Heating and cooling

Energy 3.3.4 | Part 2, usually Year 8 | 20 quick questions

KS3 science quick questions

Answer online, marked instantly

Activate 2: Energy | Exploring Science 8K

Name: _____ **Date:** _____ **Score:** _____ **/ 20**

1 Two pans of water are both at 60 °C. Pan A holds 1 kg of water and pan B holds 3 kg. Which pan, A or B, has more energy in its thermal store?

2 In school science, which unit is temperature usually measured in?

3 A hot mug of cocoa is left in a cool kitchen. Does energy move into the cocoa or out of it?

4 Particles in a solid vibrate and pass energy on to the particles next to them. What is this way of transferring energy called?

5 Warm water at the bottom of a pan rises and cooler water sinks to take its place. What is this way of transferring energy called?

6 Which way of transferring energy can travel through empty space, like from the Sun to the Earth?

7 A material that lets energy pass through it easily by conduction is a good thermal ...?

8 A material such as wool or foam that slows down the transfer of energy is called a thermal ...?

9 Which group of materials are usually the best thermal conductors?

10 A fluffy duvet is a good insulator mainly because it traps lots of what?

11 Two objects are at the same temperature, so there is no overall flow of energy between them. They are in thermal ...?

12 When a substance is heated, do its particles move faster or slower?

13 A black car and a white car are parked side by side in strong sunshine. Which one gets hotter inside?

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14 In which two states of matter can convection happen?

15 Warm air rises because it is less ... than the cooler air around it. Fill in the missing word.

Year 9 stretch

16 Which has more energy in its thermal store: a full bath of water at 40 °C or a small cup of tea at 80 °C?

17 A vacuum flask has a gap with no air in it between two walls. Which two ways of transferring energy can that gap stop?

18 Runners are wrapped in shiny foil blankets after a race. Which way of losing energy does the shiny surface mainly reduce?

19 A can of drink at 5 °C is left in a room at 21 °C. What will its temperature be after many hours? Give your answer in °C.

20 A radiator is fixed on one wall of a cold room. Explain how it warms up the air across the whole room.

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