

6th Science Lesson 7 Questions in English

7] Heat

1. Which of the following are the sources of heat?

- 1) Sun
- 2) Combustion
- 3) Friction
 - a) 1, 2
 - b) 2, 3
 - c) 1, 2, 3
 - d) 1, 3

Explanation

Sources of heat

- 1) Sun
- 2) Combustion (Burning)
- 3) Friction
- 4) Electricity

2. Which of the following statement is correct?

- 1) We cannot generate heat by rubbing two surfaces of some substances.
- 2) In the past people used to rub two stones together to light fire.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

We can generate heat by rubbing two surfaces of some substances. In the past people used to rub two stones together to light fire.

3. Which of the following is correct?

- 1) When electric current flows through a conductor, heat energy is produced.
- 2) The water heater, iron box, electric kettle etc., work on the principle of electromagnetic induction.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

When electric current flows through a conductor, heat energy is produced. The water heater, iron box, electric kettle etc., work on this principle.

4. Which of the following is the property of heat?

- 1) Heat is not a matter.
 - 2) It does occupy space
 - 3) It has no weight
- a) 1, 3
 - b) 2, 3
 - c) 1, 2, 3
 - d) 1, 2

Explanation

Heat is not a matter. It doesn't occupy space. It has no weight. Like light, sound and electricity, heat is a form of energy.

5. Which of the following statement is correct?

- 1) Molecules in objects are constantly vibrating or moving inside objects.
 - 2) When we heat the object this vibration and movement of molecules increases and temperature of the object also increases.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Molecules in objects are constantly vibrating or moving inside objects. We cannot see that movement with our naked eye. When we heat the object this vibration and movement of molecules increases and temperature of the object also increases.

6. Which of the following is the unit of heat?

- 1) Joule
 - 2) Calorie
 - 3) Farad
- a) 1, 2
 - b) 1, 2, 3
 - c) 1, 3
 - d) 2, 3

Explanation

Heat is the total kinetic energy of constituent particles of objects. SI Unit of Heat is joule. The unit calorie is also used.

7. What is the SI unit of heat?

- a) Joule
- b) Calorie
- c) Kelvin
- d) Fahrenheit

Explanation

Heat is the total kinetic energy of constituent particles of objects. SI Unit of Heat is joule. The unit calorie is also used.

8. Heat is the total_____ energy of constituent particles of objects.

- a) Mechanical
- b) **Kinetic**
- c) Potential
- d) All the above

Explanation

Heat is the total kinetic energy of constituent particles of objects. SI Unit of Heat is joule. The unit calorie is also used.

9._____ are used to measure temperature accurately and quantitatively

- a) Barometer
- b) **Thermometer**
- c) Dynamometer
- d) Ammeter

Explanation

Measuring temperature by touching is not correct. Thermometers are used to measure temperature accurately and quantitatively.

10. The measurement of warmness or coldness of a substance is known as its_____

- a) Heat
- b) Coldness
- c) **Temperature**
- d) All the above

Explanation

The measurement of warmness or coldness of a substance is known as its Temperature. SI unit of temperature is kelvin. Celsius and Fahrenheit are the other units used. Celsius is called as Centigrade as well.

11. What is the SI unit of Temperature?

- a) Fahrenheit
- b) Celsius
- c) **Kelvin**
- d) Centigrade

Explanation

SI unit of temperature is kelvin. Celsius and Fahrenheit are the other units used. Celsius is called as Centigrade as well.

12. Which of the following are the units of temperature?

- 1) Fahrenheit
 - 2) Celsius
 - 3) Kelvin
- a) 1, 2
 - b) **1, 2, 3**
 - c) 1, 3
 - d) 2, 3

Explanation

SI unit of temperature is kelvin. Celsius and Fahrenheit are the other units used. Celsius is called as Centigrade as well.

