**Chemistry 11: Study Guide for Mole Concept Test Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_**

**My “Mole Concept Test” will take place on: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!**

*Before I write my “Mole Concept Test”, I will be able to:*

* **explain why the mole is used in chemistry**
  + know how to find *atomic mass* on the periodic table
  + know the relationship between atomic mass and molar mass
  + recognize that a mole is a unit for counting atoms, ions, and molecules
* **perform calculations involving the mole**
  + determine the molar mass of an element or compound
  + convert among particles, moles, and mass
* **understand the relationship between moles and gases at STP**
  + know the volume of a mole of gas at STP (i. e. 22.4 L)
  + convert among moles, mass, and volume of a gas at STP
* **perform calculations involving molecular and empirical formulae**
  + distinguish between molecular and empirical formulae
  + determine the percent composition by mass from the formula of a compound
  + determine the empirical formula for a compound from its percent composition by mass
  + determine a molecular formula from the molecular mass and empirical formula
* **Describe concentration in terms of molarity**
  + Know that the units for molarity/concentration are mol/L or M
  + Write a procedure for how to prepare a solution of known molarity (a standard solution)
* **Perform calculations involving molarity**
  + Perform calculations relating mass, moles, volume, and molarity
* **Understand the meanings of the following vocabulary words:**
  + atomic mass
  + empirical formula
  + molarity
  + molar mass
  + molar solution
  + mole
  + molecular formula
  + molecular mass
  + quantitative transfer
  + percentage composition
  + standard solution
  + STP