NCERT Solutions for Class 7 Science Chapter 9
Soil

Exercise

Tick the most suitable answer in questions 1 and 2.

1. In addition to the rock particles, the soil contains
(i) air and water
(ii) water and plants
(iii) minerals, organic matter, air and water
(iv) water, air and plants

Solution:
Option (iii) is the correct option.

2. The water holding capacity is the highest in
(i) sandy soil
(ii) clayey soil
(iii) loamy soil
(iv) mixture of sand and loam

Solution:
Option (iii) is the correct option.

3. Match the items in Column I with those in Column II:

Column I	Column II
A home for living organisms	**Large particles**
Upper layer of soil	**All kinds of soil**
Sandy soil	**Dark in colour**
Middle layer of the soil	**Small particles and packed tight**
Clayey soil	**Lesser amount of humus**

Solution:

Column I	Column II
A home for living organisms	All kinds of soil
Upper layer of soil	Dark in colour
Sandy soil	Large particles
Middle layer of the soil	Lesser amount of humus
Clayey soil	Small particles and packed tight

4. Explain how soil is formed.

Solution:
Soil is formed due to the weathering of rocks. The physical breakdown and chemical decomposition of minerals takes place primarily by wind, water and climatic changes. In the process of weathering, rocks are converted into small pieces which eventually turn to soil particles to form a layer of soil.

5. How is clayey soil useful for crops?

Solution:
Clayey soil is useful for crops for the following reasons:
- Excellent water holding capacity
- Richin organic matter

6. List the differences between clayey soil and sandy soil.

Solution:

Clayey soil	Sandy soil
Particles are tightly packed	Particles are loosely packed
Particles are fine	Particles are large
Rich in humus and organic content	Not rich in humus and organic content
Excellent water retention capacity	Low water retention capacity
Less air is trapped between the particles	Amount of air trapped is more

7. Sketch the cross section of soil and label the various layers.

Solution:

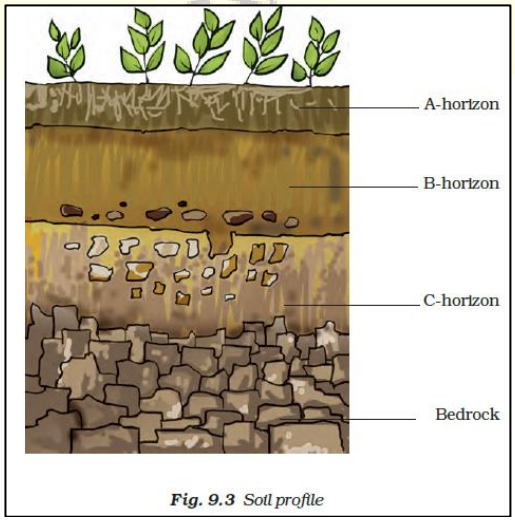

Fig. 9.3 Soil profile

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8. Razia conducted an experiment in the field related to the rate of percolation. She observed that it took 40 min for 200 mL of water to percolate through the soil sample. Calculate the rate of percolation

Solution:

Given:

Amount of water = 200 ml

Percolation time = 40 minutes

Percolation rate = $\frac{\text{Amount of water}}{\text{Percolation time}} = \frac{200 \text{ ml}}{40 \text{ minutes}}$ = 5 ml/min

9. Explain how soil pollution and soil erosion could be prevented.

Solution:

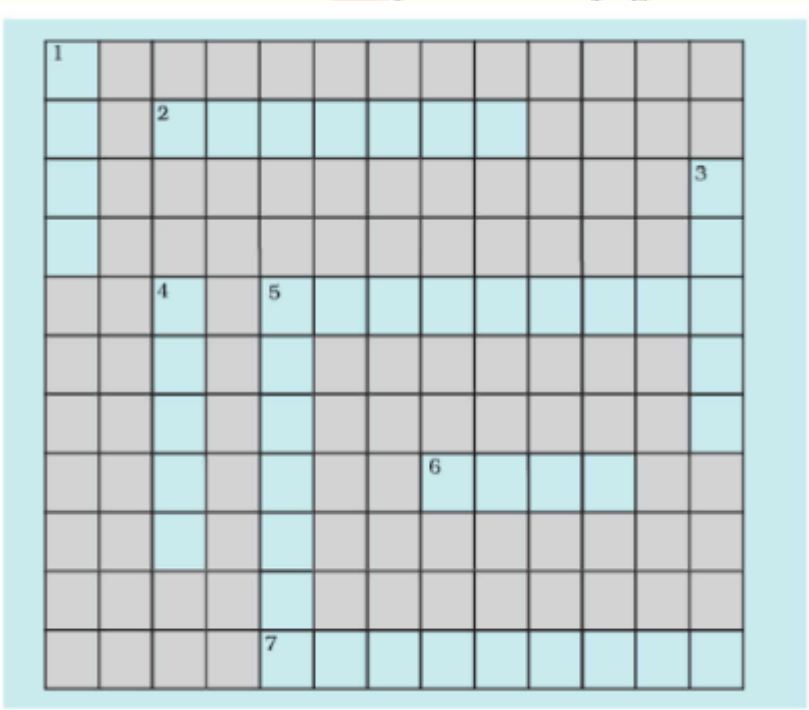
The following measures can be used to control soil pollution:

- Reduce the use of plastics
- Reduce the use of chemical fertilizers and pesticides

The following measures can be used to control soil erosion:

- Planting more and more trees
- Stop deforestation and avoiding overgrazing of animals

10. Solve the following crossword puzzle with the clues given:



Across

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2. Plantation prevents it.
5. Use should be banned to avoid soil pollution.
6. Type of soil used for making pottery.
7. Living organism in the soil.
Down
1. In desert soil erosion occurs through.
3. Clay and loam are suitable for cereals like.
4. This type of soil can hold very little water.
5. Collective name for layers of soil.

Solution: