Name: Class: VII A

State of Matter

Purpose

Explains the differences in characteristics of solids, liquids and gases from the state of the constituent particles.

Problem Statement

In fifth grade of elementary school, you learned about the states of matter. Do you still remember the form of that substance, what are the forms of that substance? Yes, that's right, what are the substances? Yes, that's right, substances come in solid, liquid and gas forms. To start recalling your understanding today, try classifying the pictures of objects below based on their shape!

Solid	Liquid	Gas

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Data Collection

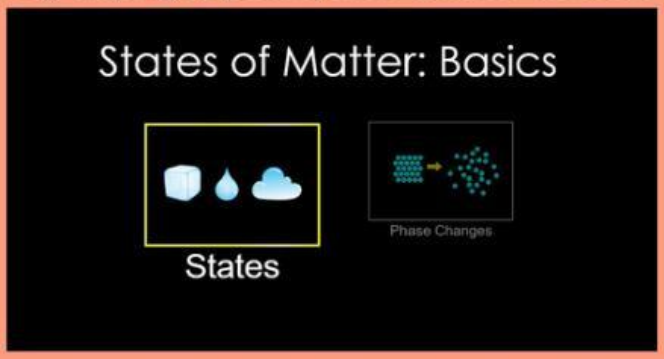
Tools and materials:

1. PhET Interactive Simulations "States of Matter: Bacis"
2. Gadget

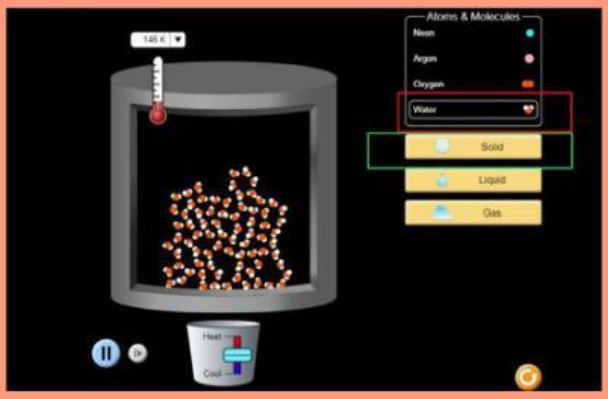
Procedures:

1. Access the following link https://phet.colorado.edu/sims/html/states-of-matter-basics/latest/states-of-matter-basics_en.html or click the icon below.

2. After the following display appears, click "States" to start the experiment.



3. Click "Water" in the "Solid" state and observe how the particles are and write the results into the table.



4. Do the same steps as number 3, but set it to "Liquid" and "Gas"
5. Write down the state of the particles that you have observed when they are in solid, liquid or gaseous form based on their characteristics or properties in the table below.

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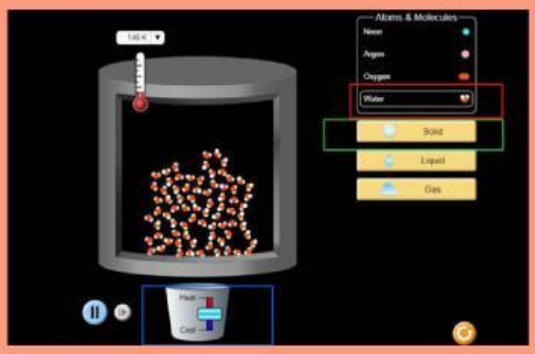
Characteristics	Solid	Liquid	Gas
Shape			
Distance between particles			
Particle bonding			
Particle movement			

6. Click "Water" in the "Solid" state then experiment with the effect of increasing and decreasing the water temperature by moving the button on the bucket.



7. What happens when water in solid form is heated? How does the state of the particles change when viewed from the distance between the particles, the bonding forces between the particles, and the movement of the particles?

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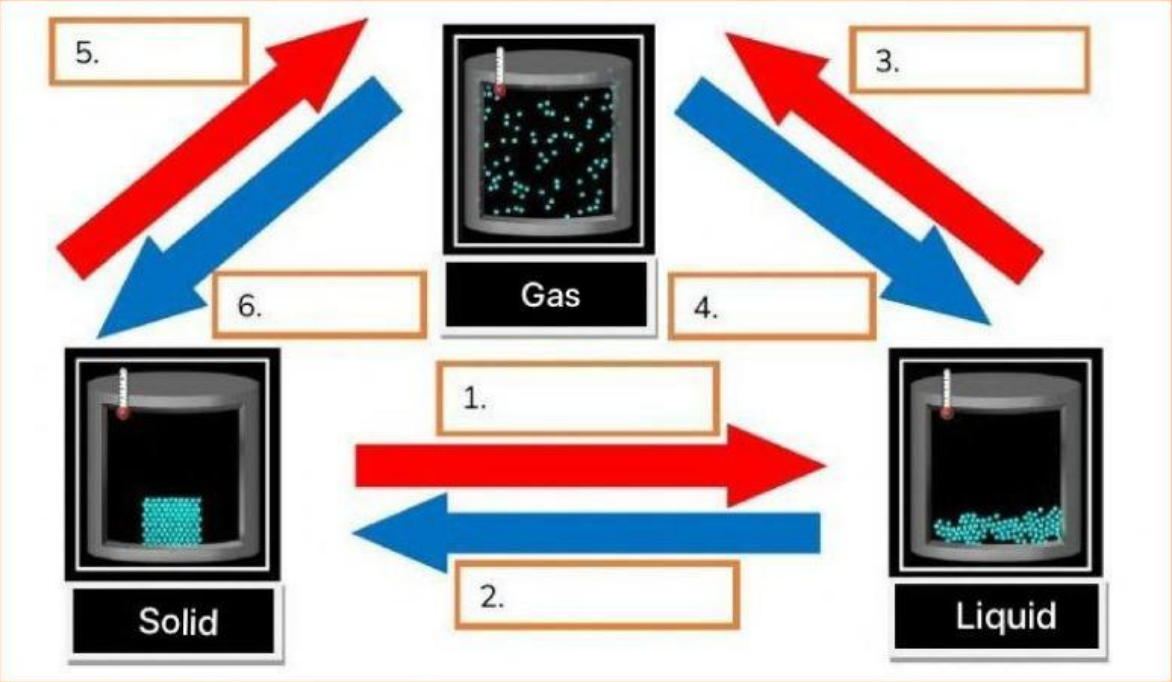
8. Conversely, what happens when water in solid form is cooled? How does the state of the particles change when viewed from the distance between the particles, the bonding forces between the particles, and the movement of the particles?

9. There are certain terms used in the process of changing the state of matter. Complete the following flow of changes in the states of substances by entering the terms provided in the column into the boxes that correspond to the order of changes!



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Generalization

Based on what you have learned in this activity, write the conclusion!

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