

7G The Particle Model- Revision Worksheet

State what the 3 **states of matter** are.

Complete the table by describing the **properties** of the **states of matter**.

State what **state of matter** a sponge is and explain why.

Describe what a scientist will do when they have a **hypothesis** and how it then becomes a **theory**.

Describe what a **particle** is and where they are found.

Draw the **particle model** for each **state of matter**.

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Describe the **movement** of the **particles** in each of the particles **models** above.

Explain, using the **particle model**, why **liquids** take the **shape** of their containers but **solids** have a **fixed** shape.

Explain, using the **particle model**, why **gases** are the only **state of matter** than can be **compressed**.

Describe what **Brownian motion** is.

Complete the following table by **converting** between **units**.

Nanometres	Metres
1	
	1
500 000	

State the definition of **diffusion**.

- Describe 3 examples of **diffusion**.
- 1.
 - 2.
 - 3.

Draw a **diagram** to show **diffusion** occurring.

Explain why **diffusion** is faster in **gases** compared to **liquids**.

Describe how you could increase the **rate** of **diffusion** in a **liquid**.

Define the following key words:

Air Pressure	
Vacuum	


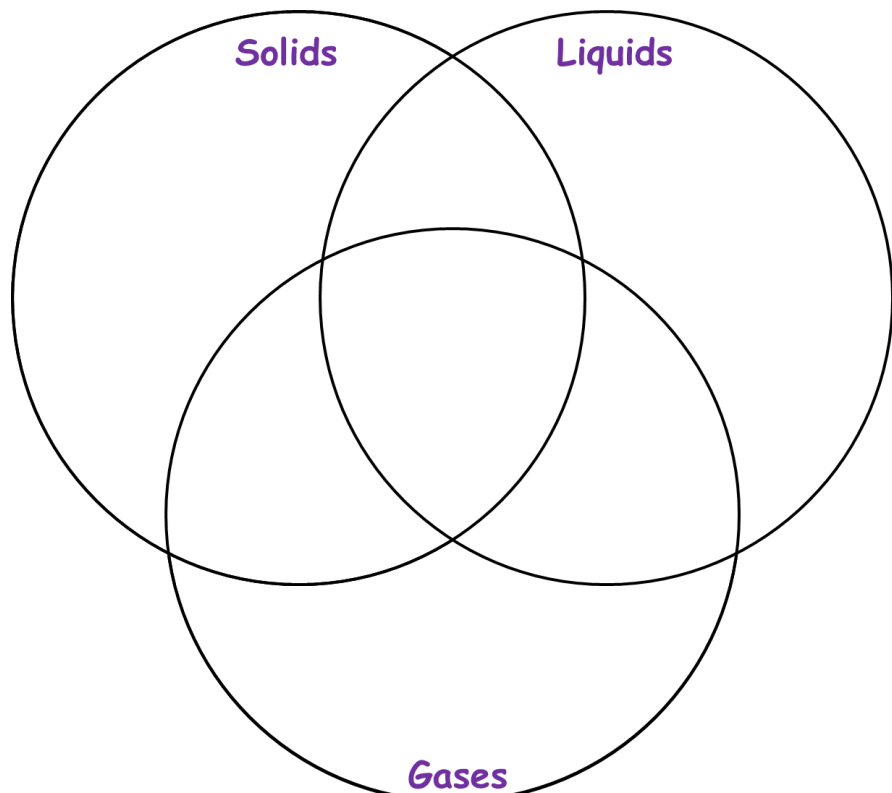
Explain how **air pressure** keeps car tyres inflated.

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Explain, using **particle theory** and **air pressure**, what would happen if you removed all the **air** from inside a metal can.

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Complete the Venn diagram below comparing the **properties** and **particles** in the three **states of matter**.



Describe what happens to the egg above, explain why

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Explain how **methane** can crack the ground in landfill sites.

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Rate the following on how well you think you can do them:



I can...

- Identify adjectives, comparatives and superlatives in sentences.
- Understand how to use adjectives, comparatives and superlatives to measure and compare.
- Name the three states of matter and give examples of each.
- Describe what the three states of matter are like, based on their properties.
- Identify materials that are difficult to classify as solids, liquids or gases.
- Identify scientific questions, hypotheses and predictions.
- Describe how evidence and observations are used to develop a hypothesis into a theory.
- Explain how evidence is used to support (or not support) a certain theory.
- Recognise that all matter is made up of particles.
- Describe, draw and recognise the arrangement of particles in solids, liquids and gases.
- Use the particle theory to explain the properties of the three states of matter.
- Explain how Brownian motion supports particle theory.
- Explain how scientific theories evolve.
- Convert between nanometres and metres.
- State what is meant by diffusion and recall some of its effects.
- Use particle theory to explain diffusion in liquids and gases.
- Use particle theory to explain why diffusion is faster in some materials than in others.
- Say what is meant by gas pressure and recall some its effects.
- Describe the cause of gas pressure using particle theory.