

Specific Heat

Total questions: 21

Worksheet time: 27mins

Name _____

Class _____

Date _____

1. The amount of energy required to raise the temperature 1°C for every kilogram is called ____?
a) Thermal Energy b) Specific Heat
c) Temperature d) Kinetic Energy

2. What is the symbol for Thermal Energy?
a) Q b) t
c) m d) C

3. What unit do you use to measure Thermal Energy?
a) J/Kg $^{\circ}\text{C}$ b) Kg
c) $^{\circ}\text{C}$ d) J

4. What is the symbol for Specific Heat
a) Q b) t
c) m d) C

5. What is the equation to measure change in Thermal Energy?
a) $Q=mc\Delta t$ b) $Q=mc$
c) $Q= \Delta mct$ d) $m=QC$

6. Water has a specific heat of 4184 J/Kg $^{\circ}\text{C}$. Wood has a specific heat of 1760 J/Kg $^{\circ}\text{C}$. What material needs more energy to raise the temperature 1°C
a) Wood b) Water
c) Both are the same

Material	Specific heat capacity (c_m) (J/kg°C)
Aluminum	900
Copper	385
Brass	380
Zinc	380
Carbon Steel	490
Chromium Steel	443
Stainless Steel (AISI 304)	477
Stainless Steel (AISI 316)	468

7. Copper, Stainless Steel, Carbon Steel, and Zinc were all heated using the same thermal energy. What material would be the coolest after being heated?

- a) Copper
- b) Carbon Steel
- c) Zinc
- d) Stainless Steel

8. What does temperature measure?

- a) Heat
- b) °C
- c) Kinetic Energy
- d) Thermal Energy

9. How does heat flow?

- a) Always from cold to warm
- b) Always from warm to cold
- c) Both warm to cold & cold to warm
- d) It depends on the temperature

10. A high specific heat means...

- a) It requires less energy to change temperature
- b) It requires more energy to change temperature
- c) It heats up very quickly

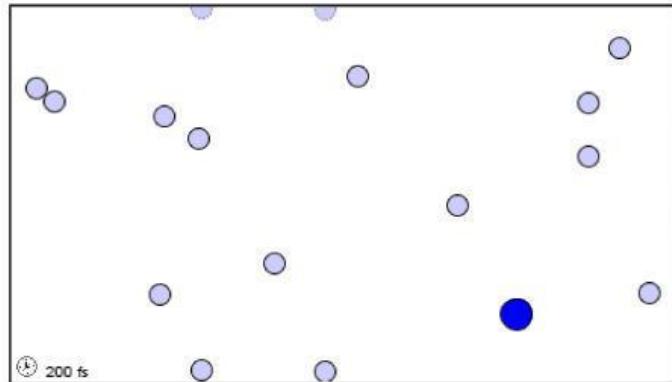
11. When a piece of aluminum foil is taken out of the oven and cools from 100°C to 50°C, What is the change in temperature?

- a) 50°
- b) 0°
- c) 100°
- d) 150°

12. What is Specific Heat?

- a) The amount of thermal energy required to increase the temperature of 1kg of a material by 1°C.
- b) The amount of radiant energy required to increase the temperature of 1kg of a material by 1°C
- c) The amount of energy required to increase the temperature of 1kg of a material by 1°C.
- d) The amount of friction required to increase the temperature of 1kg of a material by 1°C.

13.



What would be the effect on the particles if more heat is supplied to the system?

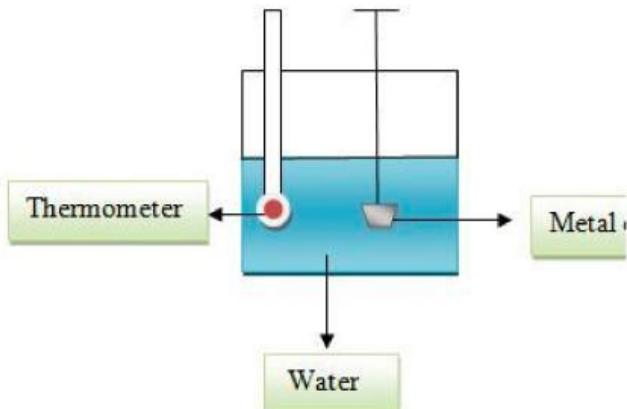
- a) They would slow down
- b) They would stop moving
- c) They would speed up
- d) There would be no effect

14. If two objects have different temperatures when they come in contact, heat will flow from the warmer object to the cooler one UNTIL _____

- a) one reaches a temperature of zero
- b) they both have an equal temperature
- c) one runs out of energy

15. The amount of energy required to raise the temperature 1°C for every kilogram is called _____?

- a) Thermal Energy
- b) Specific Heat
- c) Temperature
- d) Kinetic Energy



16.

A metal cube at temperature of 70°C is immersed in water at temperature of 20°C. The metal _____ heat while the water _____ heat.

17. A high specific heat means...

- a) It heats up quickly with energy added
- b) It requires more energy to change temperature

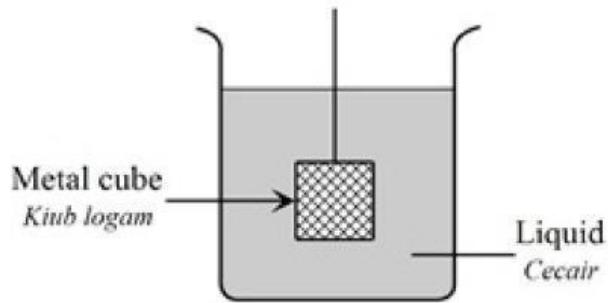
18. What does temperature measure?

19. Specific heat is....

- a) The measure of kinetic energy of an objects particles
- b) A measure of the energy needed to increase the average kinetic energy of the particles
- c) The heating caused by the motion of fluid due to temperature difference
- d) The transfer of energy by electromagnetic radiation

20. A high specific heat means...

- a) It requires less energy to change temperature
- b) It requires more energy to change temperature
- c) It heats up very quickly



21.

A metal cube at temperature of 10°C immersed in a liquid at temperature of 70°C .

What is the temperature of the metal cube when thermal equilibrium is achieved between the cube and the liquid?

- a) Between 10°C and 70°C
- b) More than 70°C
- c) Less than 10°C
- d) Same as the room temperature