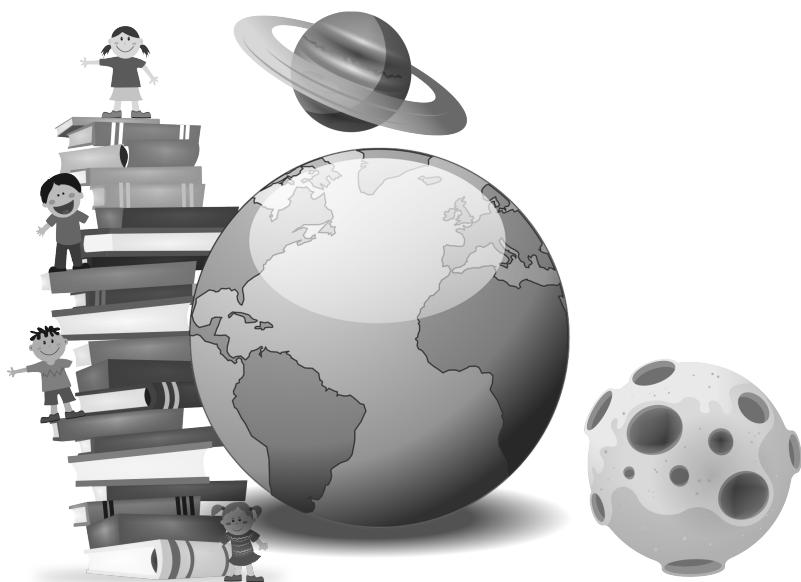


Teachers' Manual 4

Blue Planet

A Textbook of Environmental Education



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BLUE PLANET-4

1. Our Family

A. 1. b 2. a 3. b 4. a 5. b **B.** Do yourself **C.** Different kinds of family are—
a. Nuclear family b. Single-parent family c. Joint family. 2. When people are born around the same time, they are said to belong to one generation. For example, our grandparents form the first generation and we, their grand children form the third generation. 3. Family in which only parents and their children live together is a nuclear family. While in a joint family, parents, siblings, uncle, aunt and cousins live together. 4. Mother is always special; because she cares for us the most. She makes our lives comfortable in many ways. She cooks food for the family, helps us in our home work, plays with us and takes care of all our needs. We should always obey and respect our mother. 5. Adoption means becoming legal parents of a child who has lost the parents anyway. Sometimes people, other than legal parents, help in bringing up a child for few months or years. Such people are called foster parents. **HOTS:** After laying the eggs, birds sit on them to give them warmth so as to hatch their babies.

2. My Extended Family

A. 1. b 2. c 3. a 4. c **B.** 1. immediate 2. extended 3. grandmother 4. first **C.** 1. All the family members may not be staying together. Family members who stay with us form our immediate family. 2. The family members who do not stay with us in the same house, are called our extended family. 3. and 4. Do yourself 5. Family is our first school. We learn many things from our family. We learn many values from our elders like - good manners, discipline, punctuality, sharing our belongings, caring for each other and being respectful to all.

3. Sense Organs

A. 1. a 2. c 3. c 4. b 5. c **B.** 1. eyes 2. nose 3. Skin 4. Tongue 5. differently-abled **C.** 1. The organs which help us to see, feel here taste and smell things around us, are called our sense organs.

2. I wash my eyes with cold and fresh water every time I do to washroom and wipe them with clean towel. I use goggles when I go out in sunlight. I clean my ears with cotton buds. I never put any sharp object in my ears. 3. Tiny hair present in our nose, filter the air that we breathe by trapping the dust and germs present in it. 4. Braille script is a script for blind people. In the Braille script, the alphabets and numbers are represented by raised dots on a paper. Blind people move their finger over these dots, feels them and thus, read what is written. 5. Some people cannot see, hear, talk or walk normally. They are called differently-abled people. They need special care and attention. Helen Keller was a differently abled child. **D. Smooth:** Spinach, Banana, Pear, Apple, Grapes **Rough:** Potato, Bittergourd, Cauliflower, Pineapple, Broccoli **HOTS:** a. Ophthalmologist b. Otologist c. Dermatologist

