Style - I : Lecturing

Std. VIII

Geography

Unit : Climate - Temperature

Topic : Factors influencing temperature of a place

Lesson 2

Teaching Points : 1 Factors that change temperature of a place

- Latitude, altitude, nearness to the sea, winds, ocean currents, position of the mountain, kind of soil, forests.

2 Meaning of the term 'isotherm'.

T - You might be knowing that different parts of our country show different average temperatures, and we call them hot areas, cold areas, etc. The Himalayan regions are cold, the desert areas of Rajasthan are hot, and the coastal areas are neither too hot nor too cold.

(Teacher points out these areas in wall-map of India and the students see them in their own atlas).

T - There are different geographical factors that bring about this change of temperature at different places.

(Teacher writes on the B.B. 'Temperature change - Geographical factors')
Latitude of a place is one such factor. (Teacher moving his finger round the middle of the globe) you know this is equator. As you go towards north or south from this equator, the latitude of a place increases. Also we have already learnt that rays of the sun fall directly on the equator. These rays give out greater heat than the slanting rays. (Teacher to point at the diagram in the roll up board showing differential heating effect due to direct and slanting sun rays). As you go away from the equator, either to north or south heat becomes less. So, places of higher latitudes in the north or in the south are colder than equatorial regions which are very hot. That is why places in the Torrid Zone are very hot, in the Temperate Zone places are comparatively cold and in the Frigid Zone places are very cold.

(Teacher to show the map indicating the zones of the earth).

For the above reasons Congo and Amazon regions and Singapore are very hot while the Tundra regions are very very cold.

(Teacher to show these places in the world map and the students to see them on their own atlas).

As you go to a higher altitude heat becomes less. At the peak of Mt. Abu temperature is much less than what it is at the foot of this hill.

(Teacher to show Mt. Abu in the map of India and the students to find it on their own atlas). The geographers have calculated that for every 165 metres of height there is a fall of 1° centigrade in the temperature.
Due to the altitude of a place its temperature decreases because of the following reasons: (i) The surface of the earth gets heated when sun rays fall on it. The layer of air just above the surface also becomes hot. The next layer of air above the first gets less heat. This way layer after layer of air is less hot than the layer below it. So as you go higher the air is cooler. (ii) The air at a height is thinner and cooler, and it holds very little heat. (iii) The trees and other vegetation on the mountains or hills help to keep the temperature low. (iv) Clouds and fog on the mountain sides also keep the temperature low.

(Teacher shows diagrams drawn beforehand on the roll up board to clarify the points).

Delhi's summer temperature is 34°C, while Simla which is at a higher altitude has a summer temperature of 19°C.

(Teacher to show Delhi and Simla on the map and the students find them in their own atlas).

Places near the sea have lower temperatures in summer than places away from the sea and winters are quite warm there. The annual temperatures of these places do not vary widely. The places away from the sea, in the interior of a vast land area have very hot summers as well as very cold winters. This kind of climate is called continental climate. Delhi and Nagpur have extreme climate, while Bombay and Kandla being near the sea have milder climate.

(Teacher to point out the places on the map and the students to find them out in their own atlas).
Thus, nearness to sea makes the climate of a place temperate and prevents it from being extreme. That is why the hottest place on the earth is not on the equator but in the deserts and the coldest place on the earth is not at the pole but at Varkhoyansk in Siberia.

(Teacher to point out the desert of Arabia, Siberia and Varkhoyansk in the map and the students to find them in their own atlas.)

Winds also affect the temperature of a place. It depends upon the type of winds that blow over a place. Moist as well as cold wind lower the temperature of a place while hot wind coming from the desert increases temperature. Just imagine that the great Himalayas was not there in the north of India. In that case very very cold wind would have come from Siberia and central Asia and make the northern India intensely cold.

(Teacher asks the students to find out Siberia and central Asia in their atlas.)

A warm ocean current passing by the coast raises the temperature of a country. So the country has a higher temperature than another country situated between the same latitudes. Similarly, a cold current passing by the coast, lowers the temperature of that country. The cold Labrador current flows on the east coast of Canada while the warm California current flows on the west coast of the country. That is why harbours of Canada on the east coast are frozen in winter while no harbour on the west coast is frozen. In the same way, the warm current of the Gulf Stream passing by Britain and Norway keeps the temperature of the coastal area in those countries higher enough for the harbours to remain open all the year round.
(Teacher to show the world map indicating ocean currents and the students to see their atlas. Teacher to show the pictures of open and frozen harbours.)

