* Choose the correct alternative from those given below each questions [40]

1. Radiation is different from conduction and convection because:
   (A) It needs particles (B) It needs air
   (C) It does not need a medium (D) It only occurs in water
   Ans. : (C) It does not need a medium
2. In a vacuum, heat can travel only by:
   (A) Conduction (B) Convection (C) Radiation (D) Reflection
   Ans. : (C) Radiation
3. Which surface absorbs more heat?
   (A) White (B) Shiny (C) Black (D) Transparent
   Ans. : (C) Black
4. Land breeze blows from:
   (A) Sea to land (B) Equator to poles
   (C) Land to sea (D) Mountains to plains
   Ans. : (C) Land to sea
5. What happens when you wear dark clothes in summer?
   (A) You feel cooler (B) You reflect sunlight
   (C) You feel warmer (D) You sweat less
   Ans. : (C) You feel warmer
6. Which material would help insulate a cup of tea?
   (A) Metal (B) Glass (C) Porcelain (D) Wood
   Ans. : (C) Porcelain
7. Why are bukhari pipes long and vertical?
   (A) To trap air (B) To store heat (C) To release smoke (D) To look nice
   Ans. : (C) To release smoke
8. The fastest mode of heat transfer is:
   (A) Conduction (B) Convection (C) Radiation (D) Absorption
   Ans. : (C) Radiation
9. What causes hot air to rise?
   (A) It gets heavier (B) It loses heat
   (C) It becomes lighter (D) It dissolves
   Ans. : (C) It becomes lighter

10. Which materials are good conductors of heat?

(A) Wood and glass (B) Air and water

(C) Clay and porcelain (D) Copper and aluminium

Ans. : (D) Copper and aluminium

11. Why are woollen clothes used in winter?

(A) They trap moisture (B) They absorb sunlight

(C) They trap air, a poor conductor (D) They are fashionable

Ans. : (C) They trap air, a poor conductor

12. Which mode of heat transfer does not require any medium?

(A) Conduction (B) Convection

(C) Radiation (D) Conduction and Convection

Ans. : (C) Radiation

13. In convection, how is heat transferred?

(A) By direct contact (B) By movement of particles

(C) By wave energy (D) Without particle movement

Ans. : (B) By movement of particles

14. Why is metal used for cooking utensils?

(A) Cheap and brittle (B) Flexible

(C) Good conductor of heat (D) Decorative

Ans. : (C) Good conductor of heat

15. The air trapped between two thin blankets:

(A) Keeps us cool (B) Increases airflow (C) Keeps us warm (D) Absorbs sweat

Ans. : (C) Keeps us warm

16. Why are walls in Uttarakhand homes filled with cow dung and mud?

(A) To absorb water (B) To allow air flow

(C) To act as insulators (D) For decoration

Ans. : (C) To act as insulators

17. What causes sea breeze?

(A) Hot air from sea moves to land (B) Cool air from sea moves to land

(C) Water waves (D) Storms

Ans. : (B) Cool air from sea moves to land

18. Radiation from the Sun reaches Earth:

(A) Through conduction (B) Through sound waves

(C) Without medium (D) Via atmosphere only

Ans. : (C) Without medium

19. Which objects are best for storing hot tea?

(A) Plastic cups (B) Clay or porcelain (C) Metal tumblers (D) Paper cups

Ans. : (B) Clay or porcelain

20. Convection is responsible for:

(A) Heating solids
(B) Sea and land breezes
(C) Conducting energy
(D) Absorption

Ans. : (B) Sea and land breezes

21. Smoke rising from incense stick is due to:

(A) Conduction
(B) Expansion of gases
(C) Convection
(D) Radiation

Ans. : (C) Convection

22. What happens to hot air?

(A) It becomes heavy and sinks
(B) Becomes lighter and rises
(C) Remains stable
(D) Turns cold

Ans. : (B) Becomes lighter and rises

23. How does air act as an insulator?

(A) Absorbs heat rapidly
(B) Reflects all light
(C) Traps heat due to poor conduction
(D) Transfers heat quickly

Ans. : (C) Traps heat due to poor conduction

24. What helps ice stupas slowly release water in summer?

(A) Salt coating
(B) Cold breeze
(C) Cone shape (minimum exposed surface area) melts gradually
(D) Colour of water

Ans. : (C) Cone shape (minimum exposed surface area) melts gradually

25. Choose the correct option in each case.

(i) Your father bought a saucepan made of two different materials, A and B, as shown in Fig. The materials A and B have the following properties

(A) Both A and B are good conductors of heat

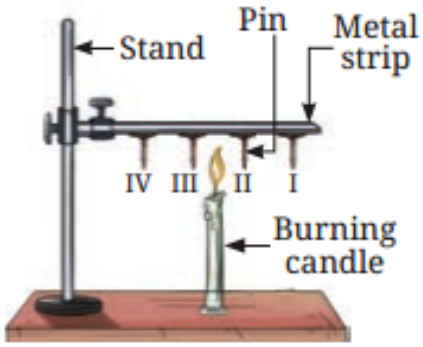
(B) Both A and B are poor conductors of heat

(C) A is a good conductor and B is a poor conductor of heat

(D) A is a poor conductor and B is a good conductor of heat

Ans. : (C) A is a good conductor and B is a poor conductor of heat

26. Pins are stuck to a metal strip with wax and a burning candle is kept below the rod, as shown in Fig. Which of the following will happen?



(A) All the pins will fall almost at the same time.

(B) Pins I and II will fall earlier than pins III and IV

(C) Pins I and II will fall later than pins III and IV

(D) Pins II and III will fall almost at the same time

Ans. : (D) Pins II and III will fall almost at the same time

27. A smoke detector is a device that detects smoke and sounds an alarm. Suppose you are fitting a smoke detector in your room. The most suitable place for this device will be :

(A) Near the floor (B) In the middle of a wall

(C) On the ceiling (D) Anywhere in the room

Ans. : (C) On the ceiling

28. Which of the following is a good conductor of heat?

(A) Wood (B) Plastic (C) Iron (D) Rubber

Ans. : (C) Iron

29. Heat is transferred in liquids and gases mainly by:

(A) Conduction (B) Convection (C) Radiation (D) Reflection

Ans. : (B) Convection

30. During daytime, a sea breeze blows because:

(A) The land cools faster than the sea

(B) The sea heats up faster than the land

(C) The land heats up faster than the sea

(D) The temperature of both is equal

Ans. : (C) The land heats up faster than the sea

31.

Column A	Column B
1. Conduction	A. Transfer of heat without a medium
2. Convection	B. Movement of heat in gases
3. Radiation	C. Transfer of heat in solids
4. Aquifer	D. Underground water storage

(A) (1) – (D), (2) – (C), (3) – (A), (4) – (B)

(B) (1) – (A), (2) – (B), (3) – (D), (4) – (C)

(C) (1) – (C), (2) – (B), (3) – (A), (4) – (B)

(D) (1) – (B), (2) – (A), (3) – (D), (4) – (C)

Ans. : (C) (1) – (C), (2) – (B), (3) – (A), (4) – (B)

32. A wooden spoon is dipped in a cup of icecream. Its other end:

(A) becomes cold by the process of conduction.

(B) becomes cold by the process of convection.

(C) becomes cold by the process of radiation.

(D) does not become cold.

Ans. : (D) does not become cold.

33. Heat is:

(A) A form of energy.

(B) A type of matter.

(C) Sometimes energy and sometimes matter.

(D) None of these.

Ans.: (A) A form of energy.

34. A beggar wrapped himself with a few layers of newspaper on a cold winter night. This helped him to keep himself warm because

(A) friction between the layers of newspaper produces heat.

(B) air trapped between the layers of newspaper is a bad conductor of heat.

(C) newspaper is a conductor of heat.

(D) newspaper is at a higher temperature than the temperature of the surrounding.

Ans. : (B) air trapped between the layers of newspaper is a bad conductor of heat.

35. The heat reaches to us from the sun in the form of:

(A) Convection

(B) Radiation

(C) Conduction

(D) All of these methods

Ans. : (B) Radiation

36. The movement of cooler air from the sea to the land is called:

(A) Land breeze (B) Sea breeze (C) Infiltration (D) Water cycle

Ans. : (B) Sea breeze

37. A marble tile feels colder than a wooden tile on a winter morning, because the marble tile

(A) is a better conductor of heat than the wooden tile.

(B) is polished while wooden tile is not polished.

(C) reflects more heat than wooden tile.

(D) is a poor conductor of heat than the wooden tile.

Ans.: (A) is a better conductor of heat than the wooden tile.

38. Which material allows water to seep through most easily?

(A) Clay (B) Sand (C) Gravel (D) Aquifer

Ans. : (C) Gravel

39. What limits infiltration in urban areas?

(A) Rainfall (B) Sandy soil

(C) Open spaces (D) Concrete surfaces

Ans. : (D) Concrete surfaces

40. Which material allows water to seep through most slowly?

(A) Clay (B) Sand (C) Gravel (D) Aquifer

Ans.: (A) Clay

*** a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.** [11]

41. Assertion (A): Radiation can occur in vacuum.
Reason (R): It requires no medium to transfer heat.

(A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

(B) Both Assertion (A) and Reason (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans.: (A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

42. Assertion (A): Woollen clothes keep us warm.
Reason (R): Wool traps air which is a poor conductor of heat.

(A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

(B) Both Assertion (A) and Reason (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans.: (A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

43. Assertion (A): Sea breeze blows during the day.
Reason (R): Water heats up faster than land.

(A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

(B) Both Assertion (A) and Reason (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans. : (C) (A) is true, but (R) is false.

44. Assertion (A): Heat transfer in gases occurs through convection.
Reason (R): Gases transfer heat through particle movement.

(A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

(B) Both Assertion (A) and Reason (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans.: (A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

45. Assertion (A): Bukhari is used in cold regions.
Reason (R): It works by conduction only.

(A) Both Assertion (A) and Reason (R) are true, and (R) is the correct explanation of (A).

(B) Both Assertion (A) and Reason (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans. : (C) (A) is true, but (R) is false.

46. Assertion (A): Radiation requires a medium for heat transfer.
Reason (R): Radiation can travel through empty space.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

Ans. : self

47. Assertion (A): Radiation is a method of transfer of heat.
Reason (R): The process of heat transfer that does not require any medium is called convection.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

Ans. : (C) A is true but R is false.

48. Assertion (A): Evaporation is a process where water changes into vapour and rises into the atmosphere.
Reason (R): Evaporation requires heat energy from the Sun or other sources.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

Ans.: (A) Both A and R are true and R is the correct explanation of A.

49. Assertion (A): Sea breeze refers to the movement of cold air from sea towards land during day time.
Reason (R): Land breeze refers to the movement of cold air from land towards sea during night time.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

Ans. : (B) Both A and R are true but R is not the correct explanation of A.

50. Assertion (A): Seepage of water into the ground is an important part of the water cycle.
Reason (R): Water that seeps into the ground becomes part of the groundwater.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

Ans.: (A) Both A and R are true and R is the correct explanation of A.

51. Assertion (A): Conduction is the transfer of heat through a material without the movement of its particles itself.
Reason (R): In conduction, heat moves from the colder part to the hotter part of the material.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

Ans. : (C) A is true but R is false.

*** State Whether The Following Sentences Are True Or False.[1 Marks Each]** **[19]**

52. Air is a good conductor of heat.

Ans. : false

53. Radiation occurs even in vacuum.

Ans. : true

54. Metals conduct heat better than wood.

Ans. : true

55. Sea breeze occurs at night.

Ans. : false

56. The Sun heats Earth via conduction.

Ans. : false

57. Black objects absorb more heat than white ones.

Ans. : true

58. Porcelain cups help retain heat longer.

Ans. : true

59. Heat transfer in gases occurs only through radiation.

Ans. : false

60. Infiltration helps groundwater recharge.

Ans. : true

61. Heat transfer can only occur through contact.

Ans. : false

62. Heat transfer takes place in solids through convection.

Ans. : false, heat transfer takes place in solids through conduction.

63. Heat transfer through convection takes place by the actual movement of particles.

Ans. : true

64. Areas with clay materials allow more seepage of water than those with sandy materials.

Ans. : false, areas with particles of gravel allow more seepage of water as the space or pores between the particles of gravel is more as compared to sandy materials.

65. The movement of cooler air from land to sea is called land breeze.

Ans. : true

66. Woollen clothes keep us warm during winter.

Ans. : true

67. Water vapour rises and cools to form clouds in the water cycle.

Ans. : true

68. Water at a higher temperature feels hotter.

Ans. : true

69. Seepage of water into the ground is part of the water cycle.

Ans. : true

70. Water and air are good conductors of heat.

Ans. : false

*** Fill In The Blanks With Correct Alternative.[1 Marks Each]** [12]

71. _____ is a good conductor of heat.

Ans. : Metal

72. The Sun's heat reaches Earth through _____ .

Ans. : radiation

73. Sea breeze blows from _____ to _____ .

Ans. : sea,land

74. _____ is the process by which liquids transfer heat.

Ans. : Convection

75. Heat transfer in solids is called _____ .

Ans. : conduction

76. _____ are used in walls to trap heat and cold.

Ans. : Hollow bricks

77. Seeping of surface water through soil and rocks is called _____ .

Ans. : infiltration

78. Metal is a _____ conductor of heat.

Ans. : good

79. When we come out in the sun we feel _____.

Ans. : warm

80. The hot bodies radiate _____ .

Ans. : heat

81. The water and air are _____ conductors of heat.

Ans. : poor

82. In cold regions like Ladakh, people have developed _____ to conserve water.

Ans. : ice stupas

*** Answer The Following Questions In One Sentence.[1 Marks Each]** **[61]**

83. Give one example of a good conductor.

Ans. : Steel

84. What is sea breeze?

Ans. : Sea breeze is the movement of cooler air from the sea towards the land.

85. Why is wool used in winter clothes?

Ans. : Wool keeps us warm because it traps air, and air is a poor conductor of heat, preventing heat loss from our bodies.

86. Name one place where hollow bricks are used.

Ans. : Hollow bricks are used in the construction of houses, especially for the outer walls.

87. What causes the smoke to rise?

Ans. : Smoke rises because it is warmer than the surrounding air.

88. I wonder how heat from the fire reaches us?

Ans. : The heat from the fire reaches us through the process of radiation. In this process, heat is transferred by radiating energy to the surroundings. Heat transfer by radiation does not require any medium.

89. Some ice cubes placed in a dish melt into water after sometime. Where do the ice cubes get heat for this transformation?

Ans. : The ice cubes absorb heat from their surroundings, including the air and the surface they are placed on. This heat causes the ice to melt, changing it from a solid state to a liquid state, turning it into water.

90. A burning incense stick is fixed, pointing downwards. In which direction would the smoke from the incense stick move? Show the movement of smoke with a diagram.

Ans. : The smoke from the incense stick will move in the upward direction because smoke is a mixture of hot gases and tiny solid particles. Since hot air rises due to convection, the smoke moves upwards.

91. Why are hollow bricks used to construct the outer walls of houses in hot regions?

Ans. : The air gets trapped in the hollow bricks and air is a poor conductor of heat. This trapped air acts as an insulator and prevent the heat from entering the house, keeping the interior cooler.

92.

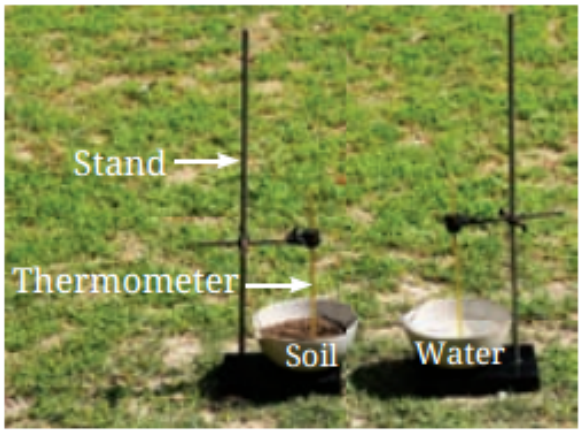


Fig. Measurement of the temperature of soil and water
Observation: When the temperature of the soil and water is measured by placing them in sunlight then the rise in the temperature of soil was more as compared to water after a particular period of time.

Ans. : Conclusion : Soil heats up faster than water.

93. Shopkeepers selling ice blocks usually cover them with jute sacks. Explain why.

Ans. : The layers of Jute traps the air in between the fibres. The trapped air prevents the flow of heat from surroundings to the ice and hence prevents it from melting.

94. Why do we wear light coloured cotton clothes when it is hot?

Ans. : Light coloured cotton clothes give us a feeling of coolness by reflecting heat.

95. What do you mean by the transfer of heat?

Ans. : The heat flows from a hotter object to a colder object. This process is called transfer of heat.

96. How does heat transfer in water or air?

Ans. : By convection

97. How does heat transfer in solids?

Ans. : By conduction

98. Give two examples each of conductors and insulators of heat.

Ans. : Conductors aluminium, iron Insulators plastic, wood.

99. What are conductors?

Ans. : Substances which allow heat to pass through them are called conductors.

100. What are insulators?

Ans. : Materials which do not allow heat to pass through them are called insulators.

101. What is sea breeze?

Ans. : The movement of air from the sea towards the land during daytime in coastal areas is called the sea breeze.

102. What is land breeze?

Ans. : The cool air from the land moves towards the sea at night in coastal areas is called land breeze.

103. Name the form of energy that causes hotness or coolness.

Ans. : Heat.

104. What are the various methods of transfer of heat?

Ans. : There are three methods of transfer of heat:
1. Conduction
2. Convection
3. Radiation

105. What is infiltration?

Ans. : It is the process by which water from the surface of the Earth passes through the soil and rocks, and gets stored as groundwater beneath the Earth's surface.

106. Name the processes involved in the water cycle.

Ans. : The main processes involved in the water cycle are:
1. Evaporation
2. Condensation
3. Precipitation
4. Transpiration

107. Name the underground layers that stores water.

Ans. : Aquifers

108. What ensures that the groundwater sources are recharged?

Ans. : The water cycle

109. Why can water move through gravel more easily?

Ans. : Because the spaces between the gravel particles are wider and open.

110. What is transpiration?

Ans. : It is process by which water evaporates from the leaves of trees and plants.

111. What does water cycle helps in?

Ans. : Water cycle helps in redistribution and replenishment of water in rivers, lakes and oceans.

112. When does land breeze occurs?

Ans. : It occurs at night.

113. When does sea breeze occurs?

Ans. : It occurs during the day.

114. What is radiation?

Ans. : It is the process of transfer of heat in which no medium is required.

115. Why does hot air rise?

Ans. : Hot air expands, becomes lighter and rises up.

116. What happens when a partially inflated balloon is placed in the Sun?

Ans. : When the air inside the balloon is heated, it expands, causing the balloon to increase in size.

117. Which process brings rain, snow and hail?

Ans. : Precipitation.

118. What is groundwater?

Ans. : Water stored in underground pore spaces of soil and rocks is called groundwater.

119. Name one method to recharge groundwater.

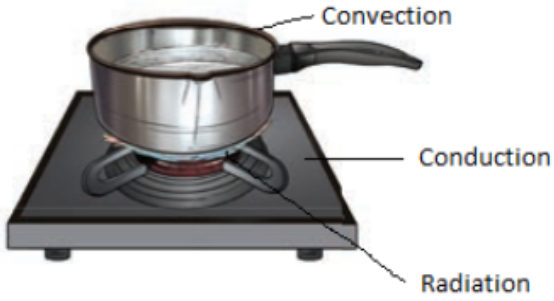
Ans. : Rainwater harvesting

120. What do you mean by convection?

Ans. : The process of hotter liquid or gases transferring heat to the colder surroundings is known as convection.

121. Look at figure. Mark where the heat is being transferred by conduction, by convection and by radiation.

Ans. :



122. In places of hot climate, it is advised that the outer walls of houses be painted white. Explain.

Ans. : In places of hot climate, it is advised that the outer wall of houses be painted white because white colour reflects heat and the houses do not heat up too much.

123. How do woollen clothes keep us warm in the winter?

Ans. : The wool fibres trap the air in between them. This air prevents the flow of heat from our body to the cold surroundings. So, we feel warm.

124. How does the heat comes towards us from the sun?

Ans. : When we come out in the sun, we feel warm. The heat comes to us by the process called radiation from the sun. It can take place whether a medium is present or not.

125. Discuss why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

Ans. : More layers of clothing keep us warm in winters as they have a lot of space between them. This space gets filled up with air. Air is a bad conductor, it does not allow the body heat to escape.

126. While constructing a house in a coastal area, in which direction should the windows preferably face and why?

Ans. : The windows of houses in coastal areas should preferably face towards the sea as the blowing sea breeze will keep house cool to some extent during the daytime.

127. Name the method of heat transfer in solids.

Ans. : Conduction is the method of heat transfer in solids.

128. Name one poor conductor of heat.

Ans. : Wood is a poor conductor of heat.

129. Name one process that increases the groundwater level.

Ans. : Infiltration is one process that increases the groundwater level.

130. What is the process of water loss from plant leaves called?

Ans. : The process of water loss from plant leaves is called transpiration.

131. Do all objects radiate heat?

Ans. : Yes, all objects radiate heat.

132. What are sea the sea and the land breeze?

Ans. : Sea breeze is the flow of cool air from sea to land during the day, and land breeze is the flow of cool air from land to sea at night.

133. What is an aquifer?

Ans. : An aquifer is an underground layer of rock or soil that stores groundwater.

134. Name the process in the water cycle where water changes from a liquid to a vapour.

Ans. : Evaporation

135. What is the process by which heat is transferred through direct contact of particles in a material?

Ans. : Conduction

136. What is the type of heat transfer that occurs through the movement of heated particles in a fluid (liquid or gas)?

Ans. : Convection

137. What are insulators?

Ans. : The materials which do not allow heat to pass through them are called insulators.

138. Is iron a conductor or an insulator?

Ans. : Conductor

139. Name the process in which plants release water vapour through their leaves into the air.

Ans. : Transpiration

140. Do all hot bodies radiate heat?

Ans. : Yes

141. Name the process where water from the soil seeps into the ground to become part of the groundwater.

Ans. : Infiltration

142. What is the term used to describe the continuous movement of water on Earth, including evaporation, condensation, and precipitation?

Ans. : Water cycle

143. What type of clothes should we wear in the summer?

Ans. : Light coloured clothes

* consists of questions of 2 marks each. [88]

144. Why do we feel warm in front of a bonfire?

Ans. : When you stand in front of a bonfire, you feel warm primarily due to radiation. The fire emits heat in the form of infrared radiation, which travels through the air and directly warms your skin. This heat transfer doesn't require air to warm you up; it's the direct energy from the fire reaching you.

