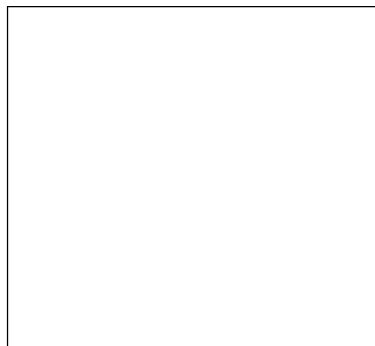


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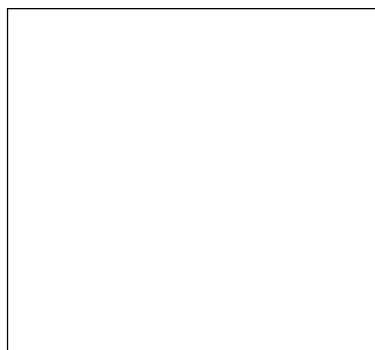
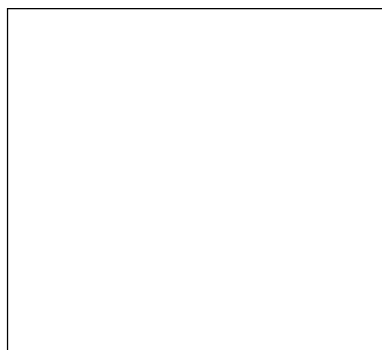
### Particulate Diagram Homework Reactions

For every question make sure you write a legend (key) and a balanced chemical equation.

1) Draw a particulate diagram to represent when one molecule of hydrogen gas ( $H_2$ ) reacts with one molecule of chlorine gas ( $Cl_2$ ) to form HCl. Is there anything leftover?



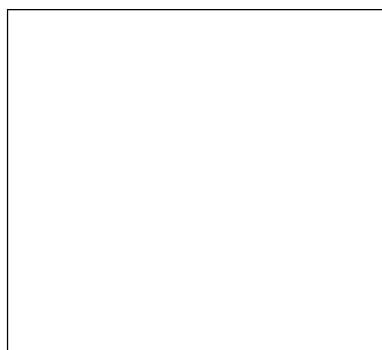
2) Draw a particulate diagram to represent when one molecule of nitrogen gas ( $N_2$ ) reacts with three molecules of hydrogen gas ( $H_2$ ) to form  $NH_3$ . Is there anything leftover?



3) Draw a particulate diagram to represent when two molecules of hydrogen gas ( $H_2$ ) react with one molecule of chlorine gas ( $Cl_2$ ) to form HCl. Is there anything leftover?



4) Draw a particulate diagram to represent when two molecules of hydrogen gas ( $H_2$ ) react with three molecules of chlorine gas ( $Cl_2$ ) to form HCl. Is there anything leftover?



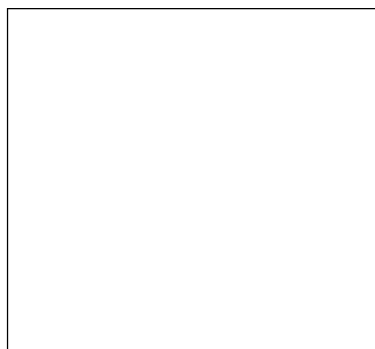
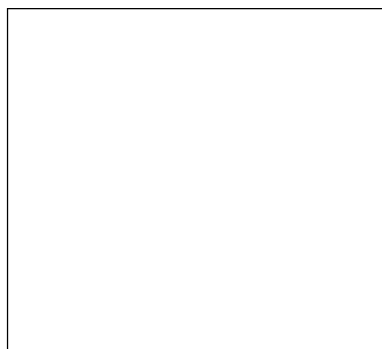
5) Draw a particulate diagram to represent when two molecules of nitrogen gas ( $N_2$ ) react with seven molecules of hydrogen gas ( $H_2$ ) to form  $NH_3$ . How many more of what species do you need to finish the reaction?



6) Draw a particulate diagram to represent when two molecules of hydrogen gas ( $H_2$ ) react with one molecule of oxygen gas ( $O_2$ ) to form water. How many water molecules form?



7) Draw a particulate diagram to represent when four molecules of hydrogen gas ( $H_2$ ) react with four molecules of oxygen gas ( $O_2$ ) to form  $H_2O$ . How many more hydrogen molecules do you need to use up the oxygen molecules?



8) Draw a particulate diagram to represent when two molecules of hydrogen gas ( $H_2$ ) react with one atom of carbon (C) to form  $CH_4$ . If you wanted to make three  $CH_4$  molecules how many hydrogen molecules do you need?

