



WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

TEXTBOOK QUESTIONS AND ANSWERS

Q.1. Why weather changes so frequently?

Ans. All changes in the weather are caused by the sun. The movement of the earth around the sun changes the weather frequently.

Q.2. What is the source of weather in the first place?

Ans. The sun is the primary source of energy that causes changes in the weather. Energy absorbed and reflected by the earth's surface, oceans and the atmosphere play important roles in determining the weather of any place.

TEXTBOOK EXERCISES AND ANSWERS

Q.1. Name the elements that determine the weather of a place.

Ans. The temperature, humidity, rainfall, wind speed etc. determine the weather of a place.

Q.2. When are the maximum and minimum temperature likely to occur during the day ?

Ans. The maximum temperature of the day occurs generally in the afternoon while the minimum temperature occurs in the early morning.

Q.3. Fill in the blanks :

(i) The average weather taken over a long time is called _____.

Ans. Climate.

(ii) A place receives very little rainfall and the temperature is high throughout the year, the climate of that place will be _____ and _____.

Ans. Hot, dry.

(iii) The two regions of the earth with extreme climate conditions are _____ and _____.

Ans. Northern pole, Southern pole.

Q.4. Indicate the type of climate of the following areas :

- (a) **Jammu and Kashmir** _____.
- (b) **Kerala** _____.
- (c) **Rajasthan** _____.
- (d) **North-east India** _____.

Ans. (a) Moderately hot and moderately wet climate. Extremely cold during winters.

- (b) Hot and wet climate.
- (c) Hot and dry climate.
- (d) Wet climate.

Q.5. Which of the two changes frequently, weather or climate ?

Ans. Weather changes frequently.

Q.6. Following are some of the characteristics of animals:

- (i) **Diets heavy on fruits.**
- (ii) **White fur.**
- (iii) **Need to migrate.**
- (iv) **Loud voice.**
- (v) **Sticky pads on feet.**

- (vi) **Layer of fat under skin.**
- (vii) **Wide and large paws.**
- (viii) **Bright colours.**
- (ix) **Strong tails.**
- (x) **Long and large beak.**

For each characteristic indicate whether it is an adaptation for tropical rainforests or polar regions. Do you think that some of these characteristics can be adopted for both regions ?

Ans.

- (i) Diets heavy on fruits – Tropical rain forests
- (ii) White fur – Polar region
- (iii) Need to migrate – Polar region
- (iv) Loud voice – Tropical rainforests
- (v) Sticky pads on feet – Tropical rainforests
- (vi) Layer of fat under skin – Polar region
- (vii) Wide and large paws – Polar region

- (viii) Bright colours – Tropical rainforests
- (ix) Strong tails – Tropical rainforests
- (x) Long and large beak – Tropical rainforests

Yes, some animals migrate from polar regions to warmer regions. However during summer, they once again migrate from these regions to polar regions.

Q.7. The tropical rainforests has a large population of animals. Explain why it is so.

Ans. The tropical region has generally a hot climate because of its location around the equator. Even in the coldest month, the temperature is generally higher than about 15°C. During hot summers, the temperature may cross 40°C. These regions get plenty, rainfall. Thus, the climatic conditions in rainforests are highly suitable for supporting an enormous number and variety of animals.

Q.8. Explain, with the examples, why we find animals of certain kind living in particular climatic conditions.

Ans. Animals are adapted to survive in the conditions in which they live. Features and habits that help animals to adapt to their surroundings are a result of the process of evolution. In a particular type of climate, animals have certain adapted

features which help them to survive in such climate. For example, animals in the polar regions are adapted to the extremely cold climate by having special characteristics such as white fur, layer of fat under the skin, a strong sense of smell, wide and large paws for surviving and walking on ice etc.

Animals of tropical rainforests are adapted to eat different kinds of food to overcome the competition for food. They have strong tails, long and large beaks, bright colour, thick skin, ability to camouflage in order to protect themselves from predators etc.

Q.9. How do elephant living in the tropical rainforest adapt itself ?

Ans. Elephants living in the tropical rainforests have adapted to the conditions of rainforests in many remarkable ways. The elephant uses its trunk as a nose because of which it has a strong sense of smell. The trunk is also used for picking up food. The tusks of the elephant are modified teeth. By means of these tusk, it can tear the bark of trees. The large ears of the elephant help it to hear even very soft sounds. They also help the elephant to keep cool in the hot and humid climate of the rainforest.

Choose the correct option which answers the following questions :

Q. 10. A carnivore with stripes on its body moves very fast while catching its prey. It is likely to be found in :

(i) Polar regions

(ii) Deserts

(iii) Oceans

(iv) Tropical rainforests.

Ans. (iv)

Q.11. Which features are adapted by polar bears to live in extremely cold climate?

(i) A white fur, fat below skin, keen sense of smell.

(ii) Thin skin, large eyes, a white fur.

(iii) A long tail, strong claws, white large paws.

(iv) White body, paws for swimming, gills for respiration.

Ans. (i) A white fur, fat below skin, keen sense of smell.

Q.12. Which option best describes a tropical region?

(i) hot and humid.

(ii) moderate temperature, heavy rainfall.

(iii) cold and humid.

(iv) hot and dry.

Ans. moderate temperature, heavy rainfall.

EXTENDED LEARNING – PROJECTS AND ACTIVITIES

1. Collect weather reports of seven successive days in the winter months (Preferably December). Collect similar reports for the summer months (Preferably June). Now prepare a table for sunrise and sunset times as shown :

Table

June			December		
Date	Sunrise	Sunset	Date	Sunrise	Sunset
25-06-06	5.00	6.45	25-12-05	5.50	5.20
26-06-05	5.05	6.50	26-12-05	5.05	5.05
27-06-05	5.10	6.45	27-12-05	6.00	5.10
28-06-05	5.15	6.40	28-12-05	5.55	5.05
29-06-05	5.05	6.50	29-12-05	6.15	5.10
30-06-05	5.20	6.55	30-12-05	6.05	5.05

Try to answer the following questions :

- (i) Is there any difference in the time of sunrise during summer and winter ?**
- (ii) When do you find that the sun rises earlier ?**
- (iii) Do you also find any difference in the time of sunset during the month of June and December ?**
- (iv) When are the days longer ?**
- (v) When are the nights longer ?**
- (vi) Why are the days sometimes longer and sometimes shorter?**
- (vii) Plot the length of the day against the days chosen in June and December ?**

(Instructions for plotting graphs are given in Chapter 13).

Ans. (i) Yes, there is difference in the time of sunrise during summer and winter.

(ii) During summer, sun rises early.

(iii) Yes, there is difference in the time of sunset during month of June and December.

- (iv) During summer.
- (v) During winter.
- (vi) Due to the position of the sun.
- (vii) Self doing.