145. Why does hot air rise upward?

Ans. : When air is heated, its particles move faster and spread out, causing the air to become less dense. Less dense air is lighter than the surrounding cooler, denser air. This lighter, hot air then rises because it is more buoyant than the cooler air around it.

146. What makes sea and land breeze different?

Ans. : (1) Sea Breeze: During the day, the land heats up faster than the sea. The warm air above the land rises, and cooler air from the sea moves in to replace it, creating a sea breeze.

(2) Land Breeze: At night, the land cools down faster than the sea. The warm air above the sea rises, and cooler air from the land moves in to replace it, creating a land breeze.

147. Why are hollow bricks used in construction of outer walls of houses in hot regions ?

Ans. : Hollow bricks are used because they trap air within their hollow spaces. Air is a poor conductor of heat, which means it doesn't easily allow heat to pass through. This trapped air acts as an insulator, helping to keep the house warmer in the winter and cooler in the summer.

148. How is a convection current formed in water?

Ans. : A convection current in water forms when the water at the bottom is heated. As it warms up, it expands, becomes less dense, and rises. Cooler, denser water from the top then sinks to take its place, creating a circular flow. This continuous cycle of rising warm water and sinking cool water is what we call a convection current.

149. How does insulation help maintain room temperature?

Ans. : Insulation helps maintain room temperature by reducing heat transfer. In winter, it prevents heat from escaping, keeping the room warmer, while in summer, it stops outside heat from entering, keeping it cooler. This is achieved because insulation materials are poor conductors of heat, effectively slowing down the flow of heat in or out of the room.

150. Why is it advised to wear dark clothes in winter?

Ans. : Dark-colored clothes absorb more sunlight and heat compared to light-colored clothes. By absorbing more heat, dark clothes help to keep you warmer in cold weather. The absorbed heat is then retained close to your body, providing extra insulation and warmth.

151. Explain how infiltration recharges groundwater.

Ans. : Infiltration is the process where water on the ground surface enters the soil. As rainwater falls, it seeps into the ground, passing through soil and rocks. This water moves downward until it reaches underground layers called aquifers, which are like natural underground reservoirs. By replenishing these aquifers, infiltration helps to recharge groundwater, ensuring we have a sustainable source of water for various uses.

152. Predict the effect of using metal utensils with plastic handles.

Ans. : Using metal utensils with plastic handles improves safety and comfort during cooking. The metal part heats up quickly and conducts heat well for cooking, while the plastic handle stays cool because plastic is a poor conductor of heat. This prevents burns and allows for a comfortable grip while cooking.

153. Why do glass windows in greenhouses raise inside temperature?

Ans. : Glass windows allow sunlight (which includes heat) to enter the greenhouse. This sunlight warms the objects and air inside. However, glass prevents the heat from easily escaping back out. This trapped heat causes the inside temperature to rise, creating a warmer environment suitable for plants.

154. Your house feels cooler with clay walls in summer. Why?

Ans. : Clay walls have good insulation properties. Clay is a poor conductor of heat, so it prevents heat from easily entering your house during the hot summer days. Additionally, clay walls absorb moisture, and as this moisture evaporates, it cools the surrounding area, thus helping to maintain a cooler indoor temperature.

155. A steel spoon becomes hot in a bowl of soup. Why?

Ans. : When a steel spoon is placed in a bowl of hot soup, it becomes hot due to a process called conduction. Steel is a good conductor of heat, so heat from the soup is transferred to the spoon. This heat moves through the spoon via conduction, from the part in the soup to the part you're holding, causing the end of the spoon you're holding to eventually become warm or hot.

156. Read the passage and answer the questions :
In Ladakh, people build ice stupas to conserve water.
Q.1. Why are they conical?
(a) Look aesthetic
(b) Symbolic design
(c) Slow melting due to minimum exposed surface area

(d) Easy to build

Q.2. When do they release water?

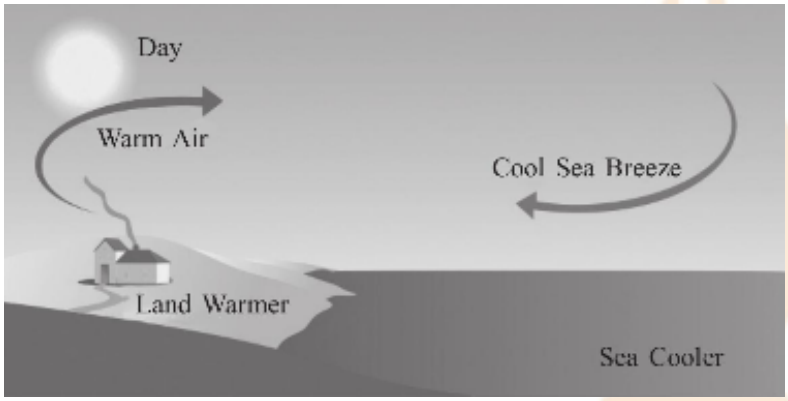
(a) Winter (b) Spring

(c) Summer (d) Monsoon

Ans. : (c) Slow melting due to minimum exposed surface area.

(b) Spring.

157. Observe the diagram showing the occurrence of sea breeze.



(a) Draw the diagram showing the occurrence of land breeze. Label the direction of air movement on the diagram.

(b) Explain why the direction of air flow changes during day and night near coastal areas.

Ans. : self

158. Compare the temperatures of two thermometers having black and white bulbs under sunlight by drawing table and state reason behind the result.

Ans. :

Time (minutes)	Temperature of Thermometer with Black Bulb (°C)	Temperature of Thermometer with White Bulb (°C)
0	25	25
5	30	27
10	35	29

159. Design a Ice Stupa model and observe how long ice takes to melt. Why does it become needful in Ladakh?

Ans. : self

160. How does heat get transferred in these materials? (cooking utensils made of metals)

Ans. : The heat is transferred in these materials through a process called conduction. During conduction, the particle that is heated passes the heat to its adjacent particles one after another. The particles remain fixed in their positions.

161. Why is the smoke going up?

Ans. : The smoke is going up because hot air rises. When smoke is produced, it is usually warm or hot. Due to convection, the hot air (and smoke with it) becomes lighter than the surrounding cooler air and rises upwards.

162. How does heat transfer take place in liquids? Do liquids also rise up when heated, like air?

Ans. : When water is heated in a container, the water at the bottom becomes hot, expands and becomes lighter, causing it to rise. As the warmer water rises, cooler and heavier water moves down to take its place. This process is called convection, and it continues till the entire liquid is heated. Thus, liquids rise when heated, just like air.

163. How does water seep through the surface of the Earth?

Ans. : Water seeps through the surface of the Earth by a process called infiltration. From the Earth's surface the water seeps through the soil containing sand, gravel or clay. Once it seeps, it gets stored in the pore spaces of sediments and the opening in rocks known as aquifers.

164. A shopkeeper serves you cold lassi in a tumbler. By chance, the tumbler had a small leak. You were given another tumbler by the shopkeeper to put the leaky tumbler in it. Will this arrangement help to keep the lassi cold for a longer time? Explain.

Ans. : Yes, the arrangement will keep the lassi cold for a longer time. The air trapped between the two tumblers acts as an insulator since air is a poor conductor of heat. It reduces the transfer of heat from the surroundings to the lassi, helping it stay cool for a longer period.

165. Explain how water seeps through the surface of the Earth and gets stored as groundwater.

Ans. : Water seeps through the surface of the Earth by gradually passing through the soil and porous rocks. This process is known as infiltration. This water fills the pores and cracks in rocks and soil and gets stored underground as groundwater. The layers of sediments and rocks that store water in their pore spaces are known as aquifers.

