



BIOLOGY

BOOKS - NAND LAL PUBLICATION

TISSUES

Activity

1. Take two glass jars and fill them with water.
Now, take two onion bulbs and place one on each jar, as shown in Fig. 6.1 of the textbook

page 69.

Observe the growth of roots in both the bulbs for a few days.

Measure the length of roots on day 1, 2 and 3..

On day 4, cut the root tips of the onion bulb