

**Science 9-Chemistry**  
**Activity 2B**  
Matter and It's Changes



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**10**

Name \_\_\_\_\_

Due Date \_\_\_\_\_

Show Me       Hand In

*Correct and Hand In Again By* \_\_\_\_\_

**Purpose:**

To study a number of forms of matter and decide on their **Classification** and then observe and identify **Physical** and **Chemical** changes.

**Background Information:**

Define a **mixture**: \_\_\_\_\_

Give two examples of **mixtures**: \_\_\_\_\_

Give two examples of **mechanical mixtures**: \_\_\_\_\_

Give two examples of **suspensions**: \_\_\_\_\_

Define a **solution**: \_\_\_\_\_

Give two examples of **solutions**: \_\_\_\_\_

Define a **pure substance**: \_\_\_\_\_

Define a **compound**: \_\_\_\_\_

Give two examples of **compounds**: \_\_\_\_\_

Define an **element**: \_\_\_\_\_

Give two examples of **elements**: \_\_\_\_\_

Define a **Physical Change**: \_\_\_\_\_

\_\_\_\_\_

Define a **Chemical Change**: \_\_\_\_\_

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## Procedure:

### Part 1-Identifying Matter

- For each of 10 forms of matter, identify each as a **Mixture** or a **Pure Substance**. Then identify if as a mechanical **mixture, suspension, solution, compound** or **element**. Put your answers in the following table:

Sample	Mixture or Pure Substance	Mechanical mixture, suspension, solution, compound or element?
Water		
Copper wire		
Magnesium		
Sodium carbonate solution		
Calcium chloride solution		
Copper sulphate crystals		
Milk		
Dirt		
Sand		
Concrete		

### Part 2-Physical and Chemical Changes

- Follow procedures 2-11 on pages 24 and 25 of the Science Probe text. As you do each procedure, record the results in the tables below.

#### **Procedure 3:**

Describe the copper wire before you heated it:

What happens when you hold the Cu wire in the flame?

After the wire is cool again, what does it look like?

Is this a Physical or Chemical Change?

Explain how you got your answer:

**Procedure 4:**

Describe the Hydrochloric acid solution before you put the Cu it in:

What happens when you put the Cu wire into the Hydrochloric acid solution?

Describe the appearance of the Cu wire and the hydrochloric acid solution after about 10 minutes or so:

Is this a Physical or Chemical Change?

Explain how you got your answer:

**Procedure 5:**

Describe the Magnesium ribbon after you polish it:

Describe in detail what happens when you add the Magnesium ribbon to the Hydrochloric acid solution:

After the reaction is finished, describe the magnesium ribbon:

Is this a Physical or Chemical Change?

Explain how you got your answer:

**Procedures 6 & 7:**

Describe the Sodium Carbonate Solution:

Describe the Calcium Chloride Solution:

Describe in detail what happens when you pour one solution into the other:

Is this a Physical or Chemical Change?

Explain how you got your answer:

**Procedures 8 & 9:**

Describe the Copper Sulphate crystals when you first put them in the test tube:

Observe the test tube carefully as you heat the crystals. Describe in detail what you see:

Describe the material in the test tube after heating is finished.

Is this a Physical or Chemical Change?

Explain how you got your answer:

After a few drops of water are added to the cool test tube, describe what happened to the temperature:

What happened to the colour of the material when the water was added?

Is this a Physical or Chemical Change?

Explain how you got your answer:

**TEACHER DEMONSTRATION****Procedure 1 on page 26**

Describe the Ammonium Chloride before it is heated:

What do you observe as the ammonium chloride is being heated?:

Is this a Physical or Chemical Change?

Explain how you got your answer: