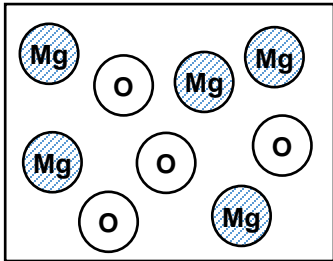
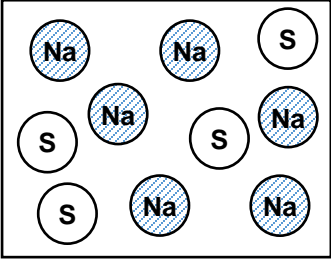


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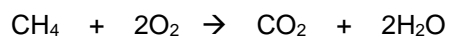
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<p>1) What does the term limiting reagent mean?</p>	<p>2) What does the term excess reagent mean?</p>
<p>3) How can you tell if a practice problem is a “regular” stoichiometry problem, or a “limiting” stoichiometry problem?</p>	
<p>4) What are the numbered “steps” for performing a limiting reagent problem?</p>	<p>5) Explain which unit is “key” to identifying limiting reagents. What is wrong with just using grams? Give a thoughtful and detailed explanation.</p>
<p>6) Using the equation and diagram below, identify what the limiting reagent would be.</p> <p><math>Mg + O \rightarrow MgO</math></p> 	<p>7) Using the equation and diagram below, identify what the limiting reagent would be.</p> <p><math>2Na + S \rightarrow Na_2S</math></p> 
<p>8) Explain what is wrong with the following student answer on a quiz question:</p> <div data-bbox="170 1675 795 1978" style="border: 1px solid black; padding: 10px;"><p><u>Question:</u> Using the information below, identify what the limiting reagent is for the reaction. <math>2H_2 + O_2 \rightarrow 2H_2O</math> You have 15 g of <math>H_2</math>, and 10 g of <math>O_2</math>.</p><p><i>There is a 2:1 ratio of <math>H_2</math> to <math>O_2</math> needed to perform the reaction. You only have a 1.5 : 1 ratio of <math>H_2</math> to <math>O_2</math>, so therefore you do not have enough <math>H_2</math>, so it is limiting. You would have needed 20 grams of <math>H_2</math> to finish the reaction.</i></p></div>	

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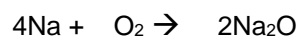
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**9)** Identify the limiting reagent: You react 4 moles of CH<sub>4</sub> with 2.5 moles of O<sub>2</sub> in a combustion reaction.



**10)** If you react 3 moles of sodium, with 40 grams of chlorine gas to make sodium chloride, which chemical is the limiting reagent?

**11)** Identify the limiting reagent: you react 46 grams of sodium with 32 grams of oxygen gas to make sodium oxide.



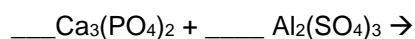
**12)** If you react  $3.5 \times 10^{25}$  molecules of magnesium oxide with  $7.8 \times 10^{24}$  molecules of lithium hydroxide, which is the limiting reagent?

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**13)** If you react 453 g of iron with 134 g of oxygen gas to form iron (III) oxide, which is the limiting reagent?

**14)** Will you have enough calcium phosphate to completely react with 75.6 grams of aluminum sulfate if you start with 2.6 moles of calcium phosphate? Show how you justify your answer.



**15)** You react 23 grams of zinc with 25 grams of hydrochloric acid in a single replacement reaction. What is the excess reagent?