

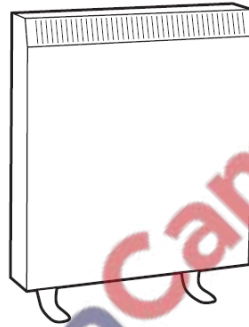
1. 0625/11/M/J/19/No.16

What happens when a metal block is heated?

- A Its breadth, height and length all increase.
- B Its width increases only.
- C Its height increases only.
- D Its length increases only.

2. 0625/11/12/13&21,22,23/M/J/19/No.17,15

A night storage heater contains a large block of material that is heated electrically during the night. During the day the block cools down, releasing thermal energy into the room.

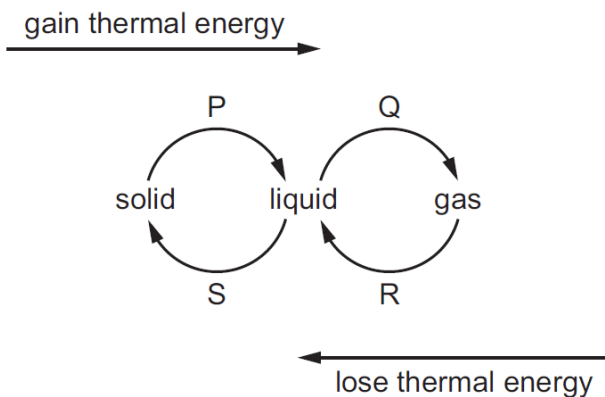


Which thermal capacity and which night-time temperature increase will cause the most energy to be stored by the block?

	thermal capacity of block	night-time temperature increase
A	large	large
B	large	small
C	small	large
D	small	small

3. 0625/11/M/J/19/No.18

The diagram shows the changes of state P, Q, R and S that occur in solids, liquids and gases when they gain or lose thermal energy.

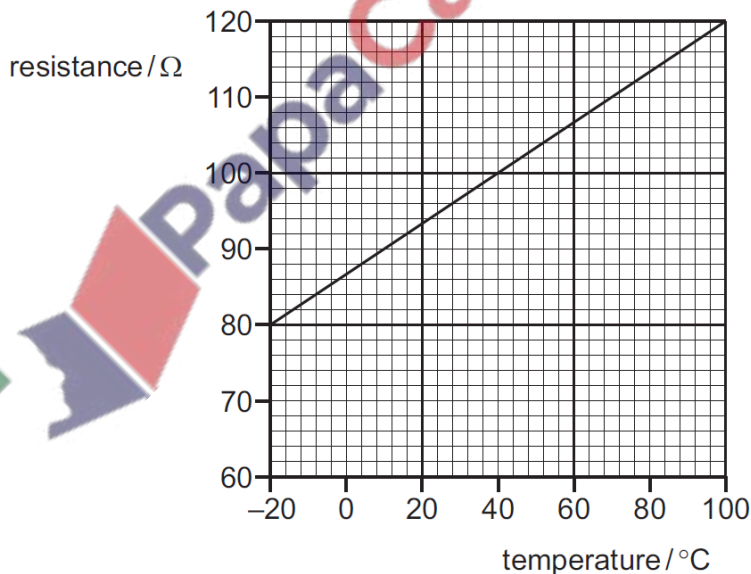


What is the name of change R?

- A condensation
- B solidification
- C boiling
- D melting

4. 0625/12/M/J/19/No.16

The resistance of a resistor varies linearly with temperature as shown on the graph.



Which statement is correct?

- A When immersed in boiling water, the resistance is $120\ \Omega$.
- B The resistance at the lower fixed point is $80\ \Omega$.
- C When the resistance is $100\ \Omega$ the temperature is $120\ ^{\circ}\text{C}$.
- D The resistor can only be used at temperatures between $0\ ^{\circ}\text{C}$ and $100\ ^{\circ}\text{C}$.

5. 0625/12/M/J/19/No.18

Which row describes the process of condensation?

	change of state	separation of molecules
A	gas to liquid	decreases
B	gas to liquid	increases
C	liquid to gas	decreases
D	liquid to gas	increases

6. 0625/13/M/J/19/No.16

Here are three statements about a liquid-in-glass thermometer with a Celsius scale.

- 1 The lower fixed point is the temperature at which pure water freezes.
- 2 The upper fixed point is the temperature at which pure water boils.
- 3 A scale is made by dividing the distance between the fixed points into equal divisions.

Which statements are correct?

- A** 1 and 2 only **B** 2 and 3 only **C** 1 and 3 only **D** 1, 2 and 3

7. 0625/13/M/J/19/No.18

A student investigates the melting point of a pure substance. She heats the substance slowly and takes readings of its temperature as the substance starts to melt and when it finishes melting.

Which statement is correct?

- A** The temperature decreases slightly as the substance melts.
B The temperature fluctuates as the substance melts.
C The temperature increases as the substance melts.
D The temperature stays the same as the substance melts.

8. 0625/21,22,23/M/J/19/No.16
100 g of water at 25 °C is poured into an insulating cup. 50 g of ice at 0 °C is added to the water. The water is stirred until the temperature of the water has fallen to 0 °C.

18 g of ice remains unmelted.

The specific heat capacity of water is 4.2 J/g °C.

Which value does this experiment give for the specific latent heat of fusion of ice?

- A 210 J/g B 330 J/g C 580 J/g D 770 J/g

9. 0625/21/M/J/19/No.17

In which does thermal conduction **not** occur?

- A a gas
B a liquid
C a solid
D a vacuum

10. 0625/12/F/M/19/No.15

On a cold day, a metal measuring tape graduated in millimetres is used to measure the distance between two fence posts. The measuring tape reads 3.000 m.

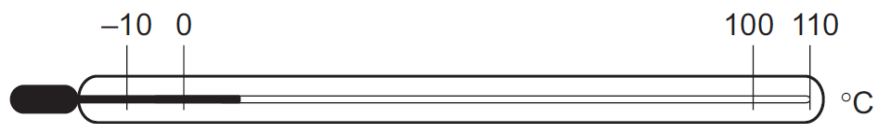
On a much hotter day, the metal measuring tape is used to measure the length of the same distance again. The metal measuring tape has a higher temperature than the ground. The temperature of the ground remains constant.

Which statement is correct?

- A The measuring tape reads less than 3.000 m because the graduations are closer together.
B The measuring tape reads less than 3.000 m because the graduations are further apart.
C The measuring tape reads more than 3.000 m because the graduations are closer together.
D The measuring tape reads more than 3.000 m because the graduations are further apart.

11. 0625/12, 22/F/M/19/No.16, 17

A thermometer has graduations which start at -10°C and end at 110°C .



What is the lower fixed point and what is the upper fixed point of the Celsius scale?

	lower fixed point $/^{\circ}\text{C}$	upper fixed point $/^{\circ}\text{C}$
A	-10	100
B	-10	110
C	0	100
D	0	110

12. 0625/12/F/M/19/No.17

Which row describes the process of melting?

	initial state	final state	change in temperature?
A	liquid	gas	yes
B	liquid	solid	no
C	solid	gas	yes
D	solid	liquid	no

13. 0625/22/F/M/19/No.18

A 1 kg block of aluminium requires more thermal energy to raise its temperature by 1°C than a 1 kg block of copper requires.

Why is this?

- A** Aluminium is a better conductor of thermal energy than copper.
- B** Aluminium is a poorer conductor of thermal energy than copper.
- C** Aluminium has a higher specific heat capacity than copper.
- D** Aluminium has a lower specific heat capacity than copper.