13. Which of the following statement is correct?

- 1) SI unit of temperature is Fahrenheit
 - 2) Temperature determines the direction of flow of heat when two bodies are not in contact.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) **None**

Explanation

SI unit of temperature is kelvin. Celsius and Fahrenheit are the other units used. Celsius is called as Centigrade as well. It determines the direction of flow of heat when two bodies are placed in contact.

14. Water boils at_____ ° C.

- a) 0
- b) 100
- c) 30
- d) 45

Explanation

Normally, the room temperature of water is approximately 30° C. When we heat water, its temperature raises and it boils at 100°C. If we cool the water, it freezes at 0° C.

15. At what temperature freezes?

- a) 20° C
- b) 30°C
- c) 0° C
- d) 100° C

Explanation

Normally, the room temperature of water is approximately 30° C. When we heat water, its temperature raises and it boils at 100° C. If we cool the water, it freezes at 0° C.

16. Our normal body temperature is_____

- a) 37° C
- b) 30° C
- c) 108° C
- d) 102° C

Explanation

The minus sign (–) is used when the temperature falls below the freezing point of water, which is 0° C. If water becomes ice at 0° C, you can imagine how cold – 89° C would be. Our normal body temperature is 37° C. Our body feels cool if the air temperature is around 15 to 20 degree Celsius.

17. Which of the following statement is correct?

- 1) The minus sign (–) is used when the temperature falls below the freezing point of water, which is 0° C.
- 2) The thermometer should not touch the vessel in which the water is being heated. Otherwise the thermometer will be broken at high temperature.

- a) 1 alone
- b) 2 alone
- c) 1, 2
- d) None

Explanation

The thermometer should not touch the vessel in which the water is being heated. Otherwise the thermometer will be broken at high temperature. The minus sign (–) is used when the temperature falls below the freezing point of water, which is 0°C. If water becomes ice at 0°C, you can imagine how cold – 89°C would be. Our normal body temperature is 37°C. Our body feels cool if the air temperature is around 15 to 20 degree Celsius.

18. Our body feels cool if the air temperature is around ____ degree Celsius.

- a) 15 to 20
- b) 15 to 25
- c) 5 to 15
- d) 10 to 17

Explanation

The minus sign (–) is used when the temperature falls below the freezing point of water, which is 0°C. If water becomes ice at 0°C, you can imagine how cold – 89°C would be. Our normal body temperature is 37°C. Our body feels cool if the air temperature is around 15 to 20 degree Celsius.

19. Which of the following statement is incorrect?

- 1) Heat and temperature are the same thing
 - 2) Heat measures the total Kinetic Energy of the molecules in the substance.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Heat and temperature are not the same thing, they in fact mean two different things. Heat measures the total Kinetic Energy of the molecules in the substance.

20. _____ is related to how fast the atoms or molecules move or vibrate within the substance

- a) Temperature
- b) Heat
- c) Both a and b
- d) None

Explanation

Temperature is related to how fast the atoms or molecules move or vibrate within the substance.

21. _____ measures the average kinetic energy of molecules.

- a) Heat
- b) Temperature**
- c) Both a and b
- d) None

Explanation

Temperature measures the average kinetic energy of molecules. Heat measures the total Kinetic Energy of the molecules in the substance.

22. Which of the following statement is correct?

- 1) Heat not only depends on the temperature of the substance but also depends on how many molecules are there in the object
 - 2) Temperature is related to how fast the atoms or molecules move or vibrate within the substance.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2**
 - d) None

Explanation

Temperature is related to how fast the atoms or molecules move or vibrate within the substance. Heat not only depends on the temperature of the substance but also depends on how many molecules are there in the object.

23. Total heat is measured by _____

- a) Kelvin
- b) Centigrade
- c) Calorie**
- d) None

Explanation

Total heat is measured by calorie, the amount of heat needed to raise one gram of water by one degree centigrade.

24. Water 'flows' when there is a difference in the _____ in different places

- a) 'levels' of water
- b) Temperature
- c) Both a and b
- d) None

Explanation

Water 'flows' when there is a difference in the 'levels' of water in different places. It does not matter if there is more water in one place or another.

