

EP Physics/Chemistry

Printables:

Levels 5-8



This book belongs to:

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

H

1

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

He

2

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

C

6

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O

8

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Ne

10

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Na

11

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Mg

12

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Al

13

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Si

14

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Cl

17

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K

19

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Ca

20

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Fe

26

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Glue this side to the correct periodic table group section.

Ni

28

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

Cu

29

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Glue this side to the correct periodic table group section.

Zn

30

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

Ag

47

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

Ar

18

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

I

53

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

Glue this side to the correct periodic table group section.

Au

79

Cut along the outside lines and fold in half. Write the name of the element and information about the element inside the booklet.

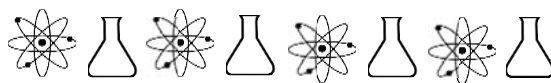
Glue this side to the correct periodic table group section.

Pb

82

Periodic Table of the Elements

Group→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
↓Period																		
1	1 H																	2 He
2	3 Li	4 Be												6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg												14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba		72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra		104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Uut	114 Fl	115 Uup	116 Lv	117 Uus	118 Uuo
Lanthanides			57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu	
Actinides			89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr	



Changing States of Matter

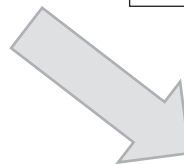
Use the words in the box to fill in the blanks below.

0° cool heat 100° freeze melt 32° condense evaporate 212°

When you _____ water
to _____ C or _____ F,
it will _____ to
form steam.



When you _____ steam
to _____ C or _____ F,
it will _____ to
form water.

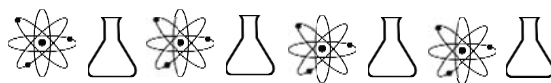


When you _____ ice
to _____ C or _____ F,
it will _____ to
form water.



When you _____ water
to _____ C or _____ F,
it will _____ to
form ice.





Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

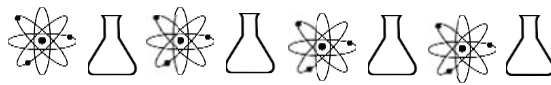
Hypothesis: _____

Materials: _____

Procedure: _____

Observations/data: _____

Conclusion: _____



Vocabulary

Define these terms.

atom _____

molecule _____

matter _____

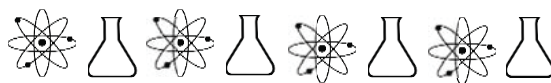
state of matter _____

liquid _____

gas _____

solid _____

periodic table _____



Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

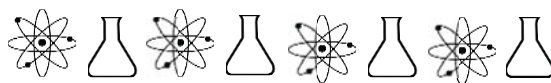
Hypothesis: _____

Materials: _____

Procedure: _____

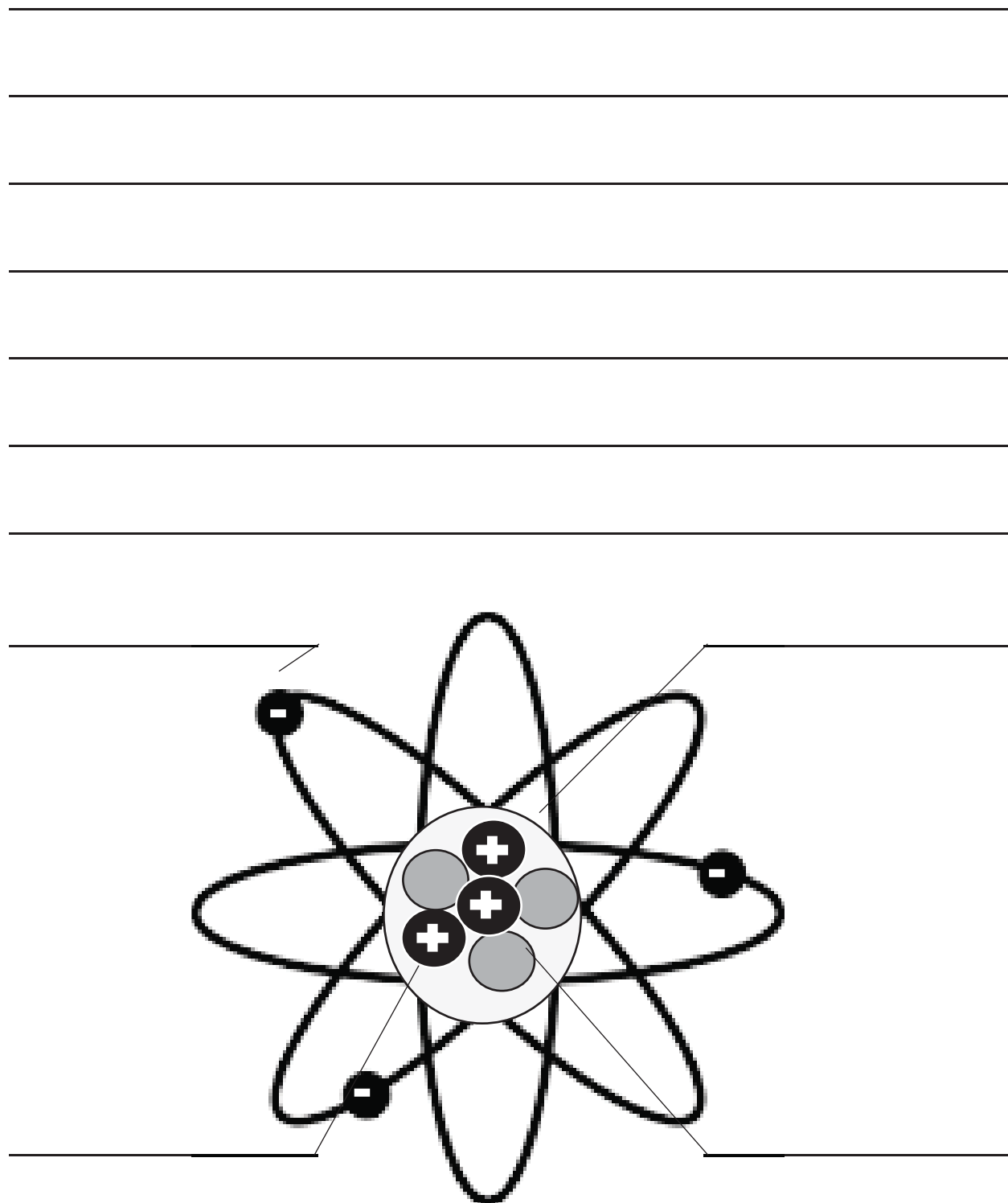
Observations/data: _____

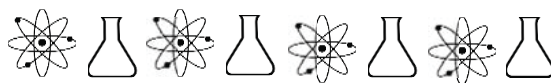
Conclusion: _____



Matter

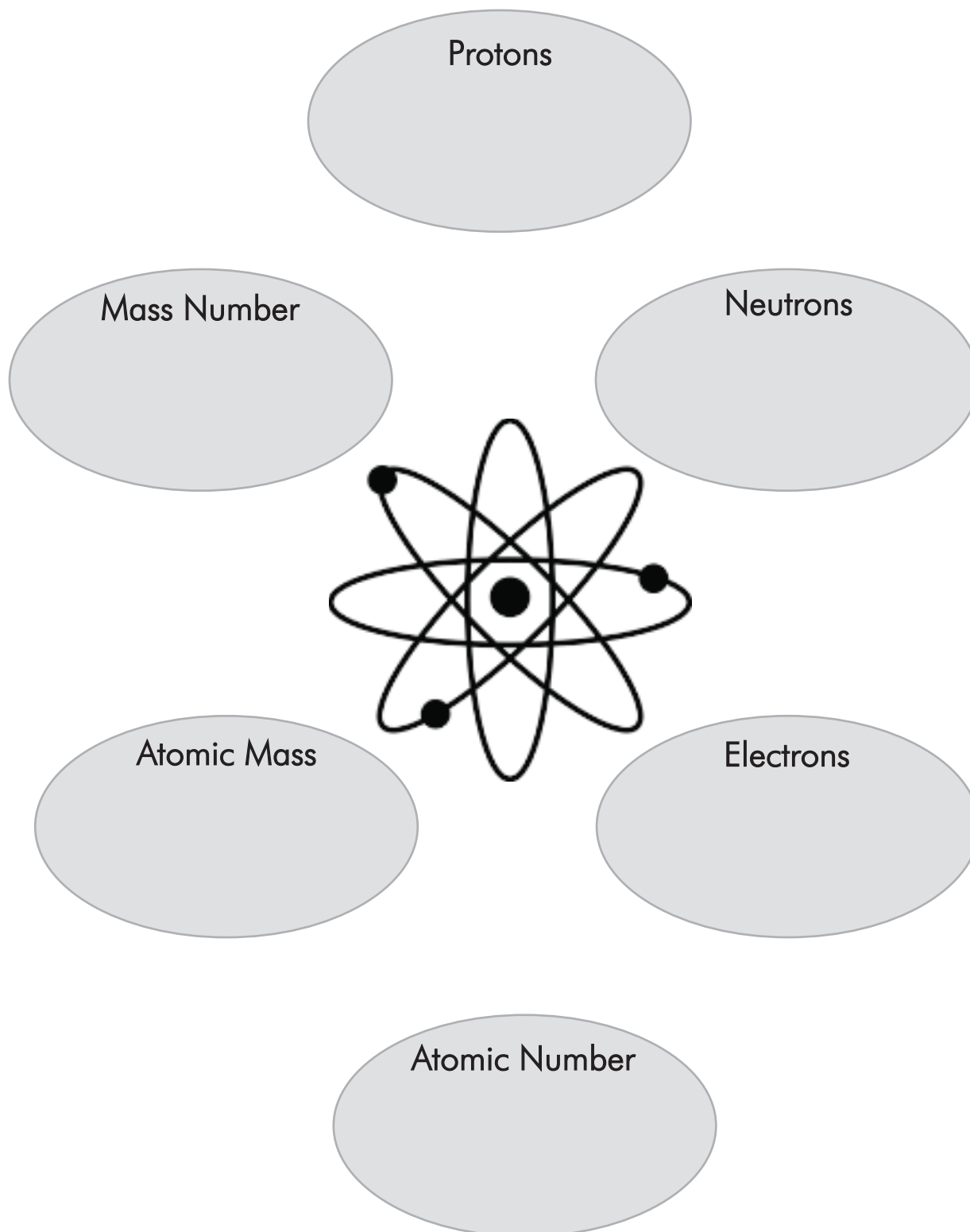
Use this notebooking page as you watch the video to write down any new vocabulary words and to take general notes on the content of the video. Then label the atom at the bottom.

