02/4/26 **Chapter - 1 Ever - Evolving World of Science**

Answer the following questions.

Q-1 What is science?

→ Science is a way of thinking, observing and doing things in order to know our surroundings.

Q-2 How does science help us?

→ Science helps us understand both the minute details, like cells inside an animal/plant as well as massive phenomena like movement of sun and stars.

Q-3 Scientist follows which method to solve various problems?

→ Scientist follows scientific method to solve various problems.

Q-4 Write down the steps involved in scientific method / approach.

→ The steps involved in scientific method are :-

i) Making observation
ii) Recording information
iii) Suggesting an explanation
iv) Experimenting
v) Forming a conclusion

Q-5 Define :

i) Reversible change : The change in which the product once formed can be reversed back to obtain its original state is called reversible change.

ii) Irreversible change : The change in which the product once formed cannot be reversed back to obtain its original state is called irreversible change.

Q-6 When is the shadow shortest?

→ A shadow is shortest, at noon.)

Q-7 Who invented the first aeroplane and when?

→ Wright brothers invented the first aeroplane in the year 1903.

Q-8 What is solar eclipse?

→ Solar eclipse happens when the Moon comes in between the earth and the sun, blocking the sunlight.

Q-9 What is lunar eclipse?

→ Lunar eclipse happens when the earth comes between the sun and the moon, and the earth's shadow falls on the MOON.

Q-10 How much time is taken by Earth to complete one rotation and one revolution?

→ It takes 24 hours to complete one rotation on its axis. The Earth also revolves around the sun and it takes 365 days and 6 hours to complete one revolution around the sun.

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19/4/26 Chapter - 7 Heat transfer in nature

Short answer type questions.

Q-1 Why is a frying pan made of metal but the handle of frying pan is made of plastic or wood?

→ Frying pans are made of metals because metals are good conductors of heat which will transfer the from the gas stove to the food placed inside the vast ~~Vsel~~ vessels and help to cook it, whereas the handels are made of plastic because they are insulators of heat which help us to lift the vessel without getting burned.

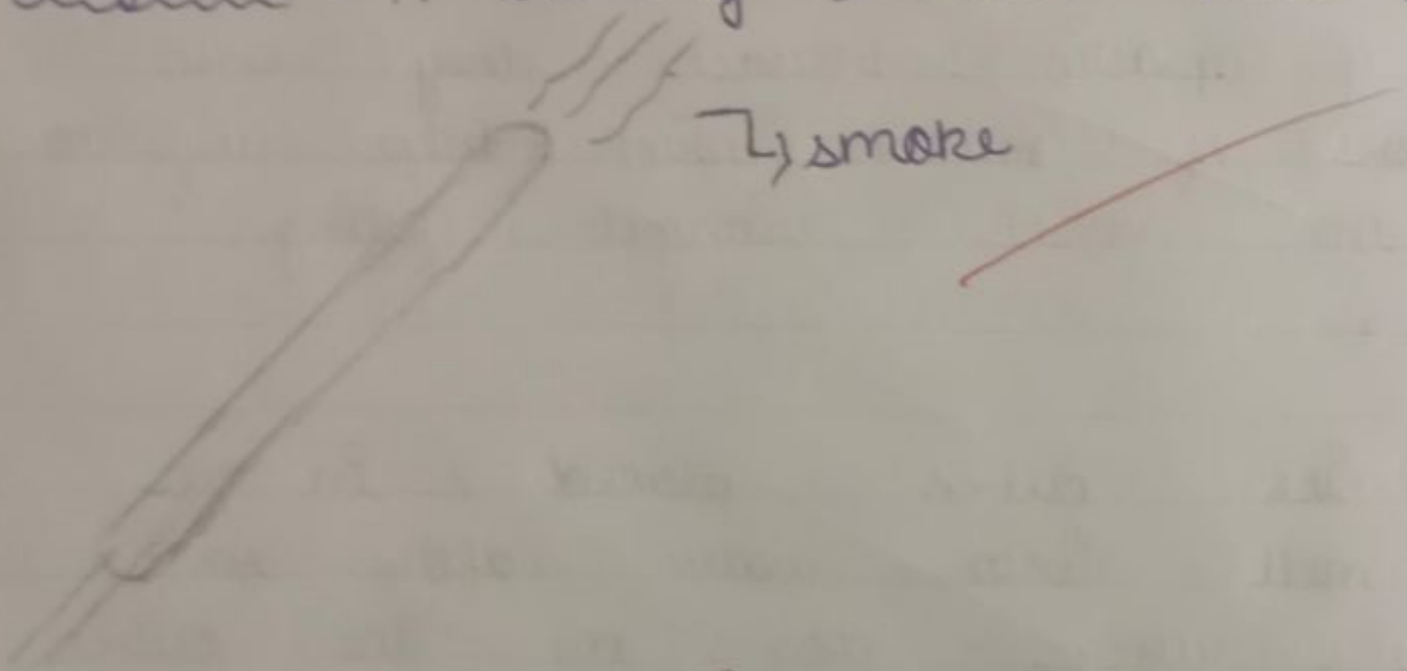
Q-2 Some ice cubes placed in a dish melt into water after ~~so~~ sometime. where do the ice cubes get heat for this transformation?

