

Name _____
Date _____

Exploring How Matter Changes

Remember: A physical property is one you can observe without changing the identity of the substance and a chemical property is one that can only be observed when the identity of the substance is changed. Based on this information, how would you define the following:

- Physical change

- Chemical change

Complete the following data table as you explore the items at each station. Be sure to answer all the questions on the station cards.

Station	Observations	Physical or Chemical? Your Explanation
1		
2		
3		

4		
5		
6		
7		
8		

STATION #1 – MELTING ICE

Observe the ice in the cup and record.

- Describe the ice.
- Is the ice changing? How?
- What is the ice changing into?
- Compare the color of the liquid in the cup to the color of the solid ice.
- Are you observing a physical or chemical change?

STATION #2 – BLOWING UP A BALLOON

1 balloon for each group

- Ask the teacher for a balloon.
- Take a balloon and blow it up about half way.
- Is this a physical or chemical change?
- Ask yourself, *Is the balloon the same substance as it was before, or has it become something else?* Write down your answer.
- Fill the balloon until it is filled with air, but not tight, and tie it off.
- Grab the balloon with your hand and squeeze it into a new shape.
- Is this a physical or chemical change? Write your answer.

AFTER YOU ARE DONE, PLEASE **CUT** the balloon at the end to release the air **WITHOUT POPPING IT PLEASE!**

EXPLORE, Part 2

STATION #3 – DISSOLVING SUGAR

- Fill the small container about one-half full of water and put one teaspoon of sugar in it.
- Stir until most or all the sugar is dissolved.
- Is this a physical or chemical change? Write your observations and the type of change it is.

STATION #4 – SUGAR AND SALT

- Mix a half of a teaspoon each of sugar and salt on the piece of paper or in the dish.
- Stir them gently together so that they are thoroughly mixed.
- Is this a physical or chemical change? Write your observations and predictions as to what kind of change it is.
- Write out a method you could use to test to see if this was a physical or chemical change.
- Take out the magnifying glass and examine some of your mixture.
- Compare the crystals you see with some from the original stock of salt and sugar. Write your observations and what kind of change you think this is.

EXPLORE, Part 2

STATION #5 – OBSERVING MAGNETISM

- Use the magnet to move the iron filings around.
- Hold the magnet about two inches about the filings.
- What happens? Is this a physical or chemical change?

STATION #6 – TARNISHED PENNIES

- Take a tarnished penny and place five drops of lemon juice on it.
- After a few minutes, rub it gently with a paper towel.
- What happened? Is it a physical or chemical change?
- Can you reverse the process?

EXPLORE, Part 2

STATION #7 – EFFERVESCENT TABLETS

- Ask the teacher for one tablet.
- Fill the small container about two-thirds full of water.
- Drop in one of the tablets and observe what happens.
- Write your observations.
- Could you reverse this process? Even if you did so, could you remake the tablet? If a reaction is not reversible, it is probably a chemical change. Is this a physical or chemical change? Explain your reasoning.

EXPLORE, Part 2

STATION #8 – STEEL WOOL

Observe the steel wool in water.

- What is the brown substance?
- Are you observing a physical or chemical change?