T - The direction and position of mountains affect temperature of different places. The Himalyas stops cold north wind from China and Tibet. As a result India is warmer than China and Tibet.

(Teacher to indicate in the map of Asia)

Again, the Aravallis lie along the path of monsoon wind from the Arabian sea. If it stood across the path of monsoon wind Rajasthan would have more rain and the temperature of the region would be lowered. If the moist winds blow over the mountains, the rain-shadow side will have less rain and hence higher temperature. That is why the temperature of the western side of the Western Ghats is lower than that of its eastern side which is in the rain-shadows

(Teacher to draw diagram on the B.B. to clarify rain-shadow and show the position of the Himalyas, the Aravallis, the Western Ghats in the map. The students to consult their own atlas.)

T - Sandy or rocky soil without moisture absorbs and gives out heat more quickly than wet or sticky soil. In the deserts, it is very hot during the day and in summer, and it is very cold at night and in winter. The reason is that heat is absorbed and radiated away by the sandy soil of the desert more quickly.

(Teacher to show a picture of sand in the desert.)

T - (After writing 'Grow more trees' on the B.B.) In the countries where forests are protected and new ones grown, the rainfall increases because forests help condensation and bring rain. Consequently temperature is lowered. 'Grow more trees' campaign in our country, therefore, has got an important significance.
T - 'Isotherm' is a line joining places, which have the same average temperature and which are considered to be at sea level. Isotherm maps are there to know the variation of temperature from place to place.

(Teacher to show the isotherms in maps.)

T - Thus, some of the factors that influence the temperature of a place are latitude, altitude, nearness to the sea, winds, ocean current, direction and position of the mountain, type of soil and forest.
Style $s_2$: Questioning and Response
(without feedback)

Std. VIII
Geography
Unit: Climate - Temperature
Topic: Factors influencing temperature of a place.

Lesson 2
Teaching points: 1. Factors that change temperature of a place - latitude, altitude, nearness to the sea, winds, ocean currents, position and direction of the mountains, kind of soil, and forests.

2. Meaning of the term 'isotherm'.

T - (Teacher points out the Himalayan region, the desert of Rajasthan and the coastal areas, and the pupils see them in their own atlas.) Which of these areas can be called hot?

P - The desert areas of Rajasthan.

T - Which area is cold?

P - The Himalayan region.

T - What can you say about the coastal areas?

P - Coastal areas are not so hot as Rajasthan. Also they are not as cold as the Himalayan region.

T - Why is the temperature different in different places?

P - It is due to mountains.

P - It is due to the sea.

P - It is due to the desert.
T - Mountains, sea and desert - are these different geographical factors?

P - They are different geographical factors.

T - Different geographical factors bring about this change of temperature at different places - do you agree?

P - We do.

(Teacher writes on the B.B. 'Temperature change in geographical factors').

T - (Teacher shows Delhi and Bombay on the map and writes on the B.B. the range of temperature, that is, the temperature difference between summer and winter in Delhi (19.5°C) and at Bombay (5.5°C)) which place has got the higher range of temperature?

P - Delhi.

T - Which place is nearer to the sea?

P - Bombay.

T - How are summer and winter in Delhi?

P - In Delhi summer is very hot and winter is very cold.

T - What about Bombay?

P - In Bombay summer is not very hot, winter is also not very cold.

T - What can we say about the temperature of Delhi and Bombay and their distance from the sea?

P - Delhi is far away from the sea, and summer and winter are both extreme there.

P - Bombay is near the sea and summer is not too hot and winter is also not too cold.
T - (Showing Nagpur and Kandla on the map) What can you say about the climate of these places regarding temperature?

P - At Nagpur climate is rather extreme.

T - Why?

P - Because Nagpur is quite away from the sea.

P - Kandla has temperate climate.

T - Why is it so?

P - Because Kandla is just by the sea.

T - Can we say that nearness to sea makes the climate of a place temperate?

P - Yes, we can say that way.

T - Which region of the earth is very hot in general?

P - Equatorial region.

T - But what are the hottest places?

P - Deserts.

T - Are the deserts in the equatorial region?

P - No, they are not.

T - Then, how do they become hottest places?

P - Because they are away from the sea.

T - Which region of the earth is very cold?

P - Polar region.

T - But what is the coldest place on earth?

P - Verkhoyansk.

T - Is it at the pole?

P - No.
T - Where is it?
   (No answer)

T - (Teacher shows Verkhoyansk on the map and the students find it in their own atlas.) Is it near the sea?

P - No.

T - So, if a place is away from the sea what would be the probable climate?

P - The climate of the place will be extreme.

T - (Teacher moves his finger round the middle of the globe.) What is this line?

P - Equator.

T - If you go towards north or south from the equator what happens to latitude?

P - Latitude increases.

T - What happens to temperature when you go from equator to polar region?

P - Temperature decreases.

T - Why?
   (No answer)

T - How do sun rays fall on the equator?

P - They fall directly.

T - Where do the sun rays fall slantingly?

P - In places away from the equator.
   (Teacher shows the diagram on the roll up board indicating differential heating effect due to direct and slanting sun rays.)
T - How are the places in the Torrid Zone?
F - They are very hot.

T - What about the places in the Temperate Zone?
F - The places included in this zone are comparatively cold.

T - How are the places in Frigid Zone?
F - They are extremely cold.

(Teacher to show the map indicating the zones of the earth.)

T - (Teacher showing Congo, Amazon regions and Singapore as well as the Tundras in the world map.) How are Congo, Amazon regions and Singapore?
F - They are very very hot.

T - What about the Tundras?
F - The Tundras are very very cold.

T - What can you say about the latitude of a place and its temperature?
F - Places of higher latitudes in the north or in the south are colder than the equatorial regions which are very hot.

T - (Teacher to show Mt. Abu in the map of India and the students see it in their own atlas.) If you go from the foot of Mt. Abu to its peak will the temperature remain the same?
F - No, it will change.

T - In what way?
F - Temperature will decrease as one goes up the hill.

T - So, how does altitude affect temperature of a place? Is there any regularity in the change of temperature?
P - For every 165 metres of height there is a fall of 1°C centigrade in the temperature.

T - Why is the temperature low as you go higher up in the mountain?

P - Clouds and fog on the mountain sides keep the temperature low.

T - Any other cause?

P - Trees on the mountain help to bring down temperature.

T - What happens to air as you go higher up the mountain?

P - Air gets thinner and thinner.

T - As air gets thinner what happens?

P - Air becomes cooler.

(Teacher to show a diagram already drawn on the roll up board to clarify the points.)

T - (Teacher to write on the B.B. the summer temperature of Delhi (34°C) and Simla (19°C).) Why is this temperature difference?

P - Because Simla is at a higher altitude than Delhi.

(Teacher to point out Delhi and Simla in the map and the students see them in their own atlas.)

T - Do you think winds can change the temperature of a place?

P - Yes, it can.
T - Which kind of wind may lower the temperature?

P - Moist wind and cold wind.

T - How does moist wind change temperature?

P - Moist wind may bring rain and thus affect the temperature.

T - Imagine that the great Himalayas are not there. What would be the probable effect on temperature of north India?

P - Very very cold wind would come from China and Tibet and make north India a very cold region.

(Teacher to show China and Tibet in the map of Asia and the students see them in their own Atlas.)

T - (Pointing out in the map of India) Suppose a warm ocean current is passing by the east coast of India, what would be the probable effect on the temperature of that region (Tamil Nadu)?

P - Climate of Tamil Nadu will be more warmer.

T - If a cold ocean current passes by Bombay how would its climate (temperature) be affected?

P - Bombay's climate would be more colder.

T - (Teacher to show east and west coast of Canada on the map and the students see them in their own atlas.) You know cold Labrador current is passing by the east coast while the warm California current is passing by the west coast of the country. What may be the probable effect of this on the climate (temperature) of the coastal areas of Canada?
P - East coast region will be colder while west coast areas will be warmer.

T - In winter, can you tell, which coast will have the harbours frozen?

P - East coast.

T - How is the Gulf Stream - warm or cold?

P - Warm

T - What happens to harbours of Britain and Norway due to the Gulf Stream?

P - The harbours of these countries remain open all the year round.

(Teacher to show the world map indicating ocean currents and the students find their passage in their own atlas.) (Teacher to show the pictures of open and frozen harbours.)

T - Do you think the position and direction of the mountains have anything to do with the climate (temperature) of the region?

P - Position of the mountains may change the temperature of a region.

T - What is the effect of the Himalayas standing in the north of India?

P - They stop much of the cold wind from China and Tibet.

T - What would happen if the Himalayas were not there?

P - North India would become intensely cold in winter.

T - (Teacher showing the position of the Aravallis in the map.) The Aravallis lie along the path of monsoon wind from the Arabian sea. What would have happened if this mountain stood across the path of monsoon winds?
P - It would cause more rainfall in Rajasthan.

T - What would be the result of this greater rainfall in Rajasthan?

P - Climate (temperature) of Rajasthan would be less extreme.

T - Monsoon winds from the Arabian sea strike the western side of the Western Ghats and cause rainfall. What happens to the eastern side of this mountain?

P - The eastern side has much less rainfall.

T - Why?

P - Because this side is in the rain-shadow.

T - Is the temperature different in the two sides of the mountain? Why?

P - The eastern side has higher temperature due to less rainfall.

(Teacher to draw diagram to clarify rain-shadow region and show the position of the Himalayas, the Aravallis and the Western Ghats in the map. The students consult their own atlas.)

T - Which type of soil will absorb and give out heat quickly - sandy, rocky or sticky soil?

(No answer)

T - Sandy and rocky soil absorb and give out heat more quickly.

T - What type of soil is there in the desert?

P - Sandy soil.

T - In day time and in summer how is the desert?

P - Intensely hot.

T - Why?
Because the sandy soil of the desert absorb heat very quickly.

How is it at night and in winter in the desert? Why?

Nights and winters are intensely cold in the desert because sand gives out heat very quickly.

(Teacher to show a picture of sands in the desert.)

After writing 'grow more trees' on the B.B., how do trees help rainfall?

Trees help condensation and therefore rainfall.

What is the consequence?

Temperature is lowered.

If we grow more trees, create new forests what would be the result?

Climate will be more temperate.

Imagine all places of a country having equal temperature are joined by a curved line in the map. What is the name of this line?

(No answer)

This line is called 'isotherm' (means equal temperature).

(Teacher to show isotherms in the map.)

What are the geographical factors that bring about change in temperature of a place?

Nearness to sea, latitude.

Type of soil, forests, ocean currents.

Any more geographical factors we have learnt about?

Altitudes, winds, position of the mountain.
Style S3: Questioning-Response-Feedback
Sequence

Std. VIII
Geography
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Topic: Factors influencing temperature of a place.

Lesson - 2.
Teaching points: 1. Factors that change the temperature of a place - latitude, altitude, nearness to the sea, winds, ocean, currents, position and direction of the mountains, kind of soil, and forests.

2. Meaning of the term 'isotherm'.

T - (Teacher points out the Himalayan region, the desert of Rajasthan and the coastal areas, and the pupils see them in their own atlas.) Which of these areas can be called hot?

P - The desert areas of Rajasthan.

T - Right, the desert areas of Rajasthan are hot.

T - Which area is cold?

P - The Himalayan region.

T - Yes, the Himalayan region is cold.

T - What can you say about the coastal areas?

P - Coastal areas are not so hot as Rajasthan.

P - Also they are not so cold as the Himalayan region.
T - Yes, both of you are right.

T - Why is the temperature different in different places?

P - It is due to mountains.

T - Yes, it is due to mountains. Any other cause?

P - It is due to the sea.

T - Right, it is due to the sea. Any more reasons?

P - It is due to the desert.

T - That's correct. It is due to the desert also.

T - Mountains, sea and desert - are these different geographical factors?

P - These are different geographical factors.

T - Do you agree if I say that different geographical factors bring about change of temperature at different places?

P - We do.

(Teacher writes on the B.B. 'Geographical factors - temperature change').

T - (Teacher shows Delhi and Bombay on the map and writes on the B.B. the range of temperature, that is, the temperature difference between summer and winter in Delhi (19.5°C) and at Bombay (5.5°C). Which place has got the higher range of temperature?

P - Delhi.

T - Correct.

T - Which place is nearer to the sea?

P - Bombay.
T - You are right. Bombay is nearer to the sea.

T - How are summer and winter in Delhi?

P - In Delhi summer is very hot.

P - Also winter is very cold in Delhi.

T - Both of you are quite right.

T - What about summer and winter in Bombay?

P - In Bombay summer is not very hot.

T - Right.

P - Also winter is not very cold in Bombay.

T - You are correct.

T - What we say about temperature in Delhi and Bombay and their distance from the sea?

P - Delhi is much away from the sea and summer and winter are both extreme there.

T - Good.

P - Bombay is near the sea and summer is not so hot and winter is not so cold.

T - Quite right.

T - (Showing Nagpur and Kandla on the map.) What can you say about the climate (temperature) of these places?

P - At Nagpur climate is rather extreme.

T - Why?

P - Because it is away from the sea.
T - Right.