4. Teeth and Tongue

A. 1. b 2. b 3. a 4. c 5. a **B.** 1. Temporary 2. Incisors 3. Enamel 4. Permanent 5. Canines **C.** 1. Four different kinds of teeth according to their functions are: a. **Incisors-** to bite and cut the food. b. **Canines-**to tear the food. c. **Pre-molars-**to crush and chew the food. d. **Molars-**to grind the food mixed with saliva. 2. The part of the tooth that is seen above the gum is called the crown. White coating on this crown is called enamel. Below the enamel is dentine. Inside the dentine is pulp. The pulp is very soft and has blood vessels and nerves in it. The part that is inside the gum is called the root of the tooth. 3. When a child is about six years old, temporary teeth start falling out and new teeth start appearing in their place. This set of new teeth is called permanent teeth. They are 28 in number. 4. It is very important to take proper care of our teeth. I brush my teeth twice everyday. I rinse my mouth after every meal. I avoid eating sticky candies, chocolates and sweets. I do not take fizzy drinks and visit my dentist regularly. 5. Our tongue has four kinds of taste buds. They are sweet taste bud, sour taste bud bitter taste bud and salty taste bud.

E. 1. 8, 2. 4, 3. 8, 4. 12, **HOTS:** When we eat anything, small bits of food get stuck between our teeth. We have to remove the food bits, otherwise germs start growing there and give out acid. The acid damages the enamel; and slowly a small hole called cavity is formed. If cavity grows bigger, it reaches the pulp and causes toothache.

5. Recreation Time

A. 1. c 2. b 3. c 4. a 5. c **B.** 1. No 2. Yes 3. No 4. No 5. Yes
C. 1. After a day's work, everyone needs to take rest mentally and physically. Any activity done for fun and enjoyment is called a recreational activity. 2. Ludo, carom, chess, badminton, table-tennis, etc. are some indoor games. While kite flying, cricket, hockey, etc. are some outdoor games. 3. The school provides the equipments required for playing games like football, cricket bat or ball, racquet, shuttle cock and many more. 4. Kite-flying is a popular means of recreation in India. People fly kites especially on festivals like Independence Day, Makar Sankranti and Basant Panchami. 5. Fair is organised on large open ground. There are many stalls; like games, foods of different states, rides such as roller coaster, merry-go-round, giant wheel, etc. Fair is organised on festivals like Christmas, Diwali, Teej and many more. Children and elders all enjoy fair very much. **D.** 1. Kumbh fair 2. Nauchandi fair 3. Book fair 4. Trade fair 5. Baisakhi fair
HOTS: Team spirit is important for team's good performance.

6. Skilled Workers

A. 1. b 2. a 3. c 4. a **B.** 1. sewing machine 2. potter's wheel; 3. tractor or plough 4. Doctor 5. Policemen **C.** 1. We have to work to earn money for our living. When a person is involved in a particular activity daily, it is called his occupation. 2. Name of three skilled workers are: tailor, cobbler, driver, 3. Some people undergo special training related to their field of work. They are called professionals. For example, architect, teacher, doctor, engineer, police officer, etc. 4. An architect only designs houses

and buildings while an engineer designs and constructs bridges and flyovers. **D.** Do yourself **E.** Rani Laxmibai Bachhendri Pal Pratibha Patil **HOTS:** Because men and women have the same mental ability without any gender identification. They both can perform well on the same level.

