Name:

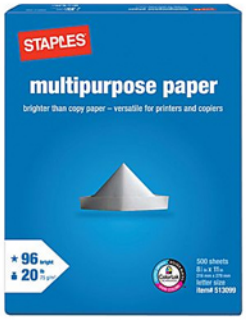
Date:

THE MOLE

(NOT the animal!)

Consider the following things and quantities:

A standrd carton of eggs
1 dozen eggs = **12** eggs



A 500 pack of paper
1 ream of paper = **500** sheets

A mole of particles (atoms, ions, etc...)
1 mole of particles ≈ **6 x 10^{23}** particles

We often give names to numbers **(ex. a dozen is 12)**. The **mole** (Avogadro's Number) is also an example of this.

Give all answers in numbers. There will be decimals.

1. Named quantities can be converted to numbers.

How many eggs are there in a carton? (how much is a dozen?) _____

How many sheets of paper are there in a ream? _____

N_A = 6.02 x10^{23}

How many particles are in a mole? _____

How many eggs are there in 3 cartons? _____

How many particles are there in 10 moles? _____

How many sheets of paper are there in *1/2 (half) of a ream*? _____

How much is a *ream of moles*? _____

2. Numbers can be converted into quantities

How many cartons can be filled with 60 eggs? _____

How many moles is (roughly) equal to 18 x 10^{23} (or 1.8 x 10^{24}) particles? _____

How many moles is (roughly) equal to 6.02 x 10^{22} particles? _____

<--- How many cartons can be filled with the number of eggs shown on the left? _____

How many reams of paper is 6000 sheets of paper? _____

How many moles is (roughly) equal to *2.7 x 10^{24} particles*? _____

How many cartons could be filled with *3 reams worth of eggs*? _____

How many moles is (roughly) equal to a *dozen times 10^{25}*? _____