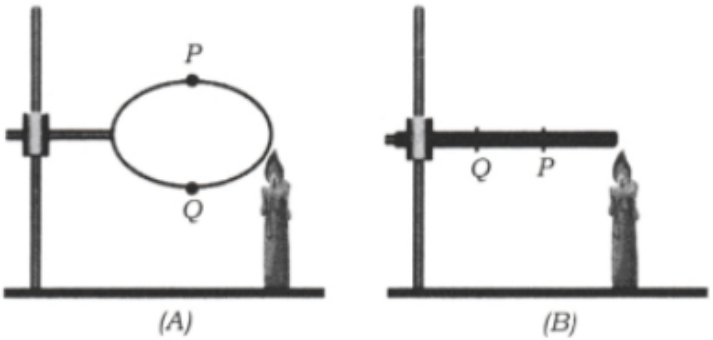
166. The water cycle helps in the redistribution and replenishment of water on the Earth. Justify the statement.

Ans. : The water cycle helps in the continuous redistribution and replenishment of water on Earth through the movement of water in different stages, such as evaporation, condensation and precipitation. Water from oceans, rivers and lakes evaporates due to the Sun's heat, forms clouds through condensation, and falls back to Earth as rain or snow through a process called precipitation. The rain refills lakes, rivers and groundwater, ensuring the continuous availability of water on Earth.

167. To keep her soup warm, Paheli wrapped the container in which it was kept with a woollen cloth. Can she apply the same method to keep a glass of cold drink cool? Give reason for your answer.

Ans. : Yes, she can. The air trapped between the layers of wool is a poor conductor of heat. The trapped air prevents the flow of heat from surroundings to get inside the woollen layers and vice versa and hence prevents it from getting cool down or getting warm respectively.

168. In the arrangements A and B shown in Figure, pins P and Q are fixed to a metal loop and an iron rod with the help of wax. In which case are both the pins likely to fall at different times? Explain.



Ans. : In case of 'B' the pin at position P will fall first followed by pin at position Q as the heat will reach pin P first. Whereas in case of 'A' the heat will travel in both the directions and as a result pins at position P and Q will fall simultaneously.

169. For setting curd, a small amount of curd is added to warm milk. The microbes present in the curd help in setting if the temperature of the mixture remains approximately between 35°C to 40°C. At places, where room temperature remains much below the range, setting of curd becomes difficult. Suggest a way to set curd in such a situation.

Ans. : To maintain the favourable temperature for the microbes to turn the milk to curd, the container can be wrapped by woollen material so that the wool used will trap the air in between. The trapped air will prevent the flow of heat from surroundings to get inside the woollen layers and vice versa and hence prevents it from getting cool down or getting warm respectively. The container can also be kept in the sun.

170. Complete the following table:

Table: Hot and cold objects

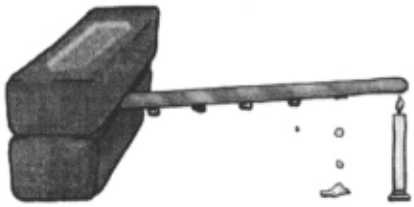
Object	Cold/ Cool	Warm/ Hot
Ice cream	✓	
Spoon in a tea cup		
Fruit juice		
Handle of a frying pan		

Ans. :

Object	Cold/ Cool	Warm/ Hot
Ice cream	✓	-
Spoon in a tea cup	-	✓
Fruit juice	✓	-
Handle of a frying pan	-	✓

171. What do you mean by conduction mode of transfer of heat energy?

Ans. : The process by which heat is transferred from hotter end to colder end of a metal is called conduction. In this process, molecules of the substance do not move but heat energy is transferred. In solids generally, the heat is transferred by the process of conduction.



172. Why is the handle of a metallic kettle covered with strips of cane?

Ans. : Handle of metallic kettle is covered with strips of cane because when kettle is heated, the heat does not pass through strips of cane. The strips of cane are bad conductor of heat and we may hold the handle with our bare hands.

173. Why is it more comfortable to wear white or light coloured clothes in summer and dark coloured clothes in winter?

Ans. : Light coloured clothes reflect most of the heat that falls on them and we feel more comfortable wearing them in summer. Dark clothes absorb more heat so we feel comfortable with dark coloured clothes in winter.

174. You are given a thick blanket and a combination of two thin blanket joined together. Which one of these two blankets will you choose?

Ans. : Suppose we are given the choice in winter of using either a thick blanket or two thin blankets joined together, then we select the blanket which is formed by the joining of two blankets because there would be layer of air in between the blankets. The air is poor conductor of heat. So this blanket gives more warmth.

175. Explain the seepage of water.

Ans. : When it rains, some of the water flows into ponds, lakes, and oceans, while some seeps into the ground. This process is called infiltration. Water passes through the soil and porous rocks and is stored in the spaces between sediments and rocks below the ground. This stored water is called groundwater, and it can be extracted by digging wells or drilling borewells."

176. Explain radiation.

Ans. : The mode of transfer of heat energy in which no medium is needed to transfer heat from a hotter body to a colder body is called radiation. The heat from the sun comes to the earth without any medium thereby using the mode of radiation. Also, all objects exchange heat with their surroundings through the process of radiation.

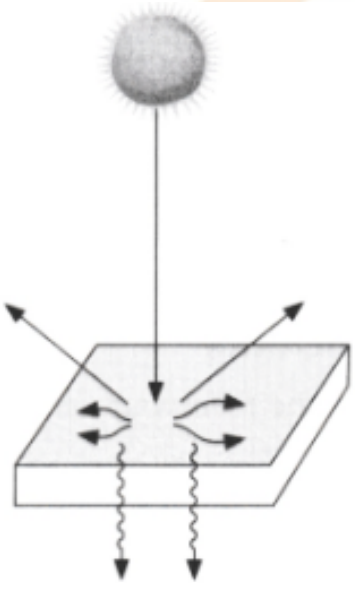
177. At a camp site, there are tents of two shades – one made with black fabric and the other with white fabric. Which one will you prefer for resting on a hot summer afternoon? Give reason for your choice. Would you like to prefer the same tent during winter?

Ans. : It is better to prefer the white tent during summer because light colours being the best reflectors of heat falling on them will reflect maximum amount of heat they will receive and will make the tent cool to some extent and hence it will be comfortable to stay in the tent.

No, during winter it would be better to prefer the black tent because dark colours being good absorbers of heat falling on them will absorb maximum amount of heat they will receive and will keep the tent warm.

178. Draw a diagram to show the radiation by the sun.

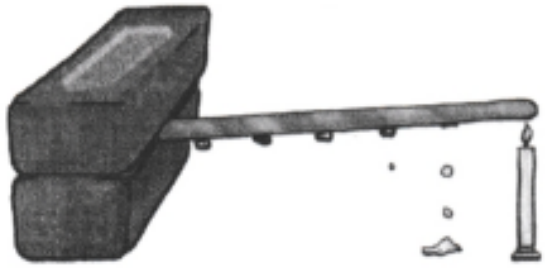
Ans. :



When any radiation falls on an object a part of it is reflected, a part is absorbed and a part may be transmitted.

179. Draw a diagram to show the conduction.

Ans. :



Flow of heat through a metal strip.

180. Draw a diagram to show the convection.

Ans. :

Convection of heat in water.

181. Define the terms conductor and insulator.

Ans. : A conductor is a material that allows heat or electricity to pass through it easily, while an insulator is a material that does not allow heat or electricity to pass through it easily.

182. State two ways in which water returns to the Earth's surface in the water cycle.

Ans. : Water returns to the Earth's surface in the water cycle mainly through precipitation in the form of rain and snow.

183. Why do concrete surfaces reduce seepage of water into the Earth?

Ans. : Concrete surfaces reduce seepage of water into the Earth because they are impermeable and do not allow water to pass through, which prevents infiltration into the soil.