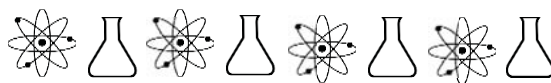




Helium

Fill in this chart for helium.





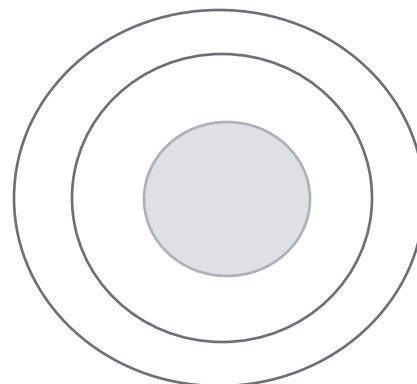
Atoms

Draw 6 protons in the nucleus of the atom and label them with their charge.

Draw 6 neutrons in the nucleus of the atom.

Draw 2 electrons on the inner ring and label them with their charge.

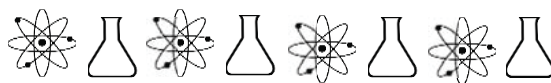
Draw 4 electrons in the outer ring and label them with their charge.



What is the atom? _____

Fill in the missing information from the chart.

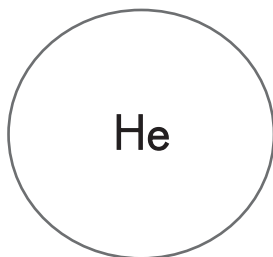
Element	Atomic Mass	Atomic Number	Protons	Neutrons	Electrons
Be	9	4			
N	14				7
Mn		25	25	30	
Au	197				79
Cr		24		28	
H	1		1		



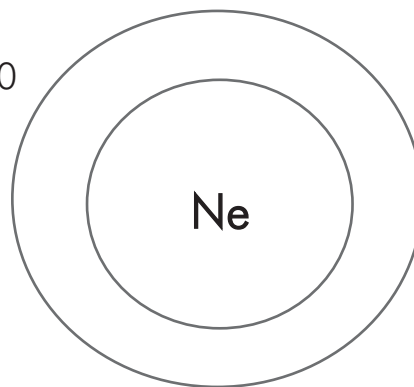
Electrons

Fill out how many protons, neutrons, and electrons each atom has using the information given. Then draw the electrons in each shell, remembering that the first shell can hold 2 electrons, the second can hold 8 electrons, and the third can hold 18 electrons. Finally, answer the questions at the bottom.

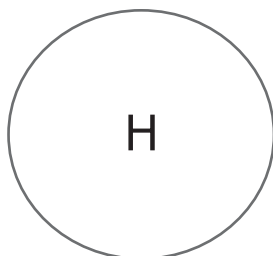
Atomic No: 2
Mass No: 4
Protons:
Neutrons:
Electrons:



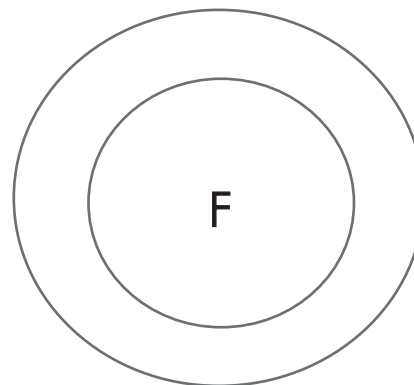
Atomic No: 10
Mass No: 20
Protons:
Neutrons:
Electrons:



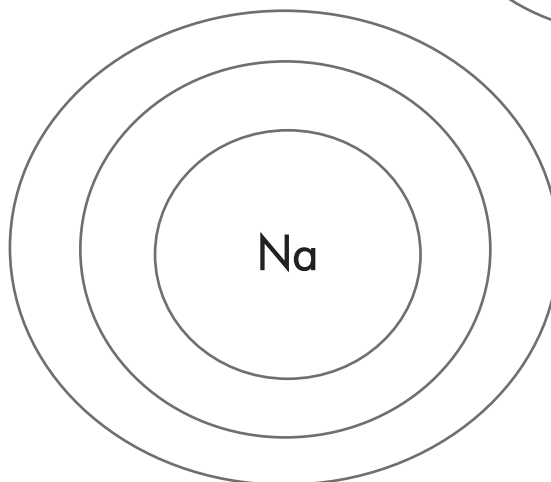
Atomic No: 1
Mass No: 1
Protons:
Neutrons:
Electrons:



Atomic No: 9
Mass No: 19
Protons:
Neutrons:
Electrons:



Atomic No: 11
Mass No: 23
Protons:
Neutrons:
Electrons:



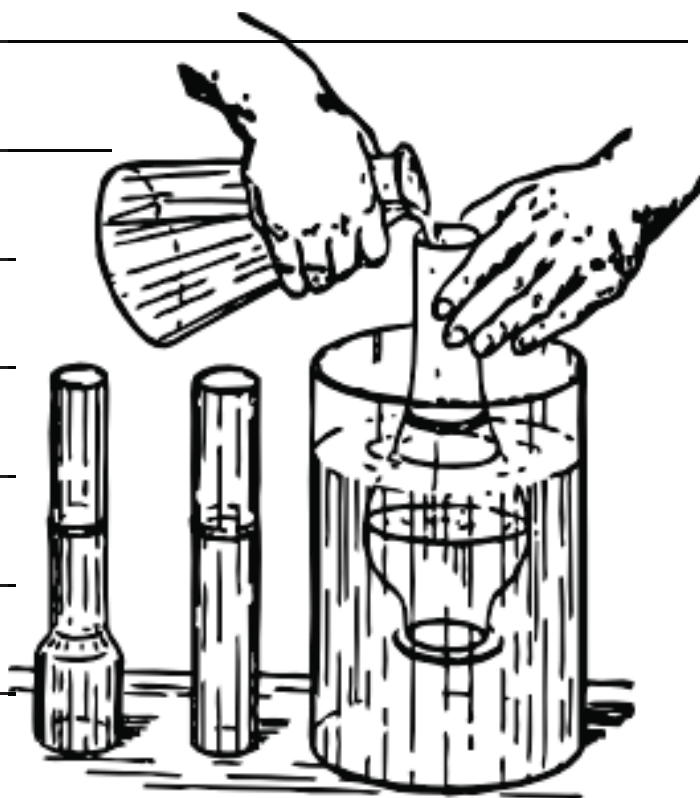
Which elements would be most likely to lose electrons in a chemical bond? _____

Which elements would be most likely to gain electrons in a chemical bond? _____

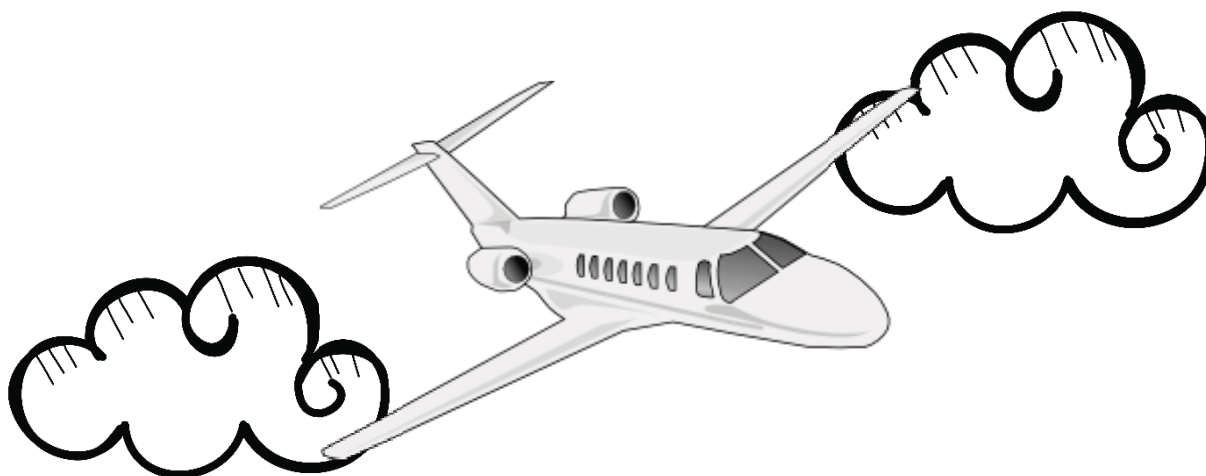
Use this notebooking page to explain why a cup of water that's too full doesn't spill over immediately.

