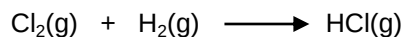


Chemistry: *Balancing Equations*

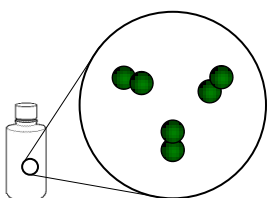
The information in a chemical equation can be looked at in several ways.

On this worksheet you will represent particles of the substances involved in a chemical reaction before and after it takes place.

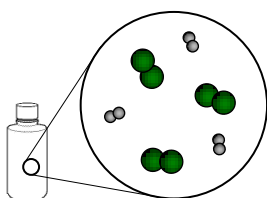
The unbalanced equation for the reaction of chlorine gas with hydrogen gas is



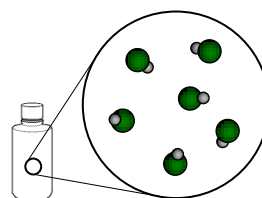
Each picture shows the same bottle after something happened. The circles show a unit volume of the gas in the jar. Draw the particles for the third picture.



A certain number of Cl_2 molecules are put into the jar.

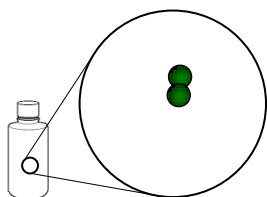


The same number of H_2 molecules are added to the jar.



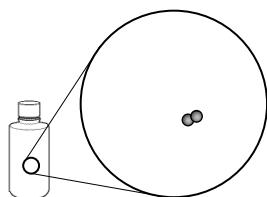
The mixture is ignited. Assume that all the Cl_2 and H_2 are used up.

2. Show the same reaction using the fewest possible molecules. Draw the molecules in these circles.

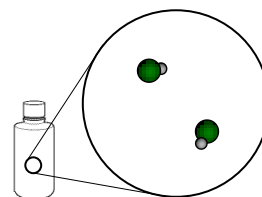


Cl_2

+

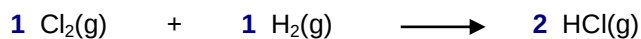


H_2

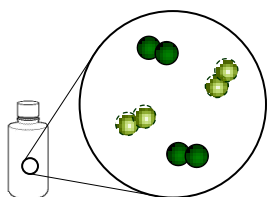


HCl

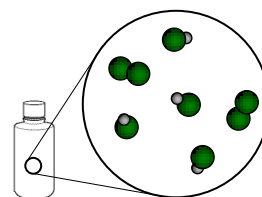
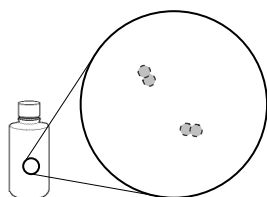
3. Balance the equation using the smallest possible whole number coefficients.



4. Suppose you start with different amounts of the reactants. In the empty circle, show the particles after the reaction. (Be sure you account for all the particles.) On the line below the circle, describe what is in the circle.



+



$\text{Cl}_2(\text{g})$

+

$\text{H}_2(\text{g})$



4 HCl (with 2 Cl_2 left over)