7. Animal Survival

A. 1. a 2. c 3. a 4. c 5. b **B.** 1. paddles 2. aquatic 3. carnivores 4. tubes 5. endangered **C.** 1. The animals have to adjust themselves according to their living place, by making few changes in them. This ability to adjust to one's surroundings is called adaptation. 2. Adaptive features of terrestrial animals are—
a. They breathe through lungs. b. They have legs to walk or run on land. c. They have sharp teeth and claws to catch and eat their prey. d. They have well developed sense organs to escape from enemies. 3. Monkey's strong arms and legs help it to climb trees. 4. Some animals eat only herbs, some eat only flesh of other animals and some eat both plants as well as flesh, this way the animals can be grouped according to their food habits; such as Herbivores, Carnivores and Omnivores, etc. 5. Different animals adapt different features to protect themselves or to escape from enemies. Deer and zebra run fast to escape from enemies. While chameleon and stick insect have developed the way to merge with their surroundings. And become difficult to be seen. **HOTS:** Yes, I think, humans also have adaptations to protect themselves. If somebody tries to hit us, either we run from there or we fight with our limbs, this is our adaptive feature of protection. All our sense organs help to keep us safe.

8. Plants World

A. 1. a 2. c 3. b 4. a 5. c **B.** 1. fibrous 2. Roots 3. Annuals 4. anther 5. Flowers **C.** 1. Roots and shoot are the two main parts of a plant. The root grows under the soil while the shoot is what all grow above the soil. 2. Tap root grows from the base of the stem and many small roots grow from the main root; such as of carrot, mango and rose

plants. While fibrous root grows from the end of the stem; like wheat, rice and onion plant roots. 3. Roots have many functions to perform. Some of them are: a. Roots keep the plant fixed to the soil. b. They absorb water and minerals from the soil. c. Some plants like radish, turnip and carrot store food in their roots; and are thus edible. 4. Flowers are important for a plant because they bear pollen grains in them which lead to fruits to reproduce. 5. The different parts of a flower are: sepal, carpel, stamen, stigma, filament, ovule, etc. 6. Some uses of flowers are: Flowers are used in decoration, in making perfumes and oils, in making dyes or colours, etc. Some flowers are eaten as vegetables; like cauliflower and broccoli. Flowers are also offered during prayers.

9. The Journey of Food

A. 1. b 2. c 3. c 4. b 5. b **B.** 1. Rice, Wheat 2. Urad, Mung 3. Cardamom, Turmeric 4. Groundnut, Mustard 5. Tea, Coffee **C.** 1. We eat food to get energy to work and play. Food helps us to grow and keep healthy. 2. Farmers grow crops in fields or farms. 3. To grow a crop, the farmer first prepares the field. He cleans and ploughs the field, then adds manure to it. 4. The cutting of crops is called harvesting. 5. We use different cooking oils in food. These oils are obtained by crushing the seeds of some plants. These type of seeds are called oil seeds; such as peanut, coconut, mustard, etc. **D.** Grains are taken to wholesale market.

(6)

Grains are winnowed. (5)

Fields are ploughed. (1)

Seeds are sowed. (2)

Crops are harvested. (4)

Shopkeepers sell them in *mandi*. (7)

Pesticides and insecticides are sprayed. (3)

HOTS: *Rajma* is a popular dish in Punjab.

10. Eating Together

A. 1. c 2. a 3. b 4. b **B.** 1. Yes 2. No 3. Yes 4. No 5. Yes
C. 1. Balanced diet is provided in boarding schools, which keeps children fit and healthy. 2. Once every day we should eat together in our family. During this, we share our food, jokes, news and enjoyment. Eating together promotes a sense of belonging and sharing. It is a lot of fun. 3. *Bhandara* and *langar* are the free meals offered by the temples and gurdwaras. 4. Weddings, birthdays, anniversaries, festivals, etc. are the occasions when family and friends get together. 5. A mid-day meal is the free meal given to the children during their school. **HOTS:** Government provides mid-day meals in school so that the school children do not suffer from hunger and malnutrition.