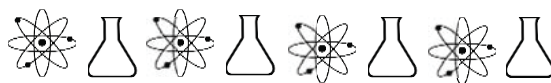
[illegible]

Use this notebooking page to describe the chemical reaction from the experiment.



Use this notebooking page to take notes.

[illegible]



Weight on Other Planets

The surface gravity of each planet relative to earth is in its box. Find out your weight on other planets by writing your weight on earth on the line and multiplying it by the surface gravity of the planet.

Mercury

x .38

Venus

x .91

Earth

x 1

Mars

x .38

Jupiter

x 2.36

Saturn

x 1.05

Uranus

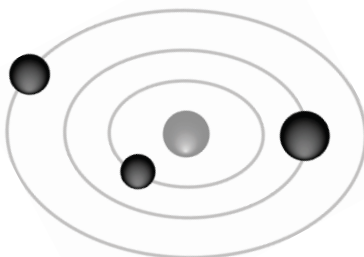
x .94

Neptune

x 1.13

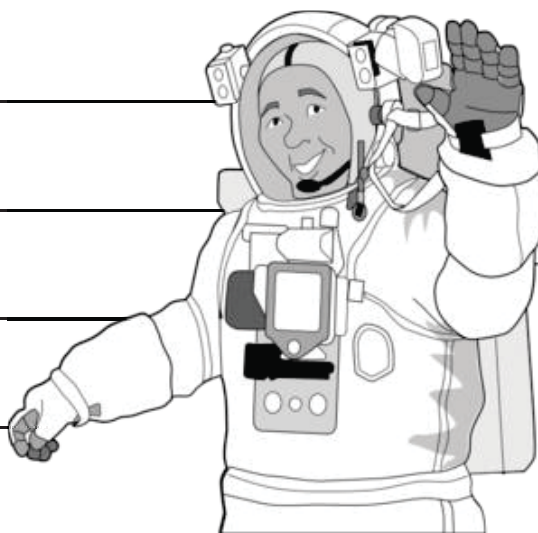
Pluto

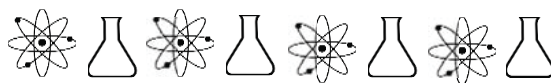
x .07



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A black and white line drawing of an astronaut in a full spacesuit. The astronaut is smiling and waving with their right hand. They are wearing a helmet with a camera and a microphone. A control panel with a screen and buttons is visible on the chest of the suit. The astronaut is positioned in the bottom right corner of the page.





Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

Hypothesis: _____

Materials: _____

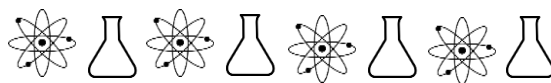
Procedure: _____

Observations/data: _____

Conclusion: _____

Objective: to find out if liquids are acid, neutral, or base

[illegible]



Acids and Bases

Answer the following questions about acids and bases.

What is a characteristic of an acid? _____

What is a characteristic of a base? _____

List some acids: _____

List some bases: _____

What is the pH of a strong acid? _____

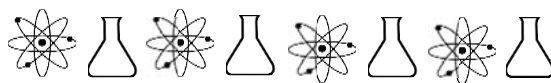
What color does a strong acid turn when tested for its pH level? _____

What is the pH of a strong base? _____

What color does a strong base turn when tested for its pH level? _____

What atom is abundantly present in an acid? _____

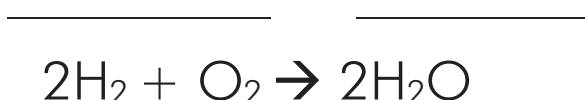
What molecule is abundantly present in a base? _____



Chemical Reactions

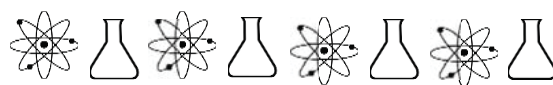
Fill in the blanks as you watch the video.

1. A chemical reaction is the process of one or more substances _____ to form new substances with different properties.
2. In chemical reactions, a new substance is formed from chemicals _____ with each other.
3. _____ are substances that enter a chemical reaction, while _____ are substances that are produced by a chemical reaction.
4. A chemical _____ is an expression using chemical symbols to represent a chemical reaction.
5. A plus sign is used to show that substances _____.
6. An _____ is used to show products yielded by reactants.
7. Label the reactants and the products in this chemical equation:



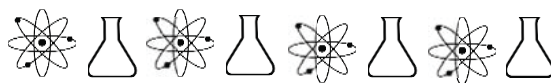
8. The law of the _____ of mass says that mass cannot be gained or lost in a chemical reaction.
9. The number of _____ of each element must be the same before and after a chemical reaction.
10. A _____ reaction is where two or more simple substances combine to form a more complex substance.

(continued on next page)



Chemical Reactions cont.

11. A _____ reaction is where a substance breaks down into two or more simple substances.
12. A _____ - _____ reaction is where atoms of one element replace atoms of another element in a compound.
13. A _____ - _____ reaction is where atoms in two different compounds trade places with each other.
14. Chemical reactions involve _____ being given off or being absorbed.
15. An _____ reaction releases energy and gives off heat.
16. An _____ reaction absorbs energy resulting in the lowering of temperature.
17. Variables such as temperature, surface area, and concentration affect the _____ of chemical reactions, or the speed with which reactants turn into products.
18. The _____ _____ is the amount of material that comes in contact with other reactants.
19. _____ is the amount of substance in a given unit of volume.
20. A _____ is a substance that increases the reaction rate but is not changed by the reaction.



Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

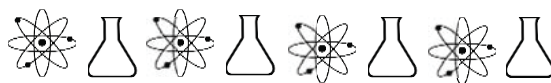
Hypothesis: _____

Materials: _____

Procedure: _____

Observations/data: _____

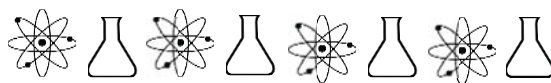
Conclusion: _____



Density Worksheet

Answer the questions about density. You can use a calculator. Remember that $\text{Density} = \text{Mass} / \text{Volume}$. You can reverse that to be $V = M/D$ and $M = D \cdot V$.

1. A container has a capacity of 1 400 milliliters. If the density of ethanol is .789 g/mL, what mass of ether can the bottle hold?
2. 200 grams of a liquid fills a 400 mL container. What is the density of the liquid?
3. If a block of iron measures 1 cm x 2 cm x 3 cm and weighs 47.16 grams, what is its density?
4. The density of mercury is 13.6 g/mL. What is the mass of 10 mL of mercury?
5. If a solution has a density of 2.5 g/mL, how many grams are needed to obtain 10 mL of solution?
6. A piece of silver has a mass of 3360 grams and occupies a volume of 320 cm³. What is the silver's density?



Properties of Water

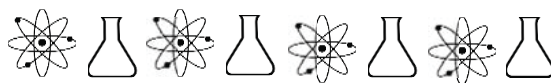
Define these terms.

Viscosity: _____

Density: _____

Buoyancy: _____

Capillary Action: _____



Endothermic Reaction

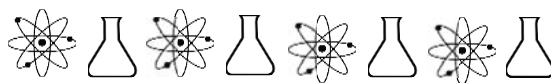
Use these sheets to conduct your endothermic and exothermic experiments.

Endothermic Reaction Procedure:

1. Measure 10 ml of vinegar and pour it into a clear container.
2. Place a thermometer in the container. Measure and record the temperature of the vinegar on the chart.
3. Leaving the thermometer in the cup, add $\frac{1}{2}$ teaspoon of baking soda.
4. Watch the thermometer and observe the changes in temperature. When the thermometer stops moving, record the temperature on the chart.

Temperature	
Vinegar without baking soda	
Vinegar with baking soda	
Total change in temperature	
Increase or decrease?	

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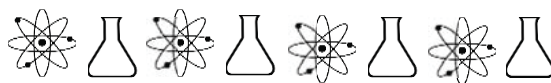


Exothermic Reaction

Exothermic Reaction Procedure:

1. Measure 10 ml of baking soda solution and pour it into a clear container.
2. Place a thermometer in the container. Measure and record the temperature of the baking soda on the chart.
3. Leaving the thermometer in the cup, add $\frac{1}{2}$ teaspoon of calcium chloride.
4. Watch the thermometer and observe the changes in temperature. When the thermometer stops moving, record the temperature on the chart.
5. Now add another 5°C or 10°F to the temperature you achieved. This is your target temperature for your next three trials. Fill it in on the chart in all three columns.
6. Try changing the amount of baking soda solution or calcium chloride in each trial to reach the target temperature.

Trials	As written	1 st Trial	2 nd Trial	3 rd Trial
Baking soda solution	10 ml			
Initial temperature				
Calcium chloride	$\frac{1}{2}$ tsp			
Final temperature				
Target temperature				
Difference between final and target temperature				



Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

Hypothesis: _____

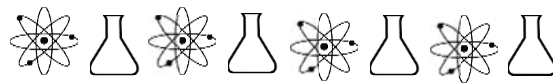
Materials: _____

Procedure: _____

Observations/data: _____

Conclusion: _____

A diagram illustrating a vertical line with five horizontal lines intersecting it. On the left side, four horizontal lines have lightning bolt symbols pointing towards the vertical line. On the right side, three horizontal lines have lightning bolt symbols pointing away from the vertical line.

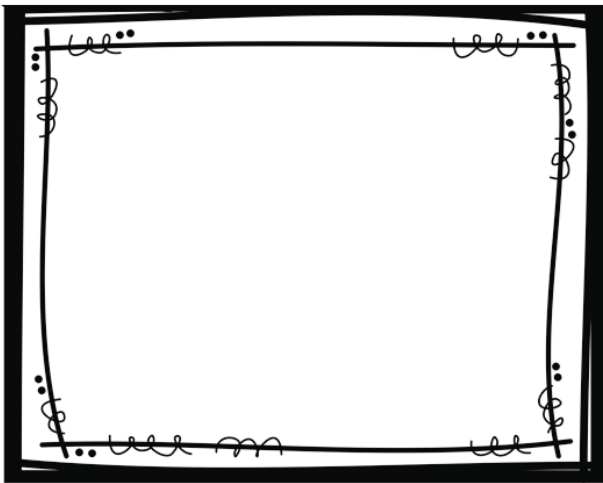
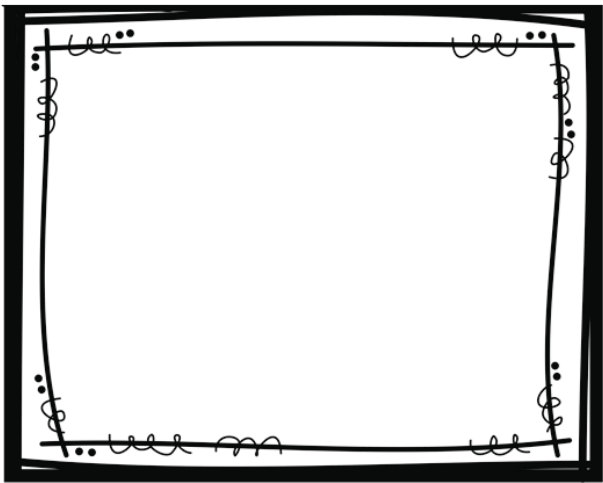


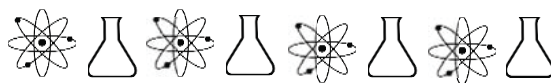
Circuits

Write any notes about circuits from your assignments today.

Explain an open circuit.
Draw an example.

Explain a closed circuit.
Draw an example.





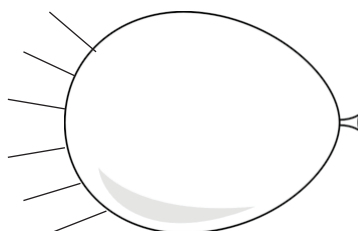
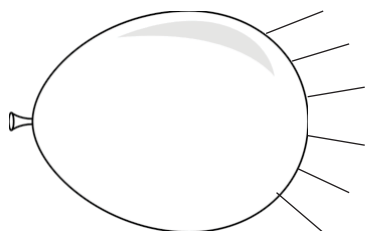
Static Electricity

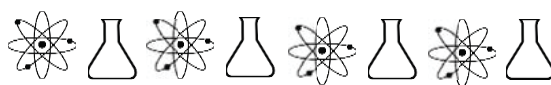
Do the following experiment and take notes on what happens and why.

Materials: two balloons, two 3-foot pieces of string, tape.

Procedure: Blow up the balloons and tie the strings to the ends. Hang them beside each other in a doorway so that they are close but not touching each other. From their hanging position, rub each balloon on your hair and then let go. Record what happens.

The balloons should have pushed away from each other. Why did that happen? The balloons became similarly charged. What do you know about like charges?



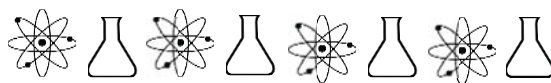


Magnets

What are magnets?

What have you learned about magnets? Make notes here.





AC/DC Power

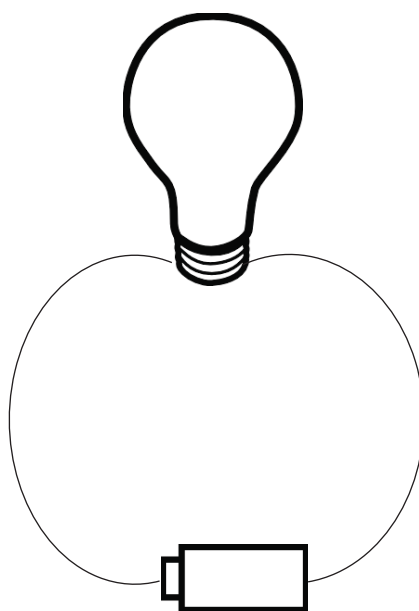
What is the difference between AC and DC power? Fill in what each letter stands for and then explain what the difference is.

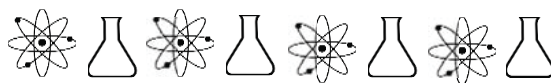
A

C

D

C





GFCI Outlet

What is a GFCI outlet? What do the letters stand for?

G

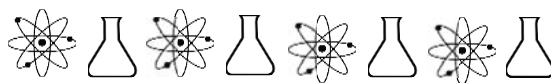
F

C

I

What are benefits of GFCI outlets? Where are they used?





Vocabulary

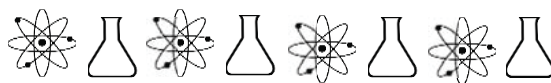
Define these terms.

Energy Source

Conductor

Electron

Energy



Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

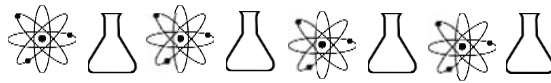
Hypothesis: _____

Materials: _____

Procedure: _____

Observations/data: _____

Conclusion: _____



Magnetism

Define these terms.

AC _____

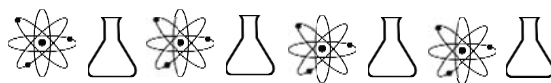
domain _____

electromagnet _____

electron _____

geographic pole _____

magnetic field _____



Electromagnets

Answers these questions about electromagnets.

An electromagnet runs on _____.

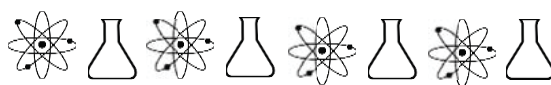
The strength of an electromagnet **can** / **cannot** be changed.

In an electromagnet, electric current produces a _____
_____.

The magnetic field of an electromagnet can be strengthened
by wrapping this around a core. _____.

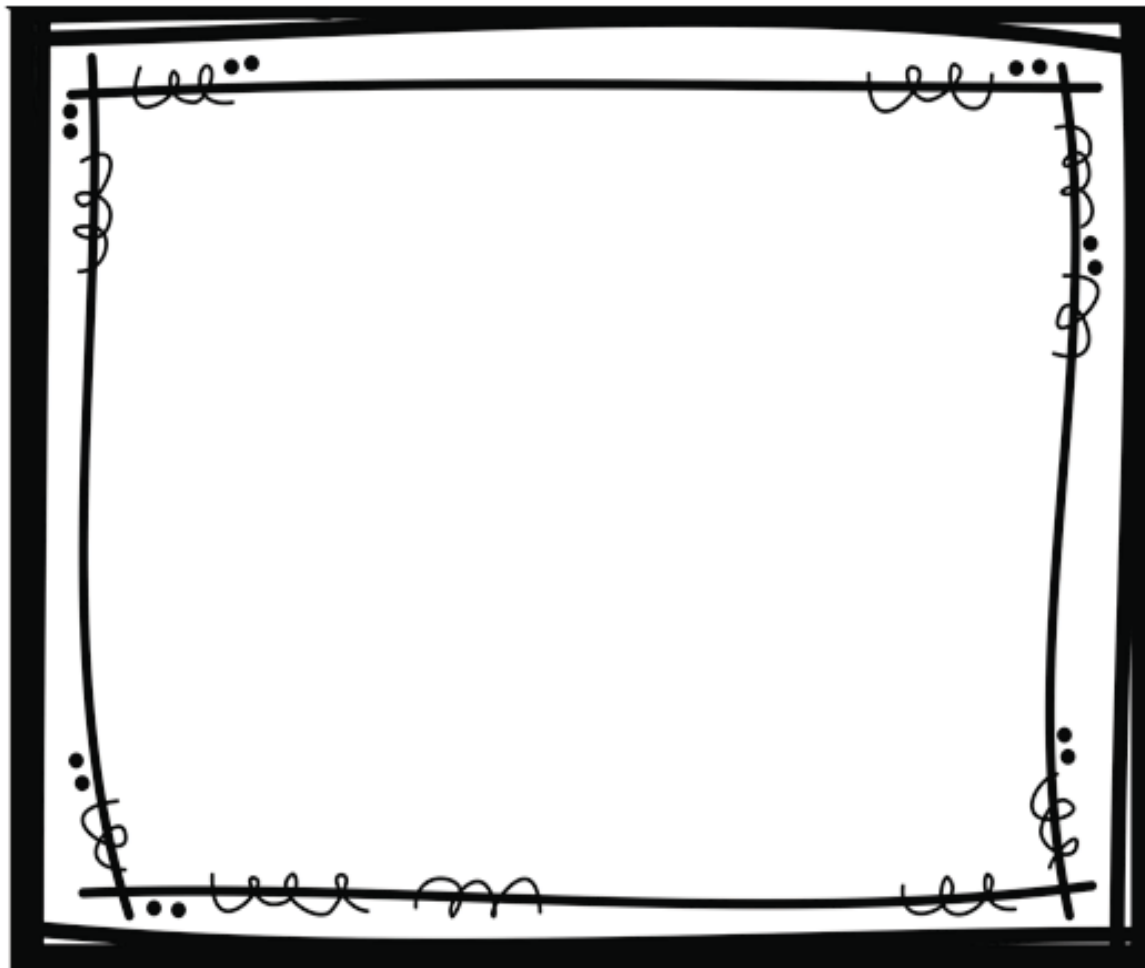
As the current in an electromagnet strengthens, the magnetic
field gets **stronger** / **weaker**.