→ The ice cubes absorbs the heat from the sourrounding and melts into water this process is called melting.

Q-3 A burning incense stick is fixed pointing downards. In which direction would the smoke from the incense stick move? Show the movement of smoke with a diagram.

→ This smoke will ~~go~~ move upwards because hot air is lighter in weight.

Diagram: A burning incense stick.



Q-4 Define conduction. Give two ~~or~~ example where heat is transfered by the process of conduction.

→ Conduction :- Is the transfer of heat from the hotter part of a material to its colder part without the movement of material as a whole.

Eg: A cold metal spoon dipped in a hot cup of tea gets heated by conduction.

Q-5 Classify the following materials into good conductors of heat and poor conductors of heat or insulators : wood, plastic, copper, air, paper, glass, ~~steel~~ stainless steel, ~~aluminium~~ aluminium, thermocol, rubber.

→ Good conductors : cotton, steel, ~~steel~~ aluminium

Poor conductors : wood, plastic, air, paper, glass, thermocal, rubber.

Q-6 T.B

→ T.B

Q-7 Explain why houses in the hills have walls made of two wooden layers filled with cow dung and mud between them.

→ Wood is good conductor of heat and the cow dung and mud filled between them traps the air, which is also a poor conductor of heat. ~~All~~ Altogether the wood and mud does not allow the heat energy to move into the surrounding and thus keeps the ~~the~~ houses in hilly areas warm.

Q-8 Two test tubes with water are heated by a candle flame as ~~in~~ shown in figure. Which thermometers a or b will record a higher temperature? Explain.

→ The hot water rises up so in this situation ~~test tube~~ ~~a~~ thermometer (a) will ~~so~~ show higher temperature.

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Q-9 why can the structure sun's heat not reach the earth by conduction or convection?

—) In space there are no most molecules of solid, liquid or gas, so the sun's heat cannot reach the earth by conduction or convection.

long answer type questions.

Q-1 Explain how, woollen clothes keep us warm during cold winter days. Discuss why, wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

—) i) Wool is a poor conductor of heat due to which woollen clothes stop the flow of heat from our warm body to the cold surrounding. The air trapped in fibres of woollen clothes also stops the flow of

heat from our warm body to the cold surroundings.

iii) Wearing more layers of clothes keeps us warmer in winter than wearing just one thick piece of clothing. This is because more layers of clothes trap more air in them and air being a very poor conductor of heat, prevents our body heat from going away ~~to~~ to cold surroundings.

Q-2 What is water cycle? Discuss it briefly.

→ Water cycle: The continuous circulation of water from the earth's surface to atmosphere and from the atmosphere back to earth is called water cycle.

i) The water from the water bodies gets heated up by sun and transform into water vapour by process of evaporation.

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(ii) The plants lose water ~~it~~ from leaves by the process of transpiration.

(iii) The air containing water vapour molecules rises up at higher altitudes and gets converted into tiny water droplets by process of condensation.

(iv) The tiny water ~~drops~~ drops of clouds combine to form longer drops and fall on earth in form of rain by the process of precipitation.

v) Some amount of rain which falls on the earth seeps in the ground by the process of infiltration.

Diagram: Water cycle in nature.

On the backside page.

