

# TYPES OF REACTIONS LAB

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Reaction #1	Observations
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<b>#1</b>	Add a <b>little</b> CuSO <sub>4</sub> to a test tube. <b>CuSO<sub>4</sub> is toxic.</b> <b>Handle it with care!</b>	
<b>#2</b>	Open a paper clip (source of Fe, iron) and hang it over the edge of a test tube reaching ~ 2cm into the CuSO <sub>4</sub> . Observe the paper clip for 5 to 8 minutes.	
<b>#3</b>	Remove the paper clip and place it on a piece of white scratch paper. When finished, throw out the paper clip and recycle the copper sulfate in the container at the front desk.	

Finish the word equation describing this reaction:

**Copper (II) Sulfate** plus \_\_\_\_\_ yields \_\_\_\_\_ plus \_\_\_\_\_

What <u>metal</u> substance plates onto the paper clip?	What color is it?	What type of reaction is this?

Reaction #2	Observations
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<b>#1</b>	React sodium carbonate and calcium chloride solution.	
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Write a balanced, formula equation for this reaction:

What was the solid "precipitate" that formed during this reaction?	What phase is the other product in?	What type of reaction is this?

*Glue this part down in your notebook*

Reaction #3		Observations
#1	Burn a sample of steel wool (source of iron) over the Bunsen burner.	
Write out the <u>formula</u> reaction for Fe (iron) combining with O <sub>2</sub> . Use the Fe <sup>2+</sup> , iron(II) ion.		
How did the color change while burning?	In nature, Fe <sup>3+</sup> , iron(III) and oxygen combine slowly to form a reddish-colored compound <u>commonly</u> known as:	What type of reaction is this?

Reaction #4		Observations
#1	React the methane gas (CH <sub>4</sub> ) with the oxygen in the air as instructed.	
Write out the balanced <u>formula</u> equation for methane gas combining with oxygen.		
Why can't you see any of the products being formed?	Which product can you see coming out of a tailpipe on a car on a cold day? Why?	What type of reaction is this?

Reaction #5		Observations
#1	Examine a glass of soda.	
Examine the "Decomposition Reactions of Acids" on the gold paper on your table. Carbonic acid is a component of most carbonated sodas. Write out the decomposition reaction of carbonic acid:		
Examine the products in the reaction you just wrote. What gas created the small bubbles seen in your soda?	When a soda is left open too long it will taste "flat." Why does this happen?	What type of reaction is this?

Reaction #6		Observations
#1	Place a small amount of baking soda, NaHCO <sub>3</sub> , in a test tube – about 2cm in the bottom.	
#2	Heat the tube <u>base</u> while holding it at a <b>30° angle</b> . <u>Do not point the open tube at anyone!</u> What appears on the walls of the test tube while heating? Look closely...it is nothing special...its actually quite ordinary!	
#3	Test for CO <sub>2</sub> . Light a wood splint and place the flame in the open end of the test tube (while the other end is still in the Bunsen burner flame). If the wood splint flame goes out, CO <sub>2</sub> is present!	
Finish the equation of this reaction: <b>2 NaHCO<sub>3</sub> (baking soda) → Na<sub>2</sub>CO<sub>3</sub> + CO<sub>2</sub> + _____</b>		
Finish the <u>word</u> equation describing this reaction: _____ yields <b>sodium carbonate</b> plus _____ plus _____		
Why did the wood splint go out from the CO <sub>2</sub> being made?	Is sodium carbonate the same as sodium bicarbonate? What is sodium carbonate used for in real life?	What type of reaction is this?

Predicting Products and Types of Reactions Practice			
Directions: Identify the type of reaction, predict the products and balance the equation			
#1	Hydrogen chloride reacts with magnesium oxide	Type of Reaction	
#2	Aluminum reacts with sodium phosphate	Type of Reaction	
#3	Tetracarbon decoxide reacts with oxygen	Type of Reaction	
#4	Bromine and calcium iodide react	Type of Reaction	

