



# UNIT 3: ATOMS, ELEMENTS, MOLECULES

Lesson 14: Holey Moley

# Scientific Notation



4,007,500,000 cm



.000000001 cm

**GUIDING QUESTION:** HOW CAN YOU TRANSLATE NUMBERS INTO SCIENTIFIC NOTATION? EXPLAIN HOW TO CALCULATE THE MOLAR MASS OF AN ELEMENT.

**Do Now:**

If you have 48 eggs- how many dozen do you have?

# WHAT IS A MOLE?



# MOLES:

How many candies are in a mole of candies?

How many molecules are in a mole of water,  $\text{H}_2\text{O}$ ? How many atoms are there in a mole of sodium?

Why do scientists use moles?

One mole of hydrogen atoms has a mass of 1.01 grams. How many atoms would be in 3.03 grams of hydrogen? How do you know?

One mole of oxygen atoms has a mass of 15.99 grams. How many atoms would be in 31.98 grams of oxygen? How do you know?