

Complete the following table by drawing particle diagrams for the three states of matter and describing their relative density.

State of matter	Particle model	Relative density
Solid		
Liquid		
Gas		

What is the equation for density and what are its units?

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## Particle models of matter

Explain why changes of state are physical changes not chemical changes.

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What is the difference between internal energy and temperature?

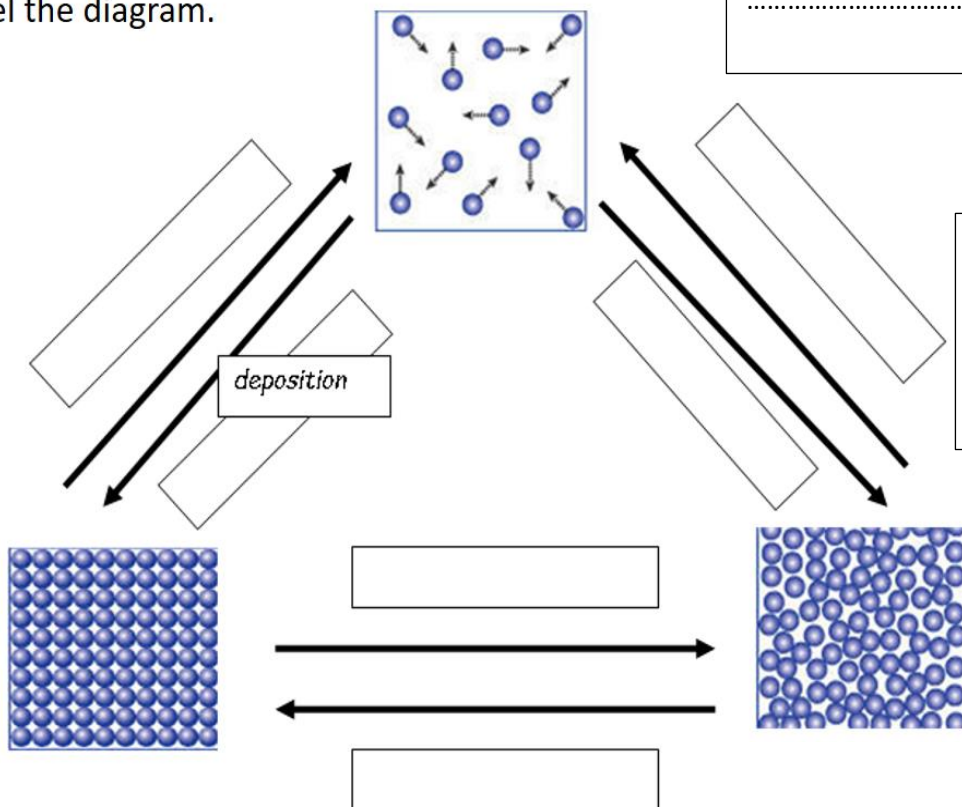
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A lit head of a match v the Atlantic ocean. Which has the highest temperature and which the highest internal energy? Explain your answer

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Label the diagram.



Explain why mass is conserved during a change of state.

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In the space below sketch the changes of state curve of some wax. Label the different states of matter and where the changes of state are happening.

Explain when changing state the internal energy of a substance changes but the temperature of the substance does not.

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What is specific heat capacity and what is the specific heat capacity equation?

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Describe how particles move in gases.

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What causes pressure?

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 Why are storage heaters made from concrete?


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**Particle models of matter**

 Explain why a balloon inflates when you blow into it.

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 Why does a balloon deflate when left for a while?

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What is specific latent heat and what is the specific latent heat equation?

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 For which changes of state do you use the specific latent heat of vaporisation; and for which do you use the latent heat of fusion?

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Describe and explain how increasing the temperature of a gas at constant volume changes the pressure of the gas.

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