184. How does the structure of sand and clay affect water seepage?

Ans. : A conductor is a material that allows heat or electricity to pass through it easily, while an insulator is a material that does not allow heat or electricity to pass

through it easily.

185. How does the water cycle help in maintaining a sustainable supply of water?

Ans. : The water cycle helps in maintaining a sustainable supply of water by continuously recycling water through evaporation, condensation, and precipitation, and by replenishing surface water and groundwater resources.

186. Draw a diagram to show convection of heat in water.

Ans. : self

187. In a thermos flask, hot tea remains hot. How is the loss of heat prevented from the thermos flask?

Ans. :

In a thermos flask, the loss of heat is prevented by reducing conduction and convection through the vacuum between the double walls, and by reducing radiation using silvered inner surfaces that reflect heat back into the liquid.

*** consists of questions of 3 marks each.** **[42]**

188. Read the passage and answer the questions :

Riya observes that in her village, people place hay on roofs during summer.

Q.1. Why is hay used?

(a) It looks nice

(b) It reflects heat

(c) It acts as an insulator

(d) It traps water

Q.2. What property of hay helps keep the house cool?

(a) Good conduction (b) Radiant properties

(c) Air trapping ability (d) High reflectivity

Q.3. Which method of heat transfer is being reduced here?

(a) Radiation (b) Conduction

(c) Convection (d) Absorption

Ans. : (c) It acts as an insulator

(c) Air trapping ability

(b) Conduction

189. Identify whether the given materials are good or poor conductors of heat.

Material	Good or Poor conductor of heat

Ans. :

Material	Good or Poor conductor of heat
Steel	Good Conductor
Wood	Poor Conductor
Plastic	Poor Conductor
Bakelite	Poor Conductor
Aluminium	Good Conductor

190. Two test tubes with water are heated by a candle flame as shown in Fig. Which thermometers (Fig. a or Fig. b) will record a higher temperature? Explain.

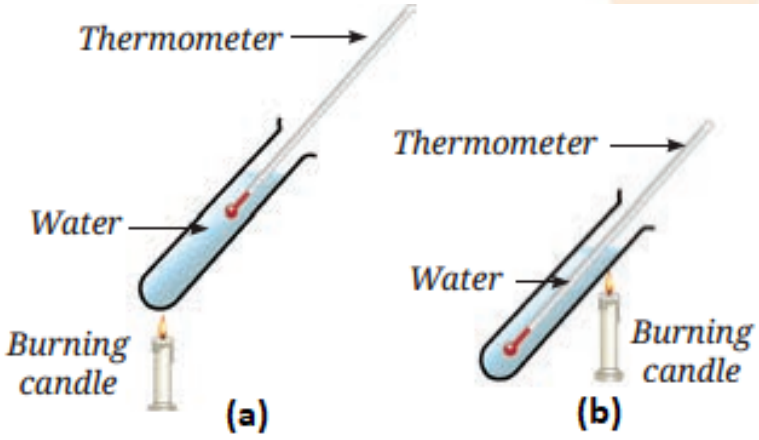
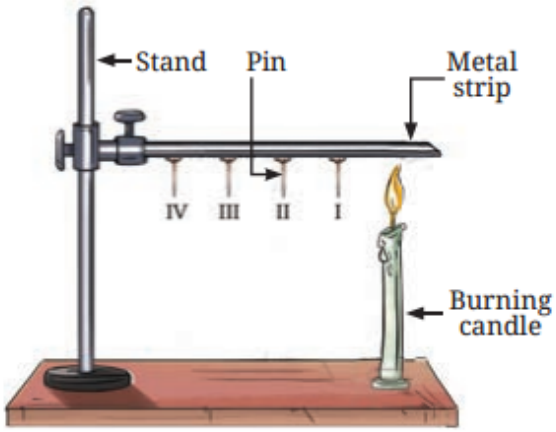


Fig. Two thermometers dipped in two test tubes

Ans. : In Fig. (a), the thermometer is placed at the top of the test tube and candle flame heats the bottom of the test tube directly. The water at the bottom gets heated first. As the water heats up, it rises due to convection, carrying heat to the top, where the thermometer is placed. So, the thermometer quickly records a temperature rise.

In Fig. (b), the thermometer is placed at the bottom of the test tube, but the candle flame heats the side of the test tube. The side heating may not be as effective in transferring heat to the bottom where the thermometer is placed. Therefore, the thermometer in Fig. (a) will record a higher temperature.

191.



Ans. : Table : Falling of pins

Pin falling first		**Reasons for what you observed**
Prediction	**Observation**	
Pin I	Pin I	Pin I fell first as it was closest to the burning candle, causing the wax to melt quickly
Pin II	Pin II	As heat transferred from Pin I to Pin II. As expected, Pin II fell after Pin I, due to heat conduction.
Pin III	Pin III	Pin III fell after Pin II, also due to heat conduction.
Pin IV	Pin IV	At last Pin IV fell as it was farthest from the burning candle. So it took the longest time to heat up and melt the wax.

Conclusion: Transfer of heat takes place from the hot end of the strip to the colder end.

192.

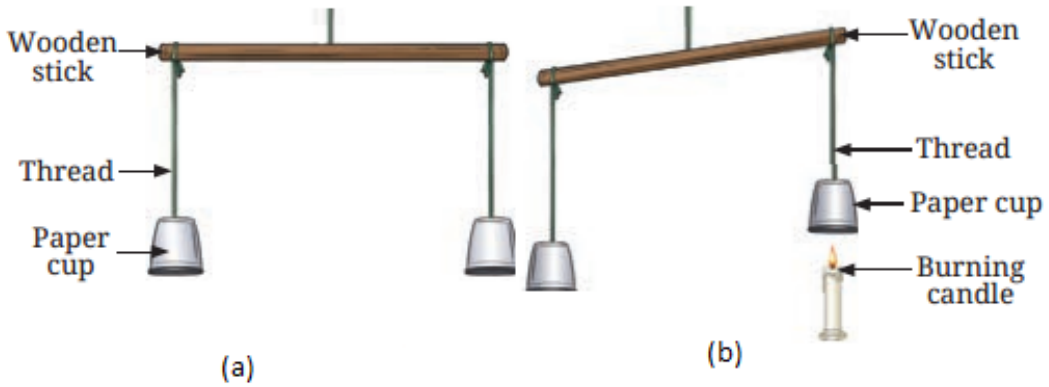


Fig. (a): Initial set-up (b): Hot air rising up

Ans. :

Observations about the cups	Probable reasons for the observation
The cup under which the burning candle is placed rises up.	It would have rised because the air near the candle and inside the cup heats up, expands and rises.

193.

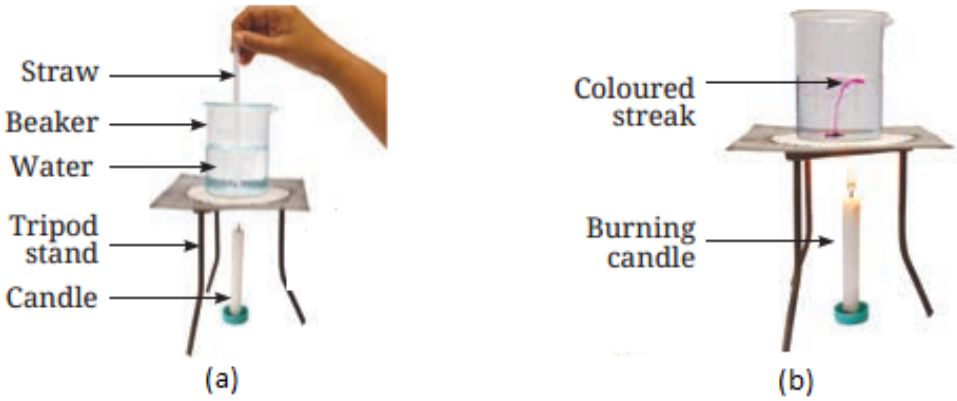


Fig. (a): Initial set-up for demonstration (b): Demonstration of convection in heated water

Observation: When heat is supplied, a streak of colour starts moving up and then coming down from the sides.

