

Science lesson Sapphire class 26<sup>th</sup> January 2021

Hello Sapphire Class,

Last week was all about heating and cooling where Miss Couves told you what happens to the behaviour and arrangement of particles when they are heated or cooled. I hope you enjoyed her lesson. Today I would like to focus on **Melting and Freezing**. Watch the clip below to get you started.

[What are freezing and melting? - BBC Bitesize](#)

Then have a look at the five slides attached.

Now can you do the task sheet below and turn it in.

How did you do?







The answers are in the end of the task sheet.

Many thanks

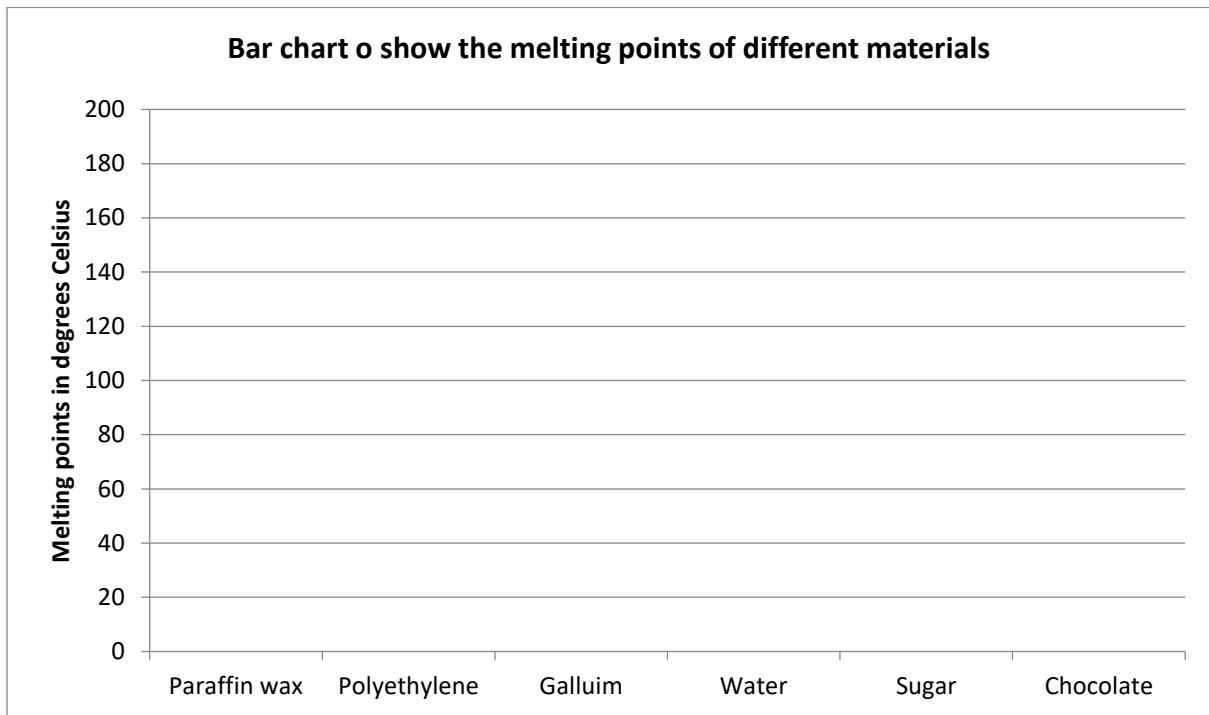
Mrs Kite

**Task sheet:**

Below you find 6 fact cards. Look through them carefully. Please use the information to complete the bar chart and questions below. Use the space provided to add your answers.

<p><b>Paraffin wax</b></p> <p>State at room temperature (22 °C) <b>Solid</b></p>  <p>Properties <b>Soft, can be Moulded easily, can be coloured with dye</b></p> <p>Melting point <b>65 °C</b></p> <p>Uses <b>Candles, crayons, coating cheese, lubricant,</b></p>	<p><b>Polyethylene</b> (a type of plastic)</p> <p>State at room temperature (22 °C) <b>Solid</b></p>  <p>Properties <b>light, flexible or rigid depending on thickness, can be moulded easily</b></p> <p>Melting point <b>150 °C</b></p> <p>Uses <b>Carrier bags, bottles, Insulating electrical wiring</b></p>
<p><b>Gallium</b> (a type of metal)</p> <p>State at room temperature (22 °C) <b>Solid</b></p>  <p>Properties <b>conducts electricity, expands when heated</b></p> <p>Melting point <b>29 °C</b></p> <p>Uses <b>Computer chips, solar panels, batteries, thermometers</b></p>	<p><b>Water</b></p> <p>State at room temperature (22 °C) <b>Liquid</b></p>  <p>Properties <b>safe to drink, other materials can mix or dissolve in it</b></p> <p>Melting point <b>0 °C</b></p> <p>Uses <b>Drinking, cooking, washing and thousands more!</b></p>
<p><b>Sugar</b></p> <p>State at room temperature (22 °C) <b>Solid</b></p>  <p>Properties <b>Can be poured, safe to eat, dissolves in water, sweet!</b></p> <p>Melting point <b>186 °C</b></p> <p>Uses <b>Sweetening and preserving food</b></p>	<p><b>Chocolate</b></p> <p>State at room temperature (22 °C) <b>Solid</b></p>  <p>Properties <b>Can be moulded when melted, delicious!</b></p> <p>Melting point <b>36 °C</b></p> <p>Uses <b>Easter eggs, bars, cakes</b></p>

Please complete the bar chart and questions below. Use the space provided to add your answers.



Use the Materials Fact Cards and the bar chart to help you answer these questions:

1. Which two materials have the closest melting points?
2. Which two materials have melting points the furthest apart?
3. Which is the only material that is not a solid at room temperature?

4. After water, which material would melt soonest if heated?

5. Why is it useful that chocolate has a low melting point?

6. Why is it useful that polyethylene has a high melting point?

7. What will happen to the two different coloured ice cubes on the warm plate? What will happen to the colour? Can you explain what happened?



**Answers:**

1. Gallium 29°C and chocolate 36°C
2. Sugar and water
3. Water
4. Gallium
5. It can melt in our mouth so we can enjoy it even more, we can use it for baking and another cooking activities.
6. So, the plastic water bottle or bag does not melt in the sun, it does not melt when the electrical wire gets hot.
7. Both ice cubes will melt and the colours will mix to give a purple mixture. The ice cube is changing state (solid to liquid). When the ice cube is melting, the particles in the solid ice cube are now moving more freely in the water (the liquid state).