25. Which of the following statement is incorrect?

- 1) Water 'flows' when there is a difference in the 'levels' of water in different places. It does not matter if there is more water in one place or another.
- 2) Water from a puddle can flow into a reservoir or the other way around.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Water 'flows' when there is a difference in the 'levels' of water in different places. It does not matter if there is more water in one place or another. Water from a puddle can flow into a reservoir or the other way around.

26. Which of the following statement is correct?

- 1) The 'temperature' of an object is like the water level – it determines the direction in which 'heat' will flow.
- 2) Heat energy flows from higher temperature to lower temperature.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

The 'temperature' of an object is like the water level – it determines the direction in which 'heat' will flow. Heat energy flows from higher temperature to lower temperature.

27. Which of the following statement is incorrect?

- 1) Two objects are said to be in thermal contact if they can exchange heat energy. T
- 2) Thermal equilibrium exists when two objects in thermal contact no longer affect each other's temperature.

- a) 1 alone
- b) 2 alone
- c) 1, 2
- d) **None**

Explanation

Two objects are said to be in thermal contact if they can exchange heat energy. Thermal equilibrium exists when two objects in thermal contact no longer affect each other's temperature.

28. Most substances_____ when heated

- a) **Expand**
- b) Contract
- c) First expand then contract
- d) None

Explanation

Most substances expand when heated and contract when cooled. The change in length / area or volume (due to contraction / expansion) is directly related to temperature change.

29. Substance_____ when Cooled

- a) Expand
- b) **Contract**
- c) First expand then Contract
- d) None

Explanation

Most substances expand when heated and contract when cooled. The change in length / area or volume (due to contraction / expansion) is directly related to temperature change.

30. Which of the following is directly related to temperature change?

- 1) change in length
- 2) change in area
- 3) change in volume
- a) 1, 2
- b) **1, 2, 3**
- c) 2, 3
- d) None

Explanation

Most substances expand when heated and contract when cooled. The change in length / area or volume (due to contraction / expansion) is directly related to temperature change.

31. The expansion of a substance on heating is called, the thermal_____ of that substance.

- a) **thermal expansion**
- b) thermal contraction
- c) both a and b
- d) none

Explanation

The expansion of a substance on heating is called, the thermal expansion of that substance.

32. When solid is heated it expands in_____

- a) **all directions**
- b) Opposite to the heating side
- c) On the side of heating
- d) None

Explanation

A solid has a definite shape, so when a solid is heated, it expands in all directions i.e., in length, area and volume, all increase on heating.

33. The expansion in length is called_____ expansion

- a) **Linear**
- b) Rectilinear
- c) Cubical
- d) Vertical

Explanation

The expansion in length is called linear expansion and the expansion in volume is called cubical expansion.

34. The expansion in volume is called_____ expansion.

- a) Linear
- b) **Cubical**
- c) Vertical
- d) None

Explanation

The expansion in length is called linear expansion and the expansion in volume is called cubical expansion.

35. Why is a small gap left between two lengths of railway lines?

- a) To avoid expansion of track during summer
- b) To avoid contraction of track during summer
- c) Both a and b
- d) None

Explanation

A small gap is left between two lengths of the railway line to avoid the track resignment due to the heat expansion of metal.

36. The diameter of the iron ring is___ that of the wooden wheel.

- a) slightly less than
- b) slightly greater than
- c) equal
- d) none

Explanation

The diameter of the iron ring is slightly less than that of the wooden wheel. Therefore, it cannot be easily slipped on from the rim of wooden wheel.

37. Which of the following statement is correct?

- 1) The iron ring is, therefore, first heated to a higher temperature so that it expands in size and the hot ring is then easily slipped over to the rim of the wooden wheel.
 - 2) Cold water is now poured on the iron ring so that it contracts in size and holds the wooden wheel tightly
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

The iron ring is, therefore, first heated to a higher temperature so that it expands in size and the hot ring is then easily slipped over to the rim of the wooden wheel. Cold water is now poured on the iron ring so that it contracts in size and holds the wooden wheel tightly.