Ans. : Conclusion :

The streak of coloured water moves upward in the middle and then comes down along the sides. This happens because when the water at the bottom of the beaker gets heated, it expands, becomes lighter, and rises. Cooler water from the sides then moves down to take its place. This process of convection continues until the entire volume of the water becomes heated. Because of this convection, we see the movement of coloured streaks in the beaker.

Water, like air, is heated through the process of convection.

194. Explain how large water bodies prevent extreme temperature in areas around them.

Ans. : Large water bodies like seas and oceans prevent extreme conditions in areas around them. In coastal areas during day, the land heats up faster than water, so cooler air from the sea flows towards the land (sea breeze), keeping the temperature moderate. At night, land cools down faster than water. The air above the sea remains warmer, while the cooler air from the land moves towards the sea (land breeze). This movement of air helps prevent extreme temperatures in coastal regions.

(a) (b)

Fig. (a) Sea breeze (b) Land Breeza

195.

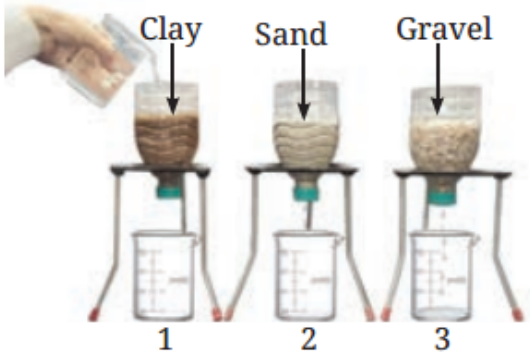


Fig. An activity to compare the flow of water through clay, sand and gravel

Ans. :

Bottles filled with	**Prediction**	**Observation**
	Seepage of water (very slow/slow/ fast)	**Seepage of water (very slow/slow/fast)**
Bottle 1 (Clay)	slow	very slow
Bottle 2 (Sand)	fast	slow
Bottle 3 (Gravel)	very slow	fast

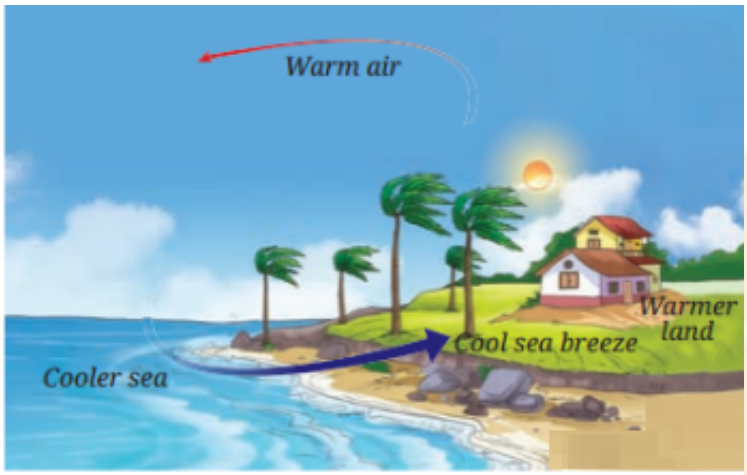
Conclusion : The spaces or pores between the particles of gravel are much larger than those in sand and clay. This allows water to pass through the gravel much faster. Clay has the smallest particles and smallest pores, so water seeps through it the slowest. Sand falls in between. Thus, the flow of water depends on the size of the soil particles and the space between them. Gravel, with its large gaps, allows the fastest seepage of water among the three materials.

196. Explain the sea breeze and land breeze.

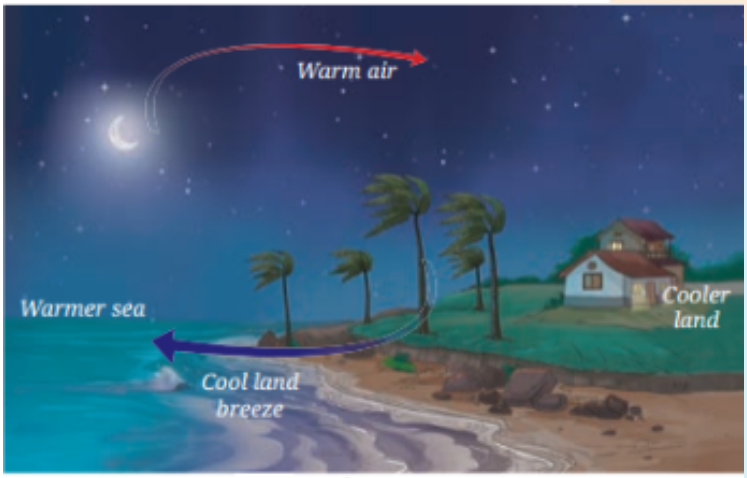
Ans. : At sea-shore during the day, cold air from the sea moves towards the land because the land gets more heated than the sea water. Hot air above the land rises

up, and cold air from the sea moves towards the land. This is called sea breeze as shown in Fig.(a).

At night, cold air from the land moves towards the sea because the land cools more quickly than the sea water. So hot air above the sea rises up and cold air from the land moves towards the sea. This is called land breeze as shown in Fig.(b)



(a)



(b)

197. What is heat? How is it transferred from one body to other body? Explain various methods.

Ans. : Heat is the form of energy which causes sensation of hotness or the coolness. Heat is transferred from hotter body to colder body till the temperature becomes same. There are following three ways of the transfer of heat.

1. Conduction: The process by which heat is transferred from hot end of the object to the cold end of an object, is called conduction.

2. Convection: The process in the particles comes into contact of source of heat and become hot than others. The hot particles rise up and cold particles take their place. This process continues till the whole body gets heated is called convection.

3. Radiation: The process of transfer of heat in which transfer of heat does not require any medium is called radiation. It can take place whether a medium is present or not.

198. One winter morning, Priya made a cup of hot tea and placed the metal spoon inside it. She held the cup in her hands to feel warm. After a few minutes, she noticed the metal spoon had become hot. Then, she placed the cup on the table near the window where sunlight was coming in. She felt warm standing in the sunlight even without touching anything. Later, she saw the steam rising from the tea and disappearing into the air.
1. Why did the metal spoon become hot?
2. How did Priya feel warm just by standing in the sunlight?
3. What is the process called when hot steam rises from the tea?

Ans. : 1. The metal spoon became hot because of conduction. Heat transferred from the hot tea to the spoon through direct contact.
2. Priya felt warm standing in the sunlight due to radiation. Heat travelled from the Sun and reaches the Earth through radiation and warmed her directly.
3. The hot steam rising from the tea shows convection. Hot air or steam rises and cooler air takes its place.

199. Explain the principle of heat transfer used in designing houses in hot regions.

Ans. : Houses in hot regions are designed in such a way that the transfer of heat into the building is minimized. Thick walls made of materials that are poor conductors of heat slow down the process of conduction. Light-coloured roofs and walls reflect most of the Sun's heat and reduce heat gain by radiation. Proper ventilation, high ceilings, and open windows allow hot air to rise and escape while cooler air enters, which helps in reducing the effect of convection and keeps the house cool.

200. How do conduction, convection and radiation occur in daily life? Give one example for each.

Ans. : Conduction occurs in daily life when heat travels through solid objects, such as when the handle of a metal pan becomes hot while cooking. Convection occurs when heat is transferred through fluids, for example, when warm air from a heater rises and cooler air moves down, creating air circulation in a room. Radiation occurs when heat is transferred without any medium, such as when we feel warmth from a fire or the Sun even though we are not touching it.