cooling

cooling

sun

snow

Rain

transpiration

Evaporation

River

Ocean
or
Sea

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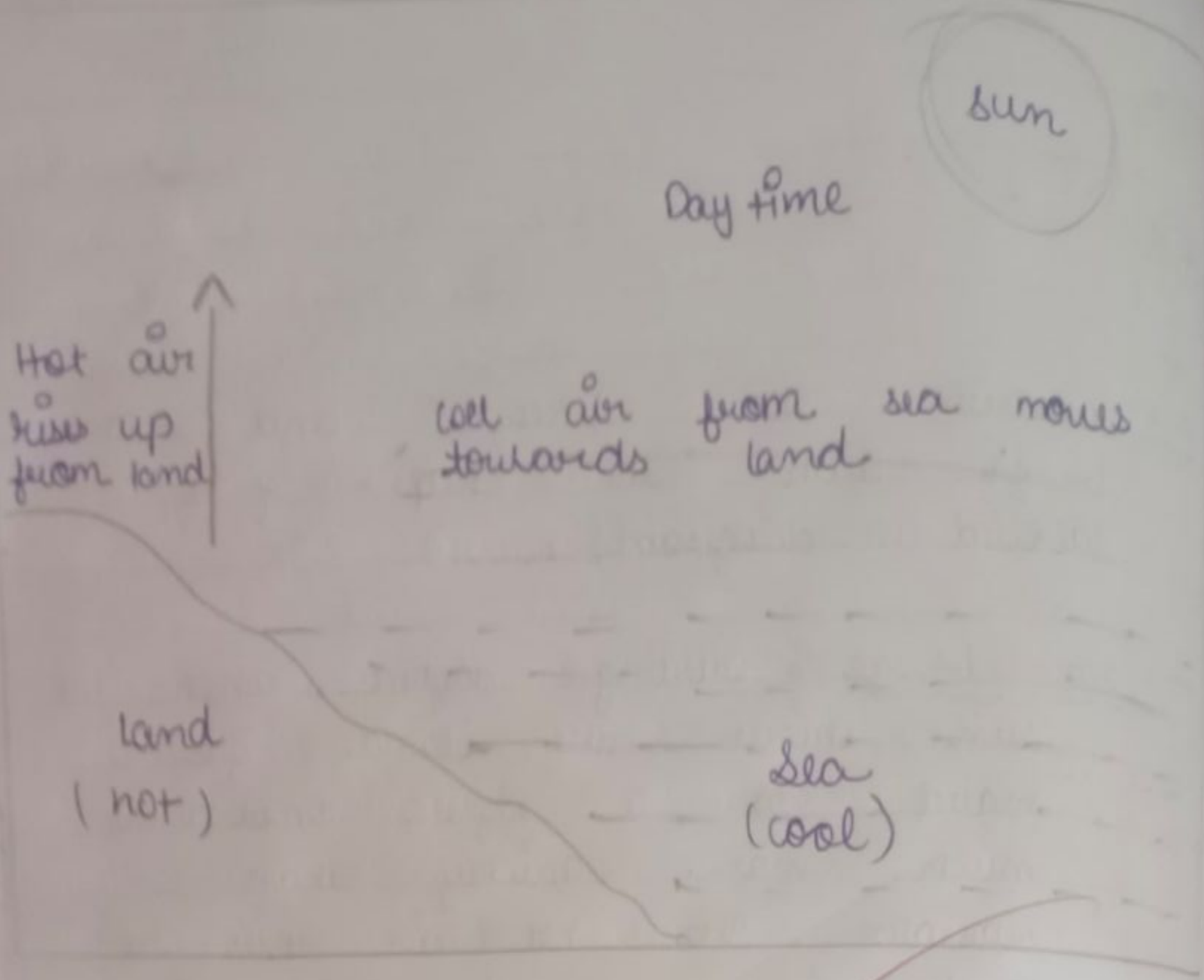
Q-4

Q-3 describe sea breeze and land breeze with the help of labelled diagram.

→ Sea breeze : During daytime, when the sun shines, the land gets heated to a higher temperature much more quickly than seawater. The hot air over the land rises upwards and cooler air from over the sea moves towards the land in the form of a cool breeze. The breeze blowing from the sea towards the land is called sea breeze.

