THE STATE OF MATTER

Tujuan pembelajaran

Pada akhir unit ini Anda diharapkan mampu:

1. melafalkan kata-kata kunci dalam bacaan dengan benar;
2. menggunakan kata-kata baru dalam kalimat dengan tepat;
3. mencari pokok pikiran dan informasi penunjang dalam bacaan;
4. menggunakan kalimat 'imperative' dengan benar;
5. mempraktekkan ungkapan 'classroom language' dengan benar;
6. menuliskan kalimat yang didengar dengan tepat; dan
7. membetulkan kalimat yang tidak gramatikal.

1. Give the meaning of these word

No.	Statment	Meaning
1	state of matter	
2	particles	
3	water vapour	
4	vibrate	
5	sufficient	
6	kinetic theory	
7	constant	
8	liquid	
9	reason	
10	shape	
11	similarity	
12	solid form	
13	tiny	

2. Match the word in Column A with its corresponding meaning in Column B.

A		B
1. states of matter	…..	a. mathematical analysis of matter in linear motion
2. water vapour	----	b. move about in a place from side to side quickly and with small movement.
3. kinetic theory of matter	----	c. the form of the matter such as solid, liquid and gas.
4. vibrate	----	d. enough, adequate energy.
5. sufficient energy	----	e. a mass of very small drops of liquid in the air (a gas form of water).

3. Look at the picture below and answer the questions.

4. **Questions:**
    1. How many states of matters can you see from the picture?
    2. How can water be changed into ice?
    3. How do we know the volume of water?
    4. How can wet clothes become dry? Where does the water go?
    5. When we boil water, the water is getting less and less. Why?
5. **Read the text, then answer the questions that follow.**

The State of Matter

There are three states of matter: solid, liquid, and gas. The state of certain matter depends on its temperature. For example, water becomes ice (solid) in the low temperature and water (liquid) in the room temperature. At higher temperature, water changes into water vapour (gas).

Solid. Every solid has unchanged shape and volume. For example, your pencil is still a pencil although it is put in your hand or in a glass. What causes solid to have fixed shape and volume? Kinetic theory of matter states that tiny particles that arrange all matters continuously move. Those solid particles are closely packed and strongly tied by forces between them. This makes the volume of the solid unable to be compressed into smaller volume. Those particles can make their nearest particles to vibrate but they do not have sufficient energy to release them from the bonds. This explains why solid can maintain its shape.

Liquid. If you heat an ice cube in a glass, the ice will soon change into liquid, and the shape will follow the shape of the glass. Liquid flows and its shape are similar with the shape of its container. Nevertheless, like solid, liquid cannot be compressed to make its volume smaller.

Gas. Perhaps you have ever pumped air into a volley ball, a bicycle tire, or blew a balloon. You will see that the air has the same shape as its container. Based on the kinetic theory of matter, gas particles have sufficient energy to separate themselves from other particles. Therefore, those gas particles are free to move to any directions until they spread out evenly to fill the container. Since those particles are not close to each other, they can be compressed into smaller space.

6. Questions:
    1. What is the first paragraph about?
    2. Particles in the solid state cannot move freely. Why?
    3. What are the characteristics of liquid?
    4. What are the characteristics of gas?
    5. What are the differences between particles in solid, liquid, and gas?
6. **Mention three states of matter.**
    a. _____
    b. _____
    c. _____
7. Use imperative for the following situations.

Number 1 has been done for you.

1. You want your friend to close the door.
   You say: *Please close the door.*
2. You want your friend to write down the answer on the board.
   You say: _____
3. You want your friend to be quiet.
   You say: _____
4. You want your friend to stir the solution thoroughly.
   You say:_____

5. You want your friend not to throw the chemical substances into the sink.
   You say: _____
6. You want your friend to come on time.
   You say: _____
7. You want your friend not to be late to submit their assignments.
   You say: _____
8. You want your friend not to be careless in doing experiment.
   You say:_____
9. You want your friend not to spend a long time in doing calculation.
   You say:_____
10. You want your friend to write their report.
    You say:_____
11. Vocabulary

8. Complete the sentences by choosing the right words in the box.

become	similar	separate
arrange	packed	bond
flows	sufficient	spread
release	maintain	lift

1. Solid particles are _____ closely and _____strongly.
2. Solid and liquid states are …… in terms of inability of their particles to attract their closest particles.
3. The particles in solid state cannot …….the neighbouring particles.
4. After raining, water in the river usually …….. very fast.
5. One characteristic of solid states is that they can ……their shape. They do not change.
6. I cannot …….. a heavy stone alone because I do not have …….. energy.
7. When water is put under zero degree Centigrade, it will ……. ice.
8. The particles of gas freely move and …….to all directions.
9. It is a good idea to …….garbage into two categories: wet and dry garbage.

2. Complete the sentences by choosing the right words in the box.

liquid	vibrate	vapoured	
tires	tiny	change	cube

1. Water and kerosene are examples of _____
2. Wet clothes become dry because the water is _____ by sun.
3. This paper is not right for an experiment. Please _____another one.
4. A bicycle has two _____.
5. Stone is big but sand is _____.
6. A dice is in the form of _____.
7. When you beat drums, they _____.

A. ASSESSMENT

Fill in the blank with the appropriate words.

All matters occupy space and have mass. States of matters can be classified into three, namely: (1) _____, _____ and _____. Every solid has constant shape and (2) _____. The cause is that (3) _____ are packed closely and tied strongly. Besides, particles of solid vibrate their closest particles but their energy (4) _____ them from their position. Liquid, similarly, also has (5) _____ volume because its particles are close to each other. However, particles of liquid have (6) _____ to move and roam. That is the reason why the liquid can flow and have (7) _____ as its container. Unlike solid and liquid, gas particles have (8) _____ to oppose the attracting force. That is why, gas particles (9) _____ to any directions and have the same shape as its container. Gas does not have fixed shape and volume.