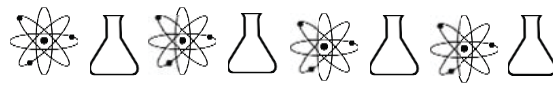
An electric current flowing towards you will create a magnetic
field that will circulate **clockwise** / **counter-clockwise**.



Magnetic Grippers

Draw a gripper in action. Explain what's happening in your picture.





Earth's Magnetic Field

What creates the
Earth's magnetic field?

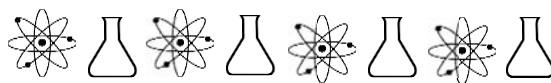
What does a
compass needle do?

Are the magnetic and
geographic poles the
same?



Objective: to find out if objects conduct or carry electricity.

[illegible]



Chemistry Review

Define these terms as you work through lessons 96-99.

Lesson 96:

physical change _____

ionic bond _____

solubility _____

Lesson 97:

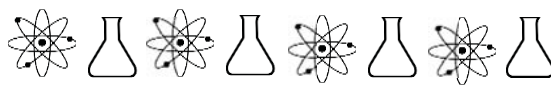
solute _____

solvent _____

Lesson 98:

chemical reactions _____

(continued on next page)



Chemistry Review continued

Lesson 98 continued:

concentrations_____

Lesson 99:

freezing_____

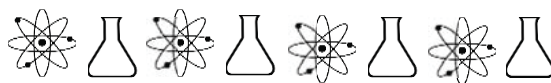
heat_____

evaporation_____

condensation_____

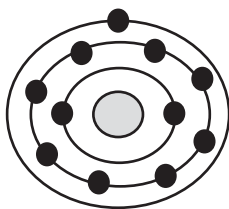
temperature_____



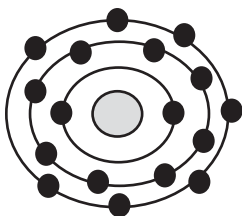


Ionic Bonds

Write a short description beside each picture to show the process of ionic bonding. The first one is done for you.

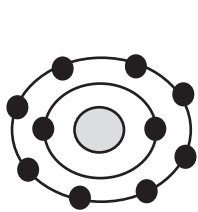
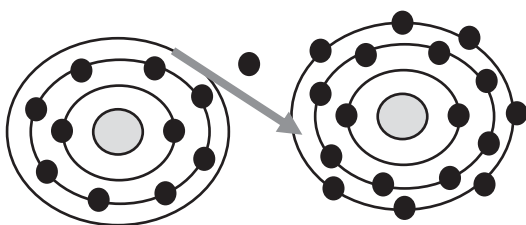
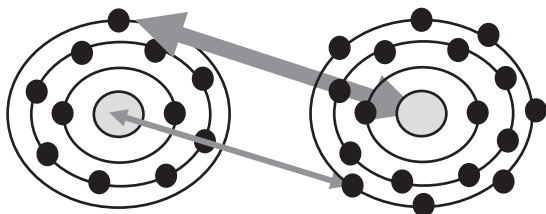


Sodium

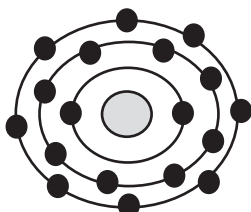


Chlorine

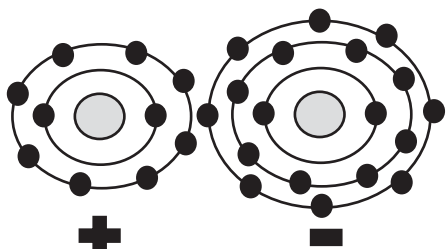
An atom of sodium and an atom of chlorine are near each other.



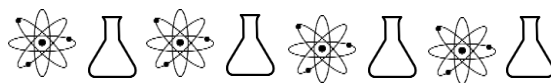
$+$
Sodium ion



$-$
Chloride ion



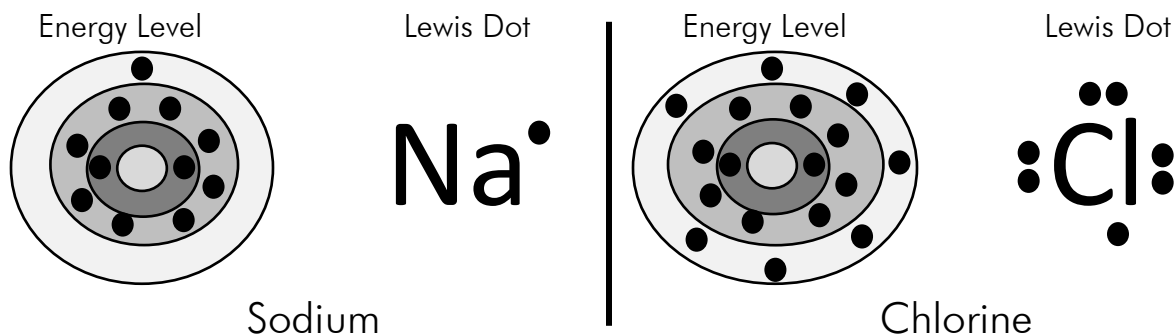
$+$ $-$
Sodium Chloride (NaCl)



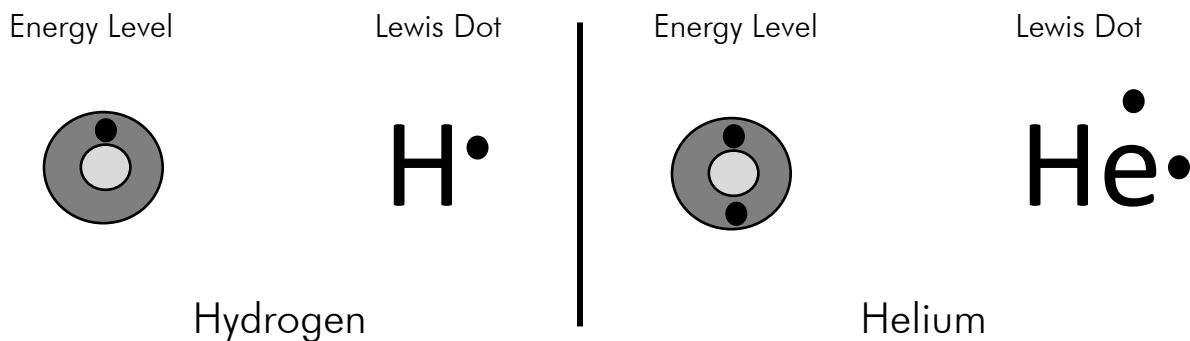
Lewis Dot Diagrams

Answer the following questions about Lewis dot diagrams.

Compare the energy level diagrams to the Lewis dot diagrams.

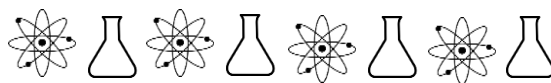


What do you notice about the dots in each diagram? _____

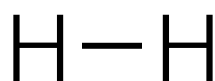
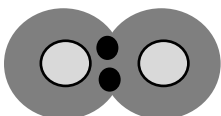
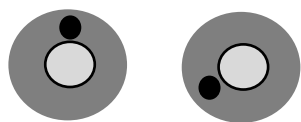


Why are the number of dots associated with hydrogen and helium the same on each type of diagram? _____

(continued on next page)



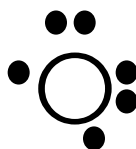
Compare the energy level diagram for a covalent bond in the hydrogen molecule H_2 with the Lewis dot diagram of the same bond.

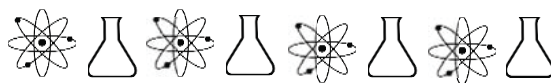


What do the two dots represent between the Hs? _____

What does the line represent? _____

Draw a Lewis dot diagram for the covalent bond of two hydrogen atoms to one oxygen atom in a water molecule. Use dots in the first diagram and lines in the second.





Force

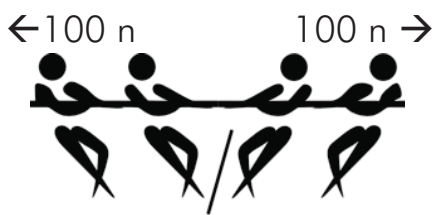
For the following pictures, tell whether the force at work is a push or a pull.







Circle the answer that fits with each picture.



The forces shown are _____ forces.

pushing pulling

pushing pulling

The forces shown are _____.

working together opposite

working together opposite

The forces are _____.

equal not equal

equal not equal

The forces _____ balance each other.

do do not

do do not

The resultant force is _____.