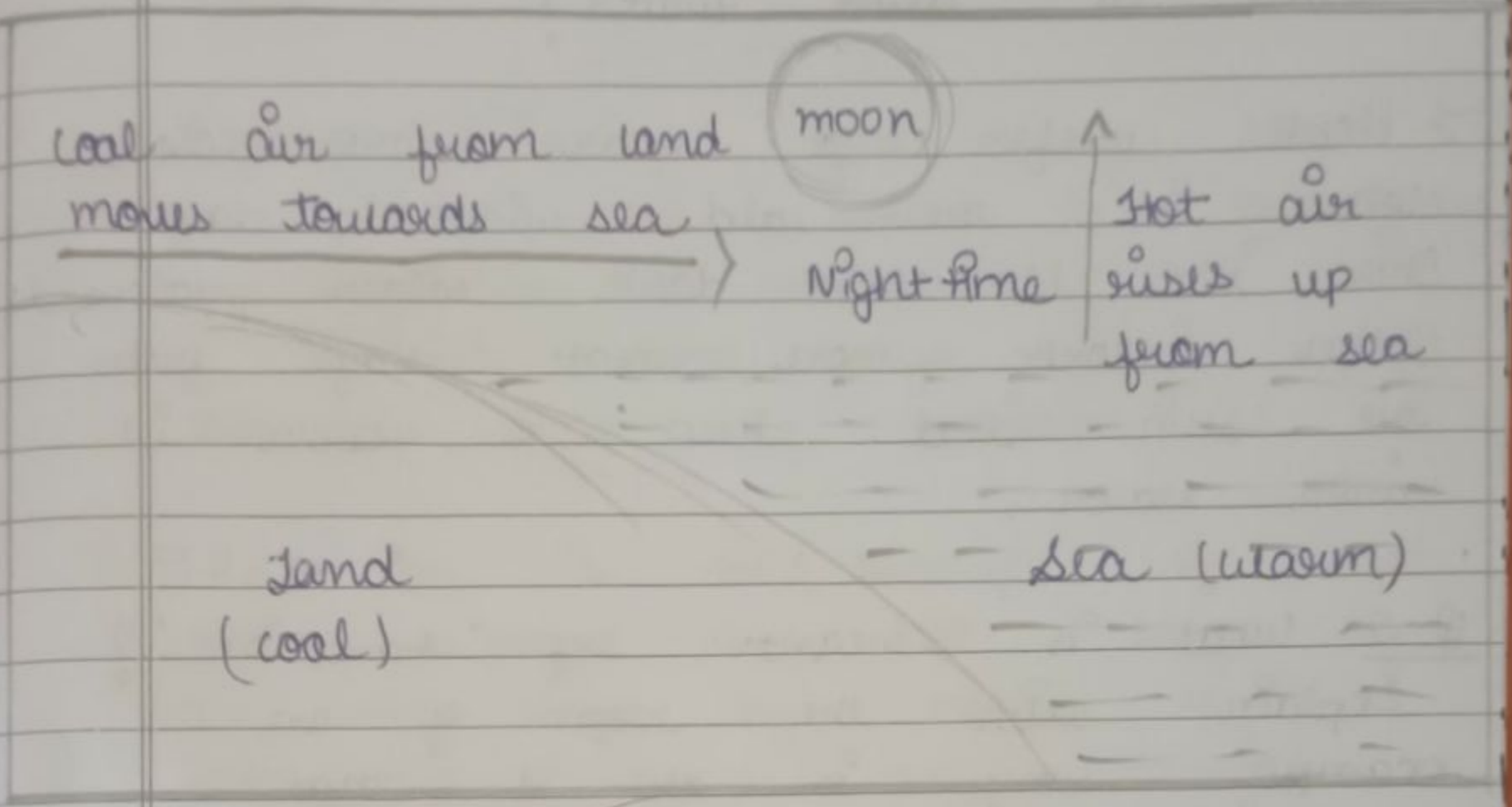
Diagram : Sea breeze blows during the day.



land breeze: At night time, the hot land cools much faster than the warm seawater. Due to this, the land becomes cool very quickly but the seawater remains warm of a much longer time. So, during night, the hot air over the warm sea rises upwards and cooler air from the land blows in towards the sea in the form of a breeze. The breeze blowing from the land

towards the sea is called land breeze.

Diagram : Land breeze blows during the night.



Q-4

a) why do people prefer to wear white clothes in summer?

A>

→ White clothes reflect most of the sun's heat rays when fall on them and keep us cool and comfortable in hot weather.

b) Why is it better to wear dark clothes in ~~wa~~ winter?

→ People prefer to wear dark coloured clothes in the cold winter days. This is because dark ~~colour~~ coloured clothes absorb more heat rays from the sun and keep us warm in winter season.

Q-5 What is meant by 'convection'? Explain with the help of an example. Why is it that convection cannot take place in solids?

→ i) Convection is the transfer of heat from the hotter ~~parts~~ of liquid to its colder parts by the movement of the liquid itself.

ii) The transfer of heat by convection cannot take place in solids because the particles in the solids are fixed at a place and hence cannot move about freely.

Q-6 Define radiation. Give any two examples where heat is transferred by radiation. What is the name of invisible heat rays which transfer heat by radiation?

→ i) Radiation is the transfer of heat energy from a hot body to a cold body by means of heat rays, without any material medium between them.

ii) Examples:

a) When we sit in front of a room - heater, we get heat directly by the process of radiation.

b) A hot utensil kept away ~~for~~ from the flame cools down by transferring its heat to the sourroundings by radiation.

iii) The invisible heat rays which transfer heat by radiation ~~through a medium called~~ are called infra-red rays.

Kajal 13/4/24 Good