11. Waste and its Management

A. 1. b 2. c 3. c 4. a 5. b **B.** Do yourself **C.** 1. Waste means anything that is of no use to us. For example, old newspaper, empty bottles and cans, toffee wrappers, fruits and vegetable peels, etc. 2. The non-biodegradable waste does not rot easily. It does not mix with the soil and remains in the environment for thousands of years. For example, plastic bottles, aluminium cans and silver foil, etc. 3. The biodegradable waste rots easily and mixes with the soil. Micro organisms like bacteria, fungi and earthworms help to decompose such waste. For example, leftover food, fruit and vegetable peels, leaves, paper, etc. 4. Recycling is the process of producing a new product from a used or waste material. Some things that we can recycle are: glass, paper, metal, textile, plastic, electronics, etc. 5. The three 'Rs' are related to the waste management. They are: Reduce, Reuse and Recycle. **HOTS:** Chemicals may harm the soil, air as well as water; so it is advised to dispose chemical wastes separately.

12. Water

A. 1. c 2. a 3. a 4. c 5. c **B.** 1. Yes 2. No 3. Yes 4. Yes 5. No **C.** 1. The

water in sea and ocean is salty. To make it suitable for use, the salt needs to be removed from it. This process of removing salt from the sea water is called desalination. 2. Perennial rivers are permanent rivers. The Himalayan Rivers like the Ganges, the Yamuna, etc. flow throughout the year; while non-perennial rivers flow only for few months of a year. They are seasonal rivers like of South Indian River Cauvery, Krishna and Godavari. 3. The three states of water are: solid: ice; liquid: water; and gas: steam. 4. A dam is a barrier constructed across a river to block the flow of water and raise its level, forming a reservoir which is used to generate electricity or as a water supply. 5. Water cycle is the continuous movement of water from land to sky and back to land again. It involves various steps. They are: 1. Evaporation, 2. Condensation, 3. Precipitation, 4. Collection and 5. Infiltration. **D.** 1. Ganga 2. Yamuna 3. Krishna 4. Godawari 5. Kaveri **HOTS:** The water from open water bodies gets evaporated and goes into the air; the vapors get condensed and form clouds. The water falls again to the ground in the form of rain. This process is continuous; so is called the water cycle.

13. Paying for Travel

A. 1. a 2. c 3. a 4. b 5. c **B.** 1. No 2. Yes 3. No 4. Yes 5. Yes **C.** 1. The vehicles which are not owned by us and we have to pay to travel from them, are called public vehicles. For example, bus, auto, train, plain, taxi, etc. 2. Vehicles like, cycle, scooter, car, etc. are owned by us. These are called private vehicles. 3. The money we pay to buy something or anything is called currency. 4. One side of coin has its value and the year of minting, marked on it. The other side of coin has the national emblem and the words 'Satyamev Jayate' in Devanagari script. 5. Front side of a ten rupees note has mark of Reserve Bank of India, the value of the note, picture of Mahatma Gandhi, national emblem, RBI Governor's signature and alpha-numeric code number unique for each note. **HOTS:** There are four lions in our national emblem. They are back to back opposite to each other. At one time, from

any side, we can see only three of them.

14. Houses and Bridges

A. 1. c 2. a 3. c 4. c 5. a **B.** 1. moisture 2. electrician 3. Beam 4. painters **C.** 1. Bricks are cuboidal shaped blocks made of clay, sand and lime. These are usually red in colour. These are used in making wide range of structures from housing to factories and in the construction of tunnels, waterways, etc. 2. Bricks are made from clay. For this, firstly clay is dug out from the ground, either manually or by machines. This is called clay winning. 3. Mason is the person who lays the foundation of the house. With labourers, he lays walls, pillars and roof of the house. 4. Bridges are made for the smooth movement of traffic over a river or road; or for linking two hills or mountains. Some bridges are long while some are small. Bridges can be permanent or temporary. 5. Suspension bridge hangs from chains or ropes over a stream or river. The path is made of wooden planks. It is a permanent bridge. **HOTS:** A building or bridge should be earthquake-proof and water proof because earthquakes and heavy rainfall cause severe damage to life and property.

