Moles

Candy Problems

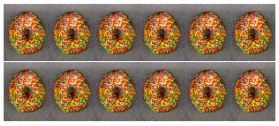
Quantities

- 1 Dozen = 12
- 1 Baker's Dozen = 13
- 1 Mole = 602,000,000,000,000,000,000,000

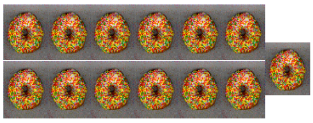
Moles are used to calculate atoms because they are so tiny!

Not this kind of mole -->

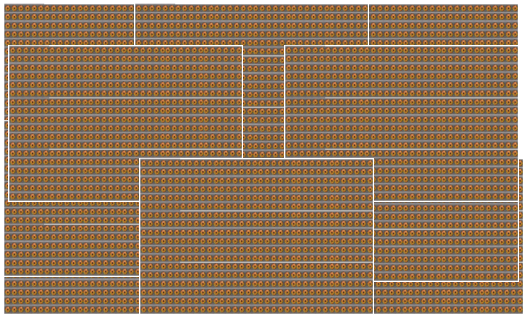
1 Dozen Donuts



1 Baker's Dozen Donuts



1 Mole Donuts



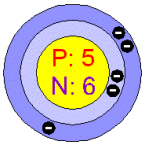
1 mole = 6.02×10^{23}
(Avogadro's Number)

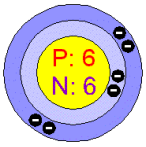
Examples

Does 1 dozen M&M's weigh the same as 1 dozen cars?

Does 1 mole of M&M's weigh the same as 1 mole of cars?

Does 1 mole of boron atoms weigh the same as 1 mole of carbon atoms?



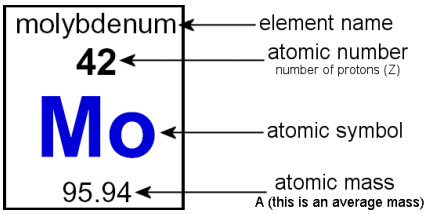


Atomic Mass = Average weight of 1 mole of atoms of an element (in grams)

We use an average because not all atoms of the same element weigh the same. (ISOTOPES)

1 mole = Atomic mass

(Found on the PT)



Examples

Combo Problems

Conversions

(*6.02 x 10^{23}*) **ATOMS ←→** 1 **MOLE←→ GRAMS** (*Atomic Mass*)