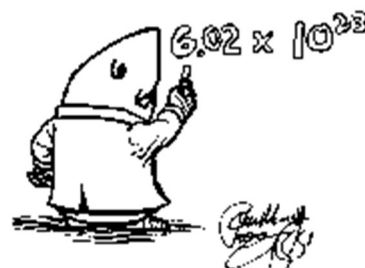


Moles and Grams and AMUs

How Many amu?

1. Mass of 1 boron atom = _____ amu
2. Mass of 6 boron atoms = _____ amu
3. Mass of 35 water molecules = _____ amu



How Many Grams?

One gram = 6.02×10^{23} amu

1. Mass of 1 chromium atom = _____ amu = _____ grams
2. Mass of 1 C_2H_2 molecule = _____ amu = _____ grams

How many grams?

1. A solid gold ring contains 0.62 moles of pure gold. What is the ring's mass in grams?
2. A teaspoon of baking soda (NaHCO_3) contains 0.048 moles. What is the mass of the baking soda?
3. A piece of chalk contains 0.087 moles of calcium carbonate (CaCO_3). What is the mass of the calcium carbonate?

How many moles?

4. You pour 150.0 grams of water into a glass. How many moles of water are in your glass?
5. You add 7.5 grams of sugar ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$) to your iced tea. How many moles of sugar did you add?
6. An aspirin tablet contains 0.325 grams of aspirin ($\text{C}_9\text{H}_8\text{O}_4$). How many moles of aspirin does it have?

How many molecules?

7. You pour 36.0 grams of salt (NaCl) in a beaker of water. How many molecules of salt did you add?
8. You added 200.0 grams of Epsom salt (MgSO_4) to a bathtub full of water. How many molecules did you add?
9. You found a 30.0 gram chunk of pyrite (fool's gold - FeS_2) when you went hiking. How many molecules did you find?