T - What about Kandla?

P - Kandla has temperate climate.

T - Why?

P - Because it is nearby the sea.

T - Good.

T - Can we say then that nearness to sea makes the climate of a place temperate?

P - We can say that way.

T - Which region of the earth is very hot in general?

P - Equatorial region.

T - Right. Equatorial zone is very hot.

T - But, where are the hottest places?

P - In the deserts.

T - Good. Are the deserts in the equatorial regions?

P - No, they are not.

T - Quite right.

T - Then, how do they become hottest places?

P - Because they are quite away from the sea.

T - Very good.

T - Which region of the earth is very cold?

P - Polar region.

T - Yes, polar region is very cold.

T - But, what is the coldest place on earth?
P - Varkhoyansk.

T - Correct. Is it at the pole?

P - No.

T - Where is it then?

(No answer)

T - (Teacher shows Varkhoyansk in the map and the students find it in their own atlas.) Is it near the sea?

P - No.

T - Right. It is not near the sea.

T - So, if a place is away from the sea what would be the probable climate?

P - Climate of the place would be extreme.

T - Very good.

T - (Teacher moves his finger round the middle of the globe.) What is this line?

P - Equator.

T - Yes, it is the equator.

T - If you go towards north or south from the equator what happens to the latitude?

P - Latitude increases.

T - Correct. As we go away from the equator latitude increases.

P - What happens to temperature when you go from equator to polar region?
P - Temperature becomes less and less.

T - You are right. But why does temperature decrease?

(No answer)

T - How do sun rays fall on the equator?

P - They fall directly.

T - Quite right. Where do the sun rays fall slantingly?

P - In places away from the equator.

T - Very good.

(Teacher shows the diagram on the roll up board indicating differential heating effect due to direct and slanting sun rays.)

T - How are the places in the Torrid Zone?

P - They are very hot.

T - Yes, places in the Torrid Zone are very hot.

T - What about places in the Temperate Zone?

P - Places in this zone are neither very cold nor very hot.

T - Good.

T - How are the places in the Frigid Zone?

P - They are extremely cold.

T - Right, places in the Frigid Zone are extremely cold.

(Teacher to show the map indicating the zones of the earth.)
(Teacher shows Congo, Amazon regions and Singapore as well as the Tundras in the world map. Students consult their atlas.) How are Congo, Amazon regions and Singapore?

P - They are very very hot.

T - Yes, they are very very hot places.

T - What about the Tundras?

P - The Tundras are very very cold.

T - Right. The Tundras are very very cold regions.

T - What can you say about the latitude of a place and its temperature?

P - Places of higher latitude in the north or in the south are colder than the equatorial regions which are very hot.

T - Very good.

T - (Teacher to show Mt. Abu in the map of India and the students see it in their own atlas.) If you go from the foot of Mt. Abu to its peak will the temperature remain the same?

P - No, it will change.

T - Yes, it will change. In what way will it change?

P - Temperature will decrease as one goes up the hill.

T - Good.

T - Then, how does altitude affect temperature of a place? Is there any regularity in the change of temperature?
P - For every 165 metres of height there is a fall of 1° centigrade in the temperature.

T - Very good. But why does the temperature become low as you go higher up in the mountain?

P - Clouds and fog on the mountain sides keep the temperature low.

T - That's correct. Any other cause?

P - Trees and forests on the mountain help to bring down the temperature.

T - Quite right. Any more reason?

(No answer).

T - What happens to air as you go higher up in the mountain?

P - Air gets thinner and thinner.

T - Good. Air gets thinner. So what is the result?

P - Air becomes cooler.

T - Very good.

(Teacher to show a diagram already drawn on the roll up board to clarify the point.)

T - (Teacher to write on the B.B. the summer temperature of Delhi (34°C) and Simla (19°C). Why is this difference of temperature between the places which are not very far away?

P - Because Simla is at a higher altitude than Delhi.
T - Quite right.

(Teacher to point out Delhi and Simla in the map and the students see them in their own atlas.)

T - Do you think winds can change the temperature of a place?

P - Yes, it can.

T - Which kind of winds may lower the temperature?

P - Moist wind and cold wind.

T - Right. Moist wind and cold wind can bring down temperature.

T - How does moist wind change the temperature?

P - Moist wind may cause rain and thus bring down temperature.

T - Good.

T - Now, imagine that the great Himalayas are not there. What would be the probable effect on climate (temperature) of north India?