38. Rivets are used to join_____ steel plates together.

- a) 2

- b) 4
- c) 5
- d) 3

Explanation

Rivets are used to join two steel plates together. Hot rivet is driven through the hole in the plates. One end of the rivet is hammered to form a new rivet head. When cooled, the rivet will contract and hold the two plates tightly together.

39. Which of the following is correct about Rivetting?

- 1) Hot rivet is driven through the hole in the plates.
 - 2) One end of the rivet is hammered to form a new rivet head. When cooled, the rivet will contract and hold the two plates tightly together.
- a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) None

Explanation

Rivets are used to join two steel plates together. Hot rivet is driven through the hole in the plates. One end of the rivet is hammered to form a new rivet head. When cooled, the rivet will contract and hold the two plates tightly together.

40. Glass is a_____conductor of heat.

- a) Good
- b) **Poor**
- c) Initially good then bad
- d) None

Explanation

Glass is a poor conductor of heat. When hot liquid is poured into the tumbler, the inner surface of the tumbler becomes hot and expands while the outer surface remains at the room temperature and does not expand. Due to this unequal expansion, the tumbler cracks.

41. When hot liquid is poured into the tumbler, the inner surface of the tumbler becomes hot and_____

- a) Contract
- b) **Expand**
- c) First expand then contract

d) None

Explanation

Glass is a poor conductor of heat. When hot liquid is poured into the tumbler, the inner surface of the tumbler becomes hot and expands while the outer surface remains at the room temperature and does not expand. Due to this unequal expansion, the tumbler cracks.

42. Which of the following is incorrect?

- 1) When hot liquid is poured into the tumbler, the inner surface of the tumbler becomes hot and expands while the outer surface remains at the room temperature and does not expand
- 2) Due to this unequal expansion, the tumbler cracks.
 - a) 1 alone
 - b) 2 alone
 - c) 1, 2
 - d) **None**

Explanation

Glass is a poor conductor of heat. When hot liquid is poured into the tumbler, the inner surface of the tumbler becomes hot and expands while the outer surface remains at the room temperature and does not expand. Due to this unequal expansion, the tumbler cracks.

43. On cold days Electric wires between electric posts_____

- a) Sag
- b) **Contract**
- c) Expand
- d) None

Explanation

Electric wires between electric posts contract on cold days and sag in summers. To solve this problem, we leave wires slack so that they are free to change length

44. In Summer the Electric wires between electric posts_____

- a) **Sag**
- b) Contract
- c) Both a and b
- d) None

Explanation

Electric wires between electric posts contract on cold days and sag in summers. To solve this problem, we leave wires slack so that they are free to change length.

45. Glassware used in kitchen and laboratory are generally made up of_____

- a) Borosilicate glass
- b) pyrex glass
- c) Carbo-Silicate
- d) **Either a or b**

Explanation

Glassware used in kitchen and laboratory are generally made up of Borosilicate glass (pyrex glass). The reason is that the Borosilicate glass do not expand much on being heated and therefore they do not crack.

46. Which of the following do not expand much on being heated?

- a) Borosilicate glass
- b) Normal glass
- c) pyrex glass
- d) **Either a or c**

Explanation

Glassware used in kitchen and laboratory are generally made up of Borosilicate glass (pyrex glass). The reason is that the Borosilicate glass do not expand much on being heated and therefore they do not crack.

47._____ calorie heat energy is needed to raise the temperature of the water from 30o C to 31o C.

- a) 1
- b) 2
- c) 3
- d) 4

Explanation

One calorie heat energy is needed to raise the temperature of the water from 30o C to 31o C.

48. Total Kinetic Energy of molecules: Heat :: Average Kinetic Energy : _____

- a) **Temperature**
- b) Kinetic Energy
- c) Potential Energy
- d) Heat

Explanation

Temperature measures the average kinetic energy of molecules. Heat measures the total Kinetic Energy of the molecules in the substance.

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