201. Differentiate between conduction, convection and radiation.

Ans. :

Basis	Conduction	Convection	Radiation

Medium required	Conduction requires a material medium and mainly occurs in solids.	Convection requires a material medium and occurs in liquids and gases.	Radiation does not require any medium and can occur in a vacuum.
Method of heat transfer	Heat is transferred from particle to particle without actual movement of the particles.	Heat is transferred by the actual movement of heated particles.	Heat is transferred in the form of electromagnetic waves.
Example	A metal rod becomes hot when one end is heated.	Water circulates when heated in a vessel.	Heat from the Sun reaches the Earth.

*** consists of questions of 5 marks each.** **[45]**

202. Explain all three modes of heat transfer with suitable examples.

Ans. : 1. Conduction

→ Conduction is the transfer of heat through a material without any movement of the material itself. It mainly occurs in solids.

→ Heat is transferred from the hotter part to the colder part due to the collision of particles.

Example:

→ When you heat one end of a metal rod, the other end also gets hot after some time. The heat is transferred through the metal by conduction.

→ A metal pan on a stove gets hot because the heat from the stove is conducted through the metal base of the pan.

2. Convection

→ Convection is the transfer of heat by the movement of a fluid (liquid or gas).

→ When a fluid is heated, it becomes less dense and rises, while the cooler, denser fluid sinks. This creates a current that transfers heat.

Example:

Boiling Water: When you boil water in a kettle, the water at the bottom gets heated, becomes lighter, and rises. The cooler water from the top sinks to take its place, creating a convection current.

3. Radiation

→ Radiation is the transfer of heat through electromagnetic waves.

→ Unlike conduction and convection, radiation does not require a medium to transfer heat.

Example:

Sun's Heat: The heat from the sun reaches the Earth through radiation.

Room Heater: When you sit near a room heater, you feel warm because the heater radiates heat directly to you.

203. Describe an activity to show convection in gases.

Ans. : → To demonstrate convection in gases, we can use a simple activity involving paper cups, thread, a wooden stick, and a candle.

→ Begin by preparing two identical paper cups, each with small holes on opposite sides near the top. Pass a piece of thread through these holes and tie it so the cup can be hung.

→ Next, attach the other ends of the threads to the ends of a wooden stick or ruler, ensuring the cups hang upside down and the stick remains balanced horizontally.

→ Light a candle and carefully position it directly under one of the paper cups. Observe closely: the cup above the candle will start to rise.

→ This occurs because the air inside the cup heats up, becomes less dense, and rises—a process known as convection.

→ The rising hot air exerts pressure on the cup, causing it to move upwards, while the other cup remains still due to the absence of a heat source.

→ This activity clearly illustrates how convection works in gases.

204. Compare conduction and convection with one real-life example each.

Ans. : → Conduction and convection are two distinct methods of heat transfer, each playing a crucial role in our daily lives.

→ Conduction involves the transfer of heat through a material via direct contact, where energy moves from hotter regions to cooler ones.

→ For example, holding a metal spoon in a hot bowl of soup illustrates conduction; the heat from the soup gradually warms the spoon, eventually making the end you're holding feel warmer.

→ Convection, on the other hand, is the transfer of heat through the movement of fluids (liquids or gases).

→ This process relies on the principle that hotter fluids rise while cooler fluids sink, creating a cyclical motion.

→ A common example of convection is boiling water in a pot. As the water at the bottom is heated, it becomes less dense and rises, while the cooler water from the top descends to be heated, creating a continuous convective flow that eventually heats the entire volume of water.

→ Thus, while conduction relies on direct molecular contact, convection depends on the movement of fluids, showcasing fundamentally different mechanisms of heat transfer.

205. Discuss the importance of hollow bricks used in construction of outer walls of houses in temperature control.

Ans. : → Hollow bricks are vital in regulating indoor temperatures in buildings due to their insulating properties.
→ These bricks contain air-filled cavities, which act as insulators by minimizing heat transfer.
→ In summer, they prevent external heat from entering, maintaining cooler interiors, while in winter, they retain warmth by reducing heat loss.
→ This insulation reduces the reliance on heating and cooling systems, leading to significant energy savings and lower utility bills.
→ Buildings constructed with hollow bricks are more comfortable year-round, as the stable indoor temperature reduces temperature fluctuations and ensures a more consistent environment.
→ The use of hollow bricks thus contributes to energy-efficient and comfortable living spaces.

206. Describe how ice stupas are designed in Ladakh to preserve water.

Ans. : → Ice stupas are designed to address water scarcity during the spring season.
→ These structures are created by channeling water from mountain streams through underground pipes during the winter months.
→ As this water is sprayed into the cold air, it freezes and gradually builds up, layer by layer, forming a tall, cone-shaped ice stupa.
→ These ice stupas then melt slowly during the spring, providing a consistent water supply for farming and other essential needs throughout the summer.
→ This innovative approach helps the local communities manage their water resources more effectively.

207. How does wearing multiple layers of clothing keep us warmer?

Ans. : → Wearing multiple layers of clothing is an effective way to stay warm because it leverages the insulating properties of air.
→ The air trapped between each layer of fabric acts as a barrier to heat flow, as air is a poor conductor of heat.
→ This layering system reduces the amount of heat that escapes from your body, keeping you warmer compared to wearing a single, thick garment.
→ Each layer and the air it traps work together to create a more effective insulation system, preventing heat loss and maintaining a comfortable body temperature.

208. Explain the transfer of heat from the Sun to the Earth.

Ans. : →The sun emits energy in the form of electromagnetic waves. This energy includes light, ultraviolet (UV), and infrared radiation.
→ These waves travel through the vacuum of space.
→ When these electromagnetic waves reach the Earth, some of them are absorbed by the Earth's surface, atmosphere, and oceans.
→ When the Earth's surface absorbs solar radiation, it heats up.

→ This heat can then be transferred to the atmosphere through conduction and convection, influencing weather patterns and climate.

209. Explain the water cycle in detail.

Ans. : The water cycle is the process of continuous movement of water on Earth. It plays a very important role in supporting life by recycling and distributing water across the planet. The water keeps changing its form liquid, vapour, and sometimes solid and moves through different parts of the environment. The main processes involved in the water cycle are:

1. Evaporation: It is the process where water changes into vapour and rises into the atmosphere due to heat. This usually happens from oceans, rivers, lakes and other water bodies when the Sun shines on them.
2. Transpiration: It is the process where water is absorbed by plants from the soil and then released as water vapour through their leaves into the atmosphere. Together with evaporation, it adds moisture to the air.
3. Condensation: It is the process where water vapour cools down and changes back into liquid water, forming clouds in the sky.
4. Precipitation: It is the process when the water falls from the clouds to the Earth's surface as rain, snow, or hail.
5. Infiltration: After precipitation, some water seeps into the ground and gets stored as groundwater. This process is called infiltration.

210. Describe the complete water cycle with all its major processes.

Ans. : self

*** Match the Following.** **[8]**

Column A	Column B
211. Conduction	(a) No medium needed
212. Convection	(b) Cool air moves from sea to land
213. Radiation	(c) Poor conductors of heat
214. Sea breeze	(d) Movement of particles in gases or liquids
	(e) Requires medium in solids

Ans. : (1-e-2-d,3-a,4-b)

Column A	Column B
215. Land breeze blows during	(a) summer
216. Sea breeze blows during	(b) winter
217. Dark coloured clothes are preferred during	(c) day
218. Light coloured clothes are preferred during	(d) night

Ans. :

Column A	Column B
1. Land breeze blows during	(d) night
2. Sea breeze blows during	(c) day
3. Dark coloured clothes are preferred during	(b) winter
4. Light coloured clothes are preferred during	(a) summer

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