

10. Clay is often used to make stew pots and tea pots with the purpose of keeping the food warm over long periods of time.

Which statement best explains why clay is used?

- A Clay is a good conductor of heat
  - B Clay is a poor conductor of heat
  - C Clay has smooth surface
  - D Clay is a good absorber of heat radiation
11. 100g of water, initially at  $80^{\circ}\text{C}$ , is poured into an aluminium can of mass 100g, initially at  $40^{\circ}\text{C}$ . When thermal equilibrium between the water and the aluminium is attained, the temperature is most likely

- A.  $80^{\circ}\text{C}$       B. Between  $60^{\circ}\text{C}$  and  $80^{\circ}\text{C}$       C.  $60^{\circ}\text{C}$       D. Between  $40^{\circ}\text{C}$  and  $60^{\circ}\text{C}$

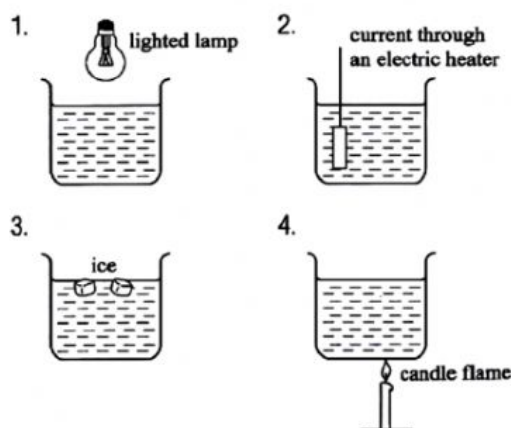
12. Which of following does **not** involve convection?

- A boiling water with a Bunsen burner at the bottom
- B fixing air conditioner at the top of the room
- C frying food with a pan
- D land breeze and sea breeze

13. Density changes in fluids are involved in \_\_\_\_\_

- A convection only
- B conduction only
- C radiation only
- D conduction, convection and radiation

14. The diagram shows four beakers of water with different set-ups.



In which beakers will convection currents be formed in the water?

- A 4 only
- B 2 and 4 only
- C 2, 3 and 4 only
- D All of the above

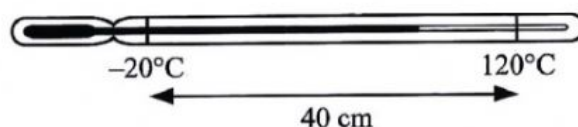
15. What is  $478^{\circ}\text{C}$  in the absolute scale?

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16. What modification can be made to a liquid-in-glass thermometer to make it more sensitive?

- A. make the thermometer longer
- B. make the bulb smaller
- C. make the capillary tube inside thinner
- D. make the bulb bigger

17. The diagram below shows a mercury-in-glass thermometer. The distance between the  $-20^{\circ}\text{C}$  mark and the  $120^{\circ}\text{C}$  mark is 40 cm.



If the mercury thread reaches 32 cm away from the  $-20^{\circ}\text{C}$  mark, what is the temperature that the thermometer is measuring?

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18. A substance at  $-20^{\circ}\text{C}$  was raised in temperature to  $289^{\circ}\text{C}$ . What is the corresponding change in temperature in Kelvin?

- A. 269 K
- B. 309 K
- C. 542 K
- D. 582 K

19. John found that 4800 J is needed to raise the temperature of 150 g of liquid from  $20^{\circ}\text{C}$  to  $100^{\circ}\text{C}$ .

What is the specific heat capacity of the liquid?

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20. The specific heat capacity of copper is  $400 \text{ J/kg } ^{\circ}\text{C}$ . A 5.0 kg copper solid is being heated from  $25^{\circ}\text{C}$  to  $50^{\circ}\text{C}$ . How much heat was transferred to the copper during the heating process?

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