# Unit 7 Stoichiometry

**Mole Conversion Worksheet** Name:



1. You discover that the head of a match contains 1.6 grams of Sulfur, S. How many atoms of S does a match contain?
2. While cleaning a cut, you spill a bottle of Iodine. The label says that the bottle holds 500 grams of I2. How many moles of I2 are there?
3. Your silver watchband has a mass of 326 g. How many moles of Ag do you have?
4. EXTRA STEP HERE! Can you catch it? While dropping off your recycling, you are overcome by the urge to weigh the tin cans you brought in. You find that the mass of cans in the box you brought had a mass of 23 kg. How many moles do you have?
5. Water has a molar mass of 18 grams (that’s 18 grams per mole…). You drink a 2-liter bottle of water everyday, and you are such a smarty that you know that 1-ml of H2O weighs 1 g. Can you tell me how many moles of water you consume a day?
6. You pick any element that comes *after* oxygen, and tell me the mass of 17 moles of that particular element would weigh.
7. Your toothpaste probably contains around 62 g of fluorine per tube. How many moles are in one tube of toothpaste?
8. The head of a golf club might contain 250 grams of titanium. How many moles is this?
9. The shaft of that same golf club probably contains around 35 moles of graphite, a natural form of carbon. How much might the shaft of the club weigh?

# More problems on Mole Conversions:

1. How many oxygen molecules are in 3.36 L of oxygen gas at STP?
2. Find the mass in grams of 2.00 x 1023 molecules of F2.
3. Determine the volume in liters occupied by 14 g of nitrogen gas at STP.
4. Find the mass, in grams, of 1.00 x 1023 molecules of N2.
5. How many particles are there in 1.43 g of a molecular compound with a gram molecular mass of 233 g?