P - Very very cold wind would come from China and Tibet and make north India a very cold region.

T - You are quite right. In that case north India would be a very cold region affected by the cold wind coming from north;

(Teacher to show China and Tibet in the map of Asia and the pupils see them in their own atlas.)

T - Suppose a warm ocean current is passing by the east coast of India. What would be the probable effect on the temperature of that region (Tamil Nadu)? (Teacher shows east coast and Tamil Nadu in the map.)
P - Climate (temperature) of Tamil Nadu will be more warmer.

T - That's right. If a cold ocean current passes by Bombay how would its climate (temperature) be affected?

P - Bombay's climate would be more colder.

T - Yes, it will be like that.

T - (Teacher to show east and west coast of Canada on the map and the pupils find them in their own atlas.) You know cold Labrador current is passing by the east coast while the warm California current is passing by the west coast of the country. How would this change the climate (temperature) of the coastal areas of Canada?

P - East coast region will be colder.

T - Right.

P - West coast region will be warmer.

T - That's correct.

T - In winter, can you tell, which coast will have harbours frozen?

P - East coast.

T - Yes, east coast harbours in Canada will be frozen in winter.

T - What about west coast? What about the harbours there?

P - West coast region will be warmer in winter and the harbours there will remain open.

T - Very good.
T - How is the Gulf stream - warm or cold?

P - Warm.

T - Yes, the Gulf stream is a warm ocean current.

T - What happens to the harbours of Britain and Norway due to the Gulf Stream?

P - The harbours of these countries will remain open all the year round.

T - That's quite right.

(Teacher to show the world map indicating ocean currents and the students find their passage in their own atlas.)

Teacher to show the pictures of open and frozen harbours.)

T - Do you think the position and direction of mountains have anything to do with the climate (temperature) of a region?

P - Position of the mountains may change the temperature of a region.

T - Yes, you are right.

T - What is the effect of the Himalayas standing in the north of India?

P - They stop much of the cold wind from China and Tibet.

T - Right. What could have happened if the Himalayas were not there?
P - North India would become intensely cold in winter.

T - (Teacher showing the position of the Aravallis in the map.) The Aravallis lie along the path of monsoon winds from the Arabian sea. What would have happened if this mountain stood across the path of the monsoon winds?

P - It would cause more rainfall in Rajasthan.

T - That's right. What would be the result of this greater rainfall in Rajasthan?

P - Climate (temperature) of Rajasthan would be less extreme.

T - Good.

T - Monsoon winds from the Arabian sea strike the western side of the Western Ghats and cause rainfall. What happens to the eastern side of the mountain?

P - The eastern side has much less rainfall.

T - Right. But why?

P - Because this side is in the rain-shadow.

T - Very good.

T - Is the temperature different in the two sides of the mountain? Why?

P - The eastern side has higher temperature due to less rainfall.

T - That's quite right.

(Teacher to draw diagram to clarify rain-shadow region and show the position of the Himalayas, the Aravallis and the Western Ghats in the map. The students consult their atlas.)
Which type of soil will absorb and give out heat quickly - sandy, rocky or sticky soil?

(No answer)

Sandy and rocky soil absorb and give out heat more quickly.

What type of soil is there in the desert?

Sandy soil.

Yes, you are right.

In daytime and in summer how is the desert?

It is intensely hot.

Yes, it is very very hot. But, why?

Because the sandy soil of the desert absorbs heat very quickly.

That's correct.

How is it at night and in winter in the desert? Why?

Nights and winters are very very cold in the desert because the sand gives out heat very quickly.

Very good.

(Teacher to show a picture of sands in the desert.)

(After writing 'grow more trees' on the B.B.) How do trees help rainfall?

Trees help condensation and therefore rainfall.

Good. What is the consequence?
P - Temperature is lowered.
T - That's correct.

T - If we grow more trees and create new forests what would be the result for change in climate (temperature) ?

P - Climate will be more temperate.
T - Yes, climate will be more temperate.

T - Imagine all places of a country having equal temperature are joined by a curved line in the map. What is the name of this line ?

(No answer)

T - This line is called 'isotherm' (means equal temperature).
   (Teacher to show isotherms in the map. Students identify them in their own atlas.)

T - What are the geographical factors that bring about change in temperature of a place ?

P - Nearness to the sea and latitude.
T - Yes, any more factors ?

P - Type of Soil, forests, ocean currents.

T - Right. Have you learnt any more geographical factors to-day ?

P - Altitude, winds and position of the mountain.
T - Quite right.