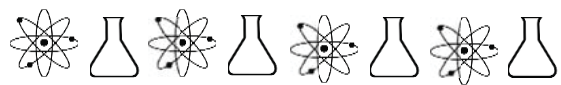
100 n left 100 n right zero

100 n left 100 n right zero

There _____ motion.

is is not

is is not

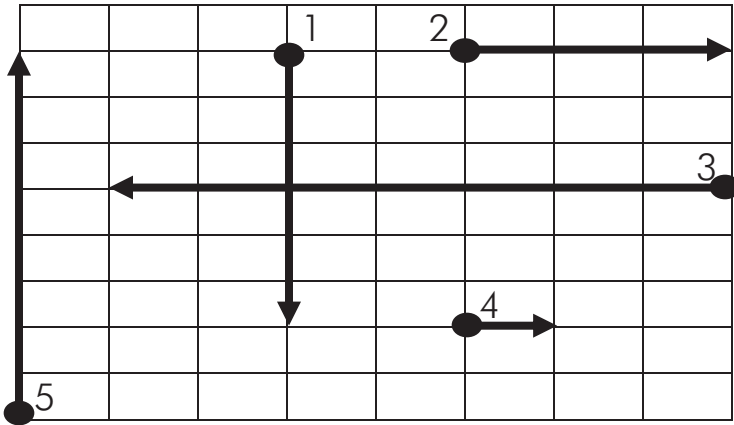


Force

Sometimes force is shown as a **vector**. The dot shows where the force begins. The length shows the amount of force. The arrow shows the direction of the force. This vector shows a force of 3 n to the right.

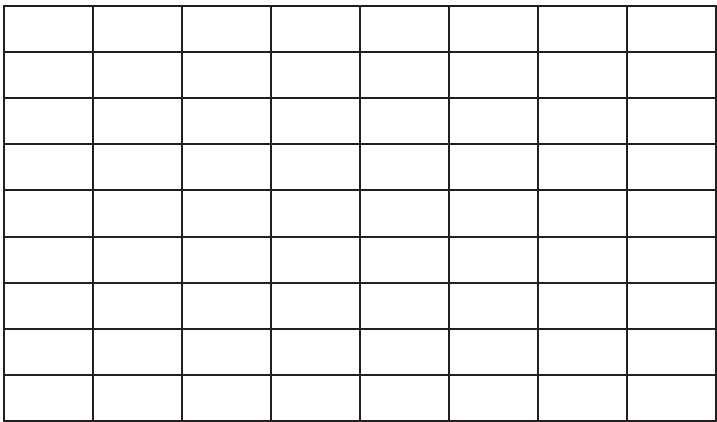


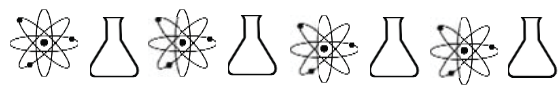
Fill in the chart with the information about the vectors below. Each square is 1 n.



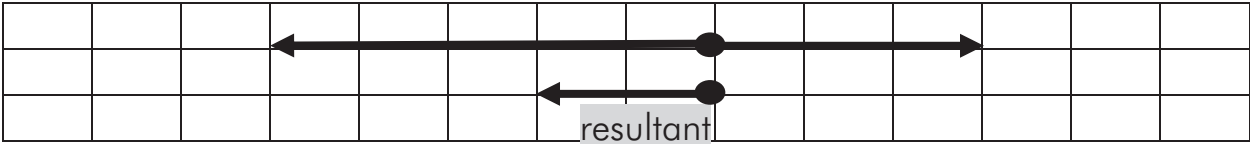
	Force	Direction
1		
2		
3		
4		
5		

Draw the following vectors on the grid below. 1) 7 n right; 2) 3 n up; 3) 4 n down; 4) 6 n left; 5) 1 n down.

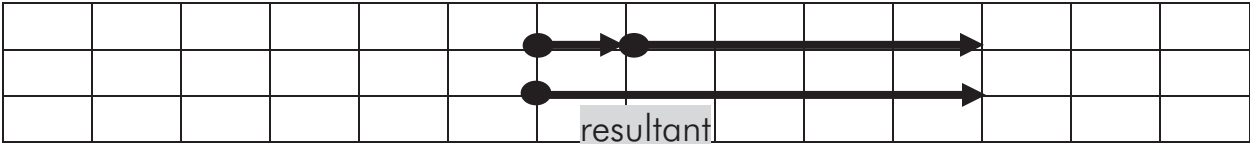




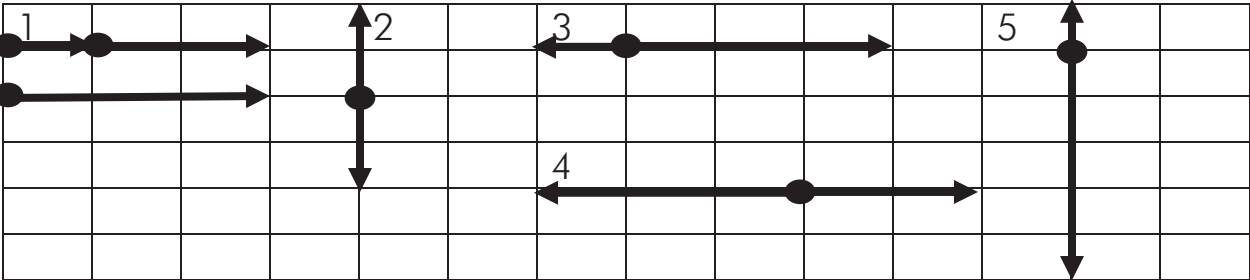
Here are two more examples of vectors showing force. The first chart shows two forces acting in opposite directions. One force is 5 n to the left. One force is 3 n to the right. The resultant force is 2 n to the left as shown.



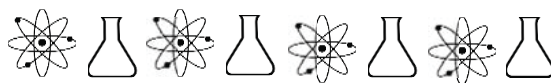
The second chart shows two forces acting in the same direction. One force is 1 n to the right. One force is 4 n to the right. The resultant force is 5 n to the right as shown.



Draw the resultant vector for each set of vectors below. Then fill in the chart for each set. The first one is done for you.



	Original forces	Resultant force
1	1 n right, 2 n right	3 n right
2		
3		
4		
5		



Newton's Laws of Motion

Write about Newton's three Laws of Motion.

1st Law:

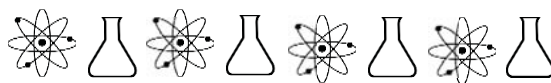
Inertia

2nd Law:

Acceleration

3rd Law:

Action/Reaction



Newton's Laws of Motion

Write about your demonstration of each law on the lines.

1st Law: Inertia

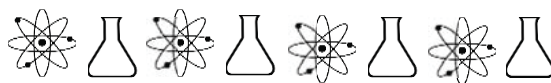
An object in motion tends to stay in motion; an object at rest tends to stay at rest.

2nd Law: Acceleration

The acceleration of an object is directly related to the force applied and inversely related to the object's mass ($F=MA$).

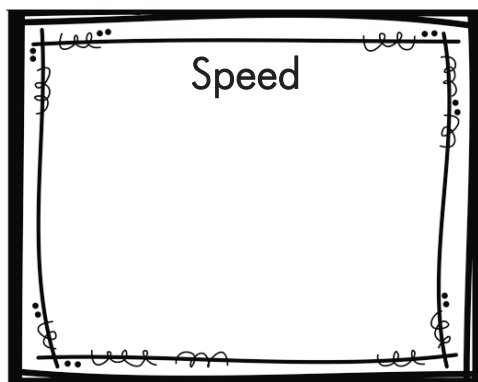
3rd Law: Action/Reaction

For every action there is an equal and opposite reaction.



Vocabulary

Fill in the definition for each word, draw a picture of it, and tell what it reminds you of.

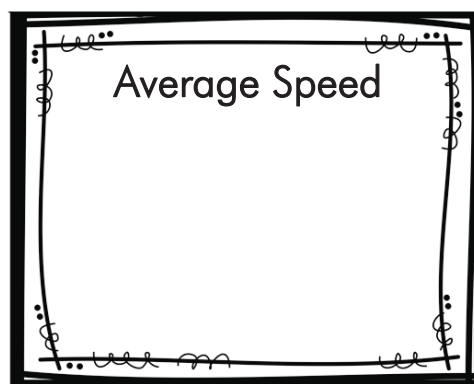


Definition _____

Reminds me of _____

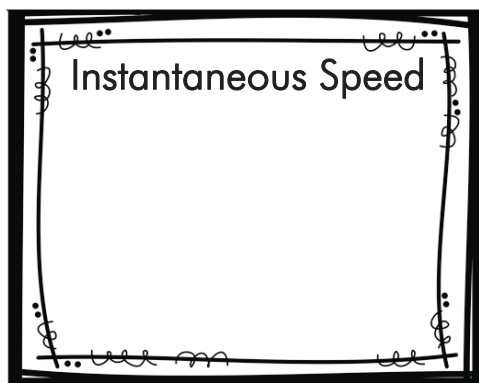
Definition _____

Reminds me of _____



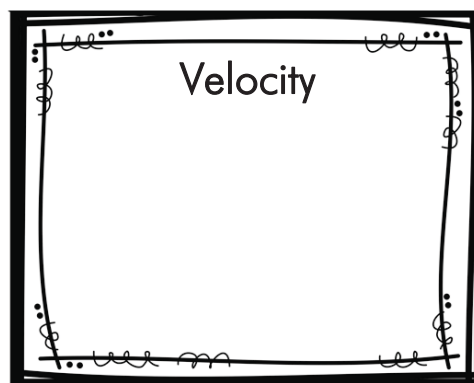
Definition _____

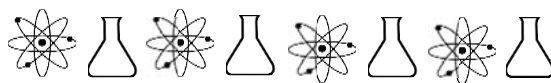
Reminds me of _____



Definition _____

Reminds me of _____





Newton's Laws of Motion

For each given scenario, write in the blank whether it illustrates Newton's first, second, or third Law of Motion.