15. Housing

A. 1. a 2. c 3. c. 4. b 5. a **B.** 1. Yes 2. No 3. Yes 4. No 5. Yes **C.** 1. Riddhi is living in a beautiful house named Govind Bhawan. It is a double storeyed house. The front gate is decorated with flowers. The backyard of the house is covered with green grass. The walls are painted with bright colours and the floor is covered with ceramic tiles. 2. When Shobhit's grandmother was of Shobhit's age, she lived in a hut in a village. Its walls were made of mud or clay and had a thatched roof. 3. Mostly *pucca* houses are found in urban areas. These houses are of different shapes and sizes. They are made of bricks, cement, concrete, iron, wood and marble, etc. 4. Apartments are multi-storeyed buildings with many floors. Each floor has two or more houses called flats. Apartments usually provide all the facilities, like power backup, security and recreational activities, etc. 5. Very poor people make

their temporary house using waste materials like, plastic polythene, metals, cloth etc. This type of house is called shack. A place with many such houses is called slum. **HOTS:** Shruti must be living in a *kuchcha* house in the village. She must not be getting all the facilities as children living in the cities get.

16. Animals for Transport

A. 1. c 2. b 3. a 4. c 5. b **B.** 1. Elephant 2. Bullock 3. Buggy 4. Yaks 5. Bullock **C.** 1. The animals which are trained and used for riding are called riding animals. For example, horse, pony, elephant and camel. 2. Animals which are used for carrying loads are called pack animals. For example, camel, mule, donkey, etc. 3. Some animals are used to pull wheeled vehicles, plough or sledge, they are called draft animals. For example, horse, bullock and mule etc. 4. Elephants are big and strong animals. They have four big poles like legs and a long trunk for eating and drinking. Earlier, the kings used to travel on beautifully decorated elephants. Nowadays, elephants are used to transport people and loads through dense forests. 5. We should take good care of our domestic or pet animals. We should keep them clean and give them good food, fresh water and proper rest. We should also take them to veterinary doctors for regular checkups and vaccination. **HOTS:** Because camels padded feet allow them to move smoothly on dry and hot sand in desert areas.

Model Test Paper-1

A. 1. b 2. c 3. a 4. a 5. c **B.** 1. sewing machine 2. Roots 3. eyes 4. extended 5. nose **C.** 1. Different kinds of families are— a. Nuclear family b. Single-parent family c. Joint family. 2. Our eyes are very sensitive; we should take good care of them. I wash my eyes with cold and fresh water every time I go to washroom and wipe them with clean towel. I use goggles when I go out in sunlight. Ears help us to hear various sounds around us. I clean my ears with cotton buds. I never put any sharp object in my ears. 3. The school provides the equipments required for playing

games like football, cricket bat or ball, racquet, shuttle cock and many more. 4. Some animals eat only herbs, some eat only flesh of other animals and some eat both plants as well as flesh, this way the animals can be grouped according to their food habits; such as Herbivores, Carnivores and Omnivores, etc. 5. Some uses of flowers are: Flowers are used in decoration, in making perfumes and oils, in making dyes or colours, etc. Some flowers are eaten as vegetables; like cauliflower and broccoli. Flowers are also offered during prayers.

Model Test Paper-2

A. 1. b 2. a 3. a 4. c 5. b **B.** 1. Yes 2. Yes 3. No 4. No 5. Yes **C.** 1. We eat food to get energy to work and play. We get this energy from the food we eat. Food helps us to grow and keep healthy. 2. The non-biodegradable waste does not rot easily. It does not mix with the soil and remains in the environment for thousands of years. For example, plastic bottles, aluminium cans and silver foil, etc. 3. The money we pay to buy something or anything is called currency. 4. Apartments are multi-storeyed buildings with many floors. Each floor has two or more houses called flats. Apartments usually provide all the facilities, like power backup, security and recreational activities, etc. 5. We should take good care of our domestic or pet animals. We should keep them clean and give them good food, fresh water and proper rest. We should also take them to veterinary doctors for regular checkups and vaccination.