On your answer sheet, write in or circle the correct letter for each question.

8Ia

1 These statements are about the particle model of matter. Which one is *not* correct?

A Liquids are hard to compress because their particles are very close together.

B Gases expand to fill their container because there are only weak forces between the particles.

C Liquids can flow because there are only very weak forces between the particles.

D Solids have a fixed shape because there are very strong forces between the particles.

2 Why do solids expand when they are heated?

A The particles get bigger.

B The particles vibrate more and take up more space.

C The particles vibrate more and get closer together.

D The particles stick together.

3 Density is:

A the weight of a fixed mass of something.

B the volume of a fixed weight of something.

C the weight of a fixed volume of something.

D the mass of a fixed volume of something.

4 What happens to the density of a block of iron when it is heated?

A It increases, because the volume increases.

B It increases, because the volume decreases.

C It decreases, because the volume increases.

D It decreases, because the volume decreases.

8Ib

1 When liquid water changes into steam it is:

A evaporating.

B condensing.

C melting.

D dissolving.

2 What happens to the temperature of the water in a beaker when it is boiling?

A It goes up.

B It stays the same.

C It goes down.

D It all depends on how hot the water was to start with.

3 In what way is ice different to other solid materials?

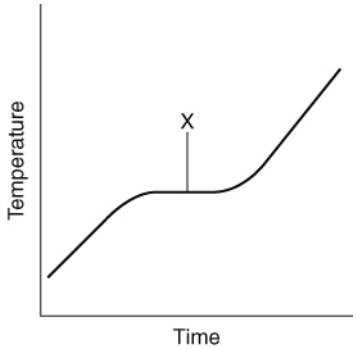
A It is colder.

B It occurs naturally.

C Ice (solid water) is less dense than liquid water.

D The density of ice does not change when it is cooled down.

4 Jo heats a beaker of water and draws a graph to show how its temperature changes. Which sentence explains the shape of the graph at point X?



A The particles in the solid are breaking apart and releasing energy.

B The liquid is giving out the energy needed to break the bonds between particles.

C The energy is breaking the bonds between the particles in the gas instead of making the gas hotter.

D The energy is breaking the bonds between the particles in the liquid instead of making the liquid hotter.

8Ic

1 The pressure in liquids and gases is caused by:

A the particles pressing down.

B the particles pushing up.

C the particles moving sideways.

D the particles moving in all directions and colliding with things.

2 When a gas is compressed:

A the particles bump into the walls of the container less often.

B the pressure drops.

C the particles become more spread out.

D the pressure increases.

3 Why does a submarine need to be stronger than a ship of the same size?

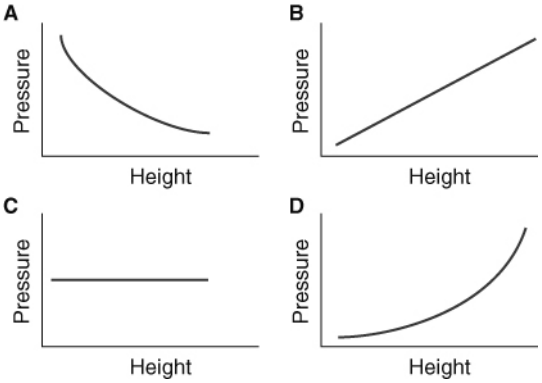
A Water pressure is greater near the surface of the water.

B There is more water pressure at the bottom of the sea.

C Submarines carry more cargo than ships.

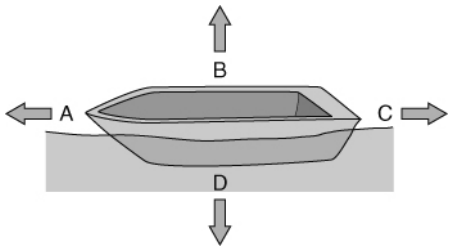
D Water pressure decreases with depth.

4 Which graph shows how air pressure changes with height?



8Id

1 Which of these forces is the upthrust?



2 How can you work out whether or not an object will float in water?

A Find its weight.

B Find its mass.

C Compare its volume with the volume of water.

D Compare its density with the density of water.

3 Why does a hot air balloon float in air?

A Air is less dense than water.

B The density of hot air is less than the density of cold air.

C Air is denser on cold days.

D The overall density of the balloon and its basket is less than the density of the air.

4 Blocks of the same size but different materials are floating in a tank of water. There is more of block A beneath the surface than there is of block B. Which statement is correct?

A Block B is denser than block A.

B Both blocks have a density greater than 1 g/cm^3.

C Block A is denser than block B.

D You cannot say anything about their densities based on this information.

8Ie

1 The air resistance of a car can be reduced by:

A making the car bigger.

B giving it a streamlined shape.

C making the car heavier.

D putting a roof box on it.

2 Which statement about air resistance is true?

A If speed increases, air resistance decreases.

B If speed increases, air resistance increases.

C If speed decreases, air resistance increases.

D Speed has no effect on air resistance.

3 A car needs a forwards force to keep moving because:

A everything needs a force to keep moving.

B gravity is trying to slow it down.

C it needs a force to balance friction and air resistance.

D weight balances friction.

4 Air resistance on a moving object is caused by:

A air being attracted to the object.

B air particles hitting or moving around the object.

C the wind.

D air pressure.