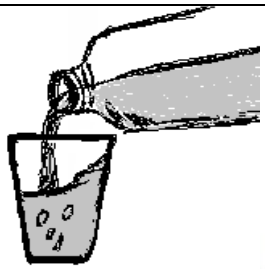
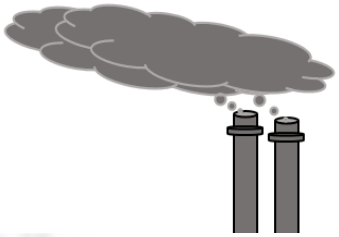
LEARNING ACTIVITY SHEET
Grade 8 – SCIENCE

Name: _____ Date: _____ Rating /Score_____

THE PARTICULATE NATURE OF MATTER

I. How Do I Look?

DIRECTIONS: Observe the physical properties of the three states of matter and answer the questions below.

Examples of Three States of Matter	 book	 water	 steam
Draw the arrangement of the particles			

Guide Questions:

1. What are the observable characteristics that the three samples have?
   book:
   water:
   steam:

2. To which physical state of matter do the following samples belong?

3. How are the properties of solid, liquid, and gas related to their observable characteristics?

4. Summarize the particulate nature of matter and its physical properties using the table below.

	Solid	Liquid	Gas
Arrangement of Particles			
Compressibility			
Ability to Flow			

Specific Week: 1-2 (LAS 1)

Target Competency: Explain the properties of solids, liquids, and gases based on the particle nature of matter. (S8MT-IIa-b-8)

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II. How Useful Am I?

DIRECTIONS: Give the observable properties and practical uses or application to daily life for each given example of the three states of matter.

Phases of Matter	**Observable Property** (Rigidity, Fluidity, and Compressibility)	**Examples**	**Practical Uses/Application**
Solid		hollow block	
		rice	
		clothes	
Liquid		water	
		alcohol	
		gasoline	
Gas		oxygen	
		helium	
		carbon dioxide	

Write your reflection from this activity.

3 things I learned	
2 things I want to learn more	
1 question I have	

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III. Brain Collision

DIRECTIONS: Perform the given tasks and answer the given questions.

TASK	OBSERVATION/S	GUIDE QUESTIONS	EXPLANATION/S
Transfer water from a glass to a plastic bottle. Observe the shape of the water in a plastic bottle.		Did water occupy the space on a plastic bottle? Did water take the shape of a plastic bottle?	
Get an inflated balloon and try to compress it at the center. After 10 seconds, release the balloon and observe its shape.		Did you find it easy to compress the balloon? Did the balloon retain its shape after compressing it?	
Pour a handful of mongo seeds into a plastic bottle. Observe the shape of each piece of mongo seed inside a plastic bottle.		Did the mongo seeds take the shape of the bottle? Did each piece of a mongo seed change in shape?	

Let's Analyze!

1. How does the arrangement of particles of the three physical states of matter differ from each other?
   Solid:
   Liquid:
   Gas:

2. Compare the fluidity and compressibility of the three states of matter based on the force of attraction between particles.

3. Explain why solids have a definite shape but not liquids and gases?

Specific Week: 1-2 (LAS 1)

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IV. An Inner Echo: A call to Action!

DIRECTIONS: Read the article below and relate it to the movement of molecules of the three states of matter. Reflect by answering the guide questions below.

POLLUTION, ARE WE AT RISK?

Pollution is one of the national environmental issues we must attend to. Pollution in the air, water, and land has been a problem in many countries worldwide. When confronted with this issue, our immediate reactions are to blame emissions coming from industries and some establishments, the chemical fertilizers used by farmers, and smoke-belching vehicles.

Contaminants may exist in the form of three phases of matter. Some examples of solid pollutants are garbage, domestic sewage, dust particle, and pollen grains. Liquid chemicals such as pesticides, household products, toxic wastes from factories, and oil spills from gasoline and service stations can go to the different bodies of water and affect aquatic organisms. Smog and gaseous pollutants from transportation and industrial factories spread quickly in the atmosphere.

It is commonly believed that exposure to this fine particle pollution has been linked to various health problems, including respiratory illnesses such as coughing, irritation of the air passage, asthma or difficulty of breathing, reduced visibility for air and land transport, and formation of acid rain.

Guide Questions:

1. What examples of solid, liquid, and gaseous pollutants are mentioned in the article? Give their harmful effects.

POLLUTANTS	EXAMPLE/S	HARMFUL EFFECTS
Solid		
Liquid		
Gas		

2. Why do pollutants spread easily in air and water? Relate your answer to the movement of the particles of the three states of matter.

Think and Reflect:

List three things you can do as a student to minimize the spread of pollutants in the atmosphere.

1.
2.
3.

Specific Week: 1-2 (LAS 1)

Target Competency: Explain the properties of solids, liquids, and gases based on the particle nature of matter. (S8MT-IIa-b-8)