understanding

True or false. “Particles” is a general term that includes molecules, atoms, and formula units.

Check for Understanding

Which contains more atoms, a mole of copper or a mole of gold?

Check for Understanding

Which has more mass, a mole of copper or a mole of gold?

Example 1: *How many moles are in 10.0 grams of krypton gas?*

What is the initial unit given? _____ What unit are we converting to? _____

How many conversion factors are required? _____

Set up your dimensional analysis:

$$\frac{10.0\text{ g Kr}}{\quad\quad}$$

The hallway between the lobby & food store represents molar mass in grams (Moe-Curly mass). From the periodic table we know 1 mole of Kr has a mass of 83.80 grams. Place the conversion factor in the frame, cancel units and solve by multiplying the top factors and dividing the result by the bottom number. Don't forget sig figs!

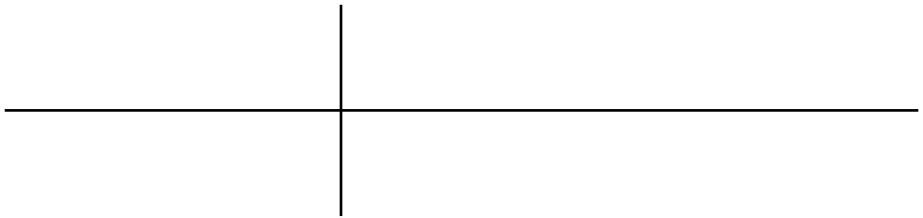
Example 2: *Suppose you want to find the number of grams contained in 0.528 moles of Krypton.*

What is the initial unit given? _____

What unit are we converting to? _____

How many conversion factors are required? _____

Set up your dimensional analysis & solve:



Example 3: *Suppose you want to find the number of moles contained in 10.0 grams of sodium chloride, NaCl.*

What is the initial unit given? _____

hat unit are we converting to? _____

How many conversion factors are required? _____

NaCl is a compound rather than an element. Compounds are not on the periodic table, but the elements that make up these compounds are. How could you calculate the molar mass of this compound?

What does the dimensional analysis setup look like? Remember that conversion factors can be flipped!