Homework – States of Matter

This is a practical Science homework and therefore there is no need to bring anything in, however if you would like to send in any pictures of children exploring one of the following activities at home, it'd be great to see!

1. Ice Cube Experiment: *To understand how solids turn into liquids.*

What you need:

- *1 ice cube*
- *A plate or tray*
- *A timer (optional)*

Instructions:

- *Place the ice cube on a plate at room temperature.*
- *Watch what happens as the ice melts.*

What happens to the ice cube when it gets warmer? What state of matter is the ice cube in before and after it melts?

2. Blow Up a Balloon (Gas Experiment) *To explore how gases fill space.*

What you need:

- *A balloon*
- *Your breath!*

Instructions:

- *Inflate the balloon by blowing air into it.*
- *Feel the balloon and observe what happens.*

What state of matter is the air inside the balloon? Does the balloon change shape? Why do you think that happens?

3. Water Boiling (Liquid to Gas Experiment) *To observe how heat changes a liquid into a gas.*

What you need:

- *A kettle or saucepan with water (with adult supervision)*
- *Heat source (stove or microwave)*

Instructions:

- *Heat the water in the kettle or saucepan.*
- *Watch carefully as the water starts to boil. What do you see?*

Can you see steam? What state of matter is steam? Why do you think the water turns into steam when it gets hot?

4. Make a Freeze and Thaw: *To understand how temperature can change the state of matter.*

What you need:

- *Ice cube tray*
- *Water*

- *Freezer*

Instructions:

- *Fill an ice cube tray with water and put it in the freezer.*
- *After a few hours, take the tray out and observe the ice.*
- *Let it sit at room temperature and watch what happens as the ice melts.*

What are the different states of matter (solid, liquid) of the water at different times?

5. Find Examples Around Your Home: *To identify real-life examples of solids, liquids, and gases.*

Instructions:

Look around your home and find ***one example of a solid***, ***one example of a liquid***, *and* ***one example of a gas***.

- *Why do you think these objects belong in their state of matter?*