Title: Wholey Mole-y Notes

Objective: Students will be able to practice counting quantities they cannot see.

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| **Topic** | Molar Definition |
| **Benchmark**[**SC.CH.5.1**](http://165.248.72.55/hcpsv3/imr/report_by_code.jsp?code=SC.CH.5.1) | Explain how the quantity of one mole is set (e.g. defining one mole of carbon 12 atoms to have a mass of exactly 12 grams) and describe its properties (e.g. one mole is 6.02 x 1023 particles (atoms or molecules)) |

HI-Standard:

Essential Questions:

1. What is a mole and why is it used?

“Thinking Side” Main Notes Side

**Counting Things:** When you buy eggs you usually ask for a \_\_\_\_\_\_\_ eggs. You know that one dozen of any item is \_\_\_\_\_\_.

Why is it useful to use Paper is not packaged by the dozen. Paper is packaged by a ream. A ream of

Units like a dozen or a paper has 500 sheets.

ream? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What determines how

many items should make

up a particular unit?

If you were asked to

design a new unit to

count something, what

would you consider

when choosing how

many items should be

included in your own

unit?

**The Mole:** Atoms, ions and molecules are very small, so even tiny samples have a huge # of

 particles. To make counting such large numbers easier, scientists use the same

 approach to represent the number of ions or molecules in a sample as they do

 for atoms. The SI unit for amount is called the mole (mol). A mole is the number

 of atoms in exactly 12 grams of carbon-12.

**Avogardro’s Number:**

 The number of particles in a mole is called Avogadro’s Number, or Avogadro’s

 Constant.

What is Avogadro’s #?

**Counting Unit:** The mole is a counting unit. It is used to count out a given number of \_\_\_\_\_\_\_.

**Summary:**