1st Law: Inertia 2nd Law: Acceleration 3rd Law: Action/Reaction

My family went on a vacation. We strapped our luggage to the top of the van. One suitcase apparently wasn't under the strap, and the first time my dad hit the brakes hard, the suitcase went flying forward and spilled clothes all over the highway!

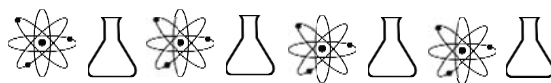
A bird was flapping his wings. Each time it pushed its wings down, the bird would go up higher in the air.

William was riding a high speed roller coaster that took a banked turn to the right, and he ended up with a bruise on his left shoulder.

My brother was lifting a box labeled "books." He didn't know my mom had already emptied the box, so he heaved on it, and it went flying through the air. We all had a good laugh.

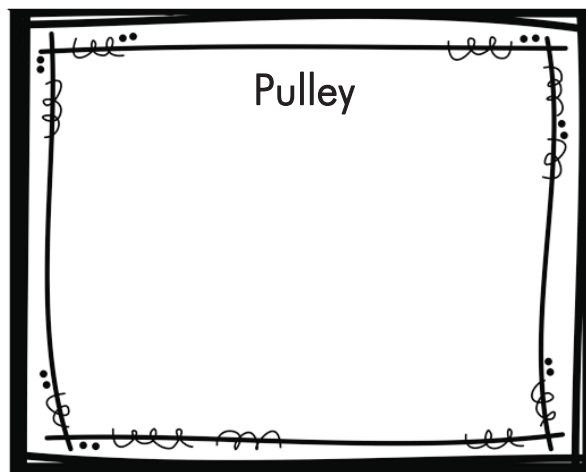
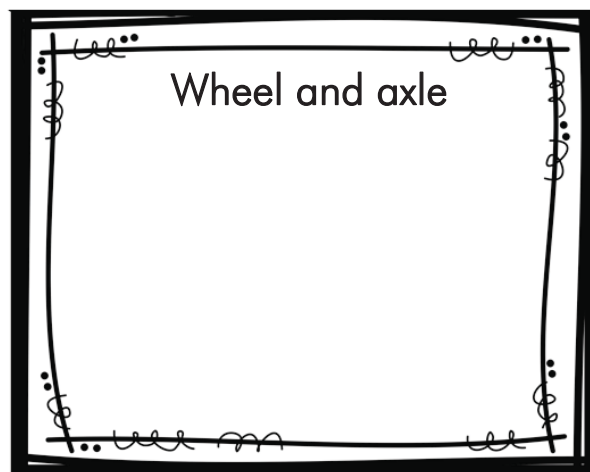
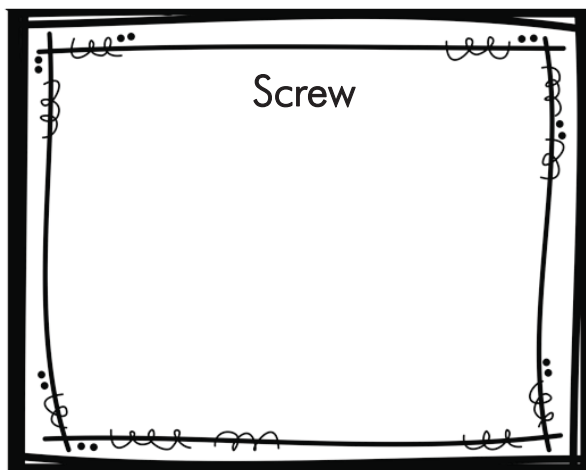
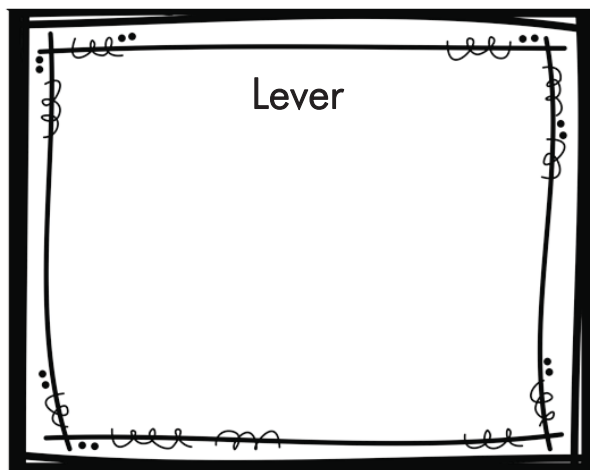
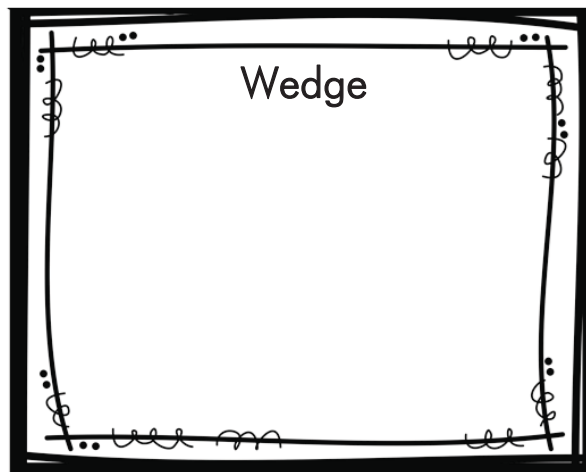
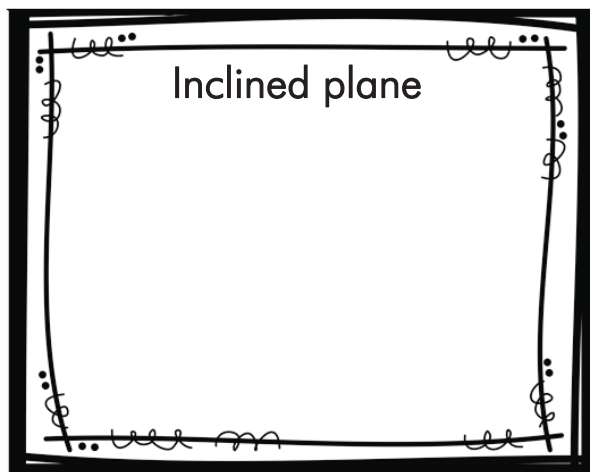
Jaylen was rowing a canoe. Every time she pushed the oar backward, the boat would propel forward.

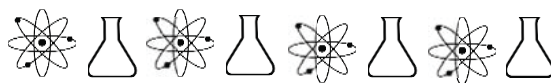
Connor was playing baseball in his yard. He noticed that no matter how hard he swung, he couldn't hit the real baseball as far as he could hit the foam one.



Simple Machines

Use this page to draw examples of these simple machines as they are assigned.





Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

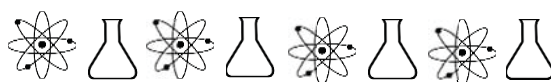
Hypothesis: _____

Materials: _____

Procedure: _____

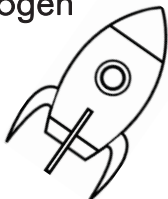
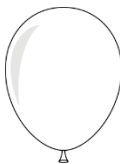
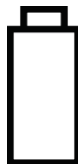





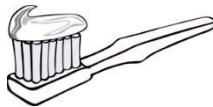
Observations/data: _____

Conclusion: _____

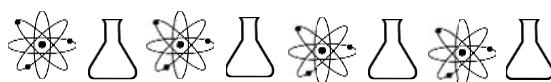


Element Go Fish


Carefully tear out these pages and cut out the cards (there are 3 sets of 18 cards). Use them to play a game of element "Go Fish." Ask any information on the card to learn more about the elements as you play. You need 3 cards for a set.

<div>H1</div> <div>Hydrogen</div> <div></div> <div><ul style="list-style-type: none">- No neutrons- Most common element- Used in rocket fuel</div>	<div>He2</div> <div>Helium</div> <div></div> <div><ul style="list-style-type: none">- Used in balloons, blimps, and scuba gear- Lighter than oxygen</div>	<div>Li3</div> <div>Lithium</div> <div></div> <div><ul style="list-style-type: none">- Used in batteries- Never found in nature outside of a compound</div>
<div>Be4</div> <div>Beryllium</div> <div></div> <div><ul style="list-style-type: none">- Found in emeralds- One of the lightest metals</div>	<div>B5</div> <div>Boron</div> <div></div> <div><ul style="list-style-type: none">- Used in sports gear- Used in heat-resistant glass and nuclear plants</div>	<div>C6</div> <div>Carbon</div> <div></div> <div><ul style="list-style-type: none">- Basic element of life- Coal, diamonds, and plastics are made of carbon</div>
<div>N7</div> <div>Nitrogen</div> <div></div> <div><ul style="list-style-type: none">- Most plentiful gas in the atmosphere- Used in explosives</div>	<div>O8</div> <div>Oxygen</div> <div></div> <div><ul style="list-style-type: none">- Necessary for breathing- Found in air and water- Used for combustion</div>	<div>F9</div> <div>Fluorine</div> <div></div> <div><ul style="list-style-type: none">- Used as a coolant- Used in toothpaste to fight cavities</div>

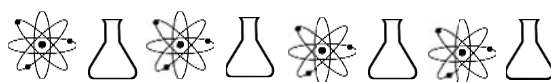
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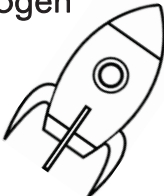
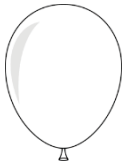






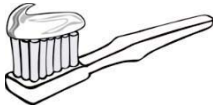
Element Go Fish

<p>Ne 10</p> <p>Neon</p> <p>OPEN</p> <ul style="list-style-type: none">- Used in lights, lasers- Never bonds to other elements	<p>Na 11</p> <p>Sodium</p>  <ul style="list-style-type: none">- Bonds with chlorine to make table salt- Never found alone	<p>Mg 12</p> <p>Magnesium</p>  <ul style="list-style-type: none">- Necessary for plants and animals- Found in sparklers
<p>Al 13</p> <p>Aluminum</p>  <ul style="list-style-type: none">- Used in airplanes for its weight and strength- Used in foil, cables	<p>Si 14</p> <p>Silicon</p>  <ul style="list-style-type: none">- Found in sand, stone, and soil- Used in computer chips	<p>P 15</p> <p>Phosphorus</p>  <ul style="list-style-type: none">- Used in matches, detergents, fertilizers- Found in bones
<p>S 16</p> <p>Sulfur</p>  <ul style="list-style-type: none">- Found in matches, fireworks, egg yolks- Creates air pollution	<p>Cl 17</p> <p>Chlorine</p>  <ul style="list-style-type: none">- Combines with hydrogen to digest food- Used in swimming pools	<p>Ar 18</p> <p>Argon</p>  <ul style="list-style-type: none">- Found in light bulbs- Does not react or bond with any other element

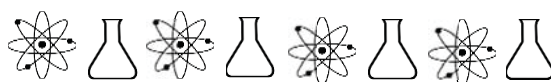
(continued on next page)




Element Go Fish

<p>H 1</p> <p>Hydrogen</p>  <ul style="list-style-type: none">- No neutrons- Most common element- Used in rocket fuel	<p>He 2</p> <p>Helium</p>  <ul style="list-style-type: none">- Used in balloons, blimps, and scuba gear- Lighter than oxygen	<p>Li 3</p> <p>Lithium</p>  <ul style="list-style-type: none">- Used in batteries- Never found in nature outside of a compound
<p>Be 4</p> <p>Beryllium</p>  <ul style="list-style-type: none">- Found in emeralds- One of the lightest metals	<p>B 5</p> <p>Boron</p>  <ul style="list-style-type: none">- Used in sports gear- Used in heat-resistant glass and nuclear plants	<p>C 6</p> <p>Carbon</p>  <ul style="list-style-type: none">- Basic element of life- Coal, diamonds, and plastics are made of carbon
<p>N 7</p> <p>Nitrogen</p>  <ul style="list-style-type: none">- Most plentiful gas in the atmosphere- Used in explosives	<p>O 8</p> <p>Oxygen</p>  <ul style="list-style-type: none">- Necessary for breathing- Found in air and water- Used for combustion	<p>F 9</p> <p>Fluorine</p>  <ul style="list-style-type: none">- Used as a coolant- Used in toothpaste to fight cavities

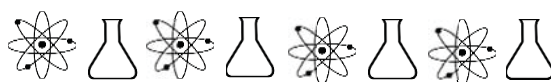
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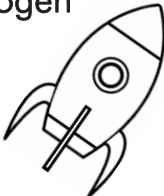
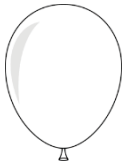






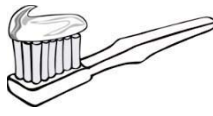
Element Go Fish

<p>Ne 10</p> <p>Neon</p>  <ul style="list-style-type: none"> - Used in lights, lasers - Never bonds to other elements 	<p>Na 11</p> <p>Sodium</p>  <ul style="list-style-type: none"> - Bonds with chlorine to make table salt - Never found alone 	<p>Mg 12</p> <p>Magnesium</p>  <ul style="list-style-type: none"> - Necessary for plants and animals - Found in sparklers
<p>Al 13</p> <p>Aluminum</p>  <ul style="list-style-type: none"> - Used in airplanes for its weight and strength - Used in foil, cables 	<p>Si 14</p> <p>Silicon</p>  <ul style="list-style-type: none"> - Found in sand, stone, and soil - Used in computer chips 	<p>P 15</p> <p>Phosphorus</p>  <ul style="list-style-type: none"> - Used in matches, detergents, fertilizers - Found in bones
<p>S 16</p> <p>Sulfur</p>  <ul style="list-style-type: none"> - Found in matches, fireworks, egg yolks - Creates air pollution 	<p>Cl 17</p> <p>Chlorine</p>  <ul style="list-style-type: none"> - Combines with hydrogen to digest food - Used in swimming pools 	<p>Ar 18</p> <p>Argon</p>  <ul style="list-style-type: none"> - Found in light bulbs - Does not react or bond with any other element

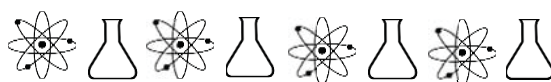
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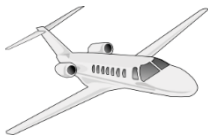
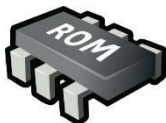
Element Go Fish

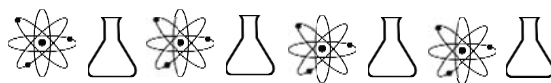
<p>H 1</p> <p>Hydrogen</p>  <ul style="list-style-type: none">- No neutrons- Most common element- Used in rocket fuel	<p>He 2</p> <p>Helium</p>  <ul style="list-style-type: none">- Used in balloons, blimps, and scuba gear- Lighter than oxygen	<p>Li 3</p> <p>Lithium</p>  <ul style="list-style-type: none">- Used in batteries- Never found in nature outside of a compound
<p>Be 4</p> <p>Beryllium</p>  <ul style="list-style-type: none">- Found in emeralds- One of the lightest metals	<p>B 5</p> <p>Boron</p>  <ul style="list-style-type: none">- Used in sports gear- Used in heat-resistant glass and nuclear plants	<p>C 6</p> <p>Carbon</p>  <ul style="list-style-type: none">- Basic element of life- Coal, diamonds, and plastics are made of carbon
<p>N 7</p> <p>Nitrogen</p>  <ul style="list-style-type: none">- Most plentiful gas in the atmosphere- Used in explosives	<p>O 8</p> <p>Oxygen</p>  <ul style="list-style-type: none">- Necessary for breathing- Found in air and water- Used for combustion	<p>F 9</p> <p>Fluorine</p>  <ul style="list-style-type: none">- Used as a coolant- Used in toothpaste to fight cavities

(continued on next page)



Element Go Fish

<p>Ne 10</p> <p>Neon</p> <p>OPEN</p> <ul style="list-style-type: none">- Used in lights, lasers- Never bonds to other elements	<p>Na 11</p> <p>Sodium</p>  <ul style="list-style-type: none">- Bonds with chlorine to make table salt- Never found alone	<p>Mg 12</p> <p>Magnesium</p>  <ul style="list-style-type: none">- Necessary for plants and animals- Found in sparklers
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Experiment Worksheet

Fill out this worksheet as you work through the experiment.

Question: _____

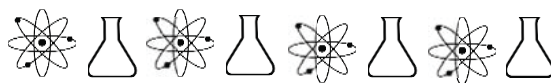
Hypothesis: _____

Materials: _____

Procedure: _____

Observations/data: _____

Conclusion: _____



Research Notes

Use these pages to make notes on your topic.

Topic: _____

Resource 1: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 2: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 3: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 4: _____

Info: _____

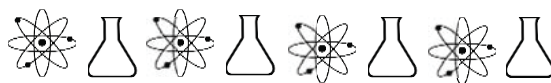
Info: _____

Info: _____

Info: _____

Info: _____

Info: _____



Resource 5: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 6: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 7: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 8: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Info: _____

Resource 9: _____

Info: _____

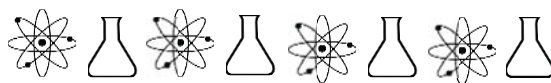
Info: _____

Info: _____

Info: _____

Info: _____

Info: _____



Science Report Checklist

Use this checklist to help you as you finish up your science project. Aim for a checkmark in each box.

Research

- ☐ Facts
- ☐ Sources
- ☐ Bibliography

Project

- ☐ 3D
- ☐ Neat
- ☐ Teaches all about your topic; shows off all you learned
- ☐ Self-explanatory: someone could look at it and understand what it's all about without you explaining it to them
- ☐ Bibliography displayed with project

Experiment

- ☐ Demonstrates your topic
- ☐ Neatly written up with all parts of the experiment worksheet
- ☐ Able to be done over and over with the same results

Demonstration

- ☐ Clearly state what your project is about
- ☐ Tell about what they will learn from your project
- ☐ Explain how the experiment relates to your topic
- ☐ Demonstrate the experiment
- ☐ State your conclusion
- ☐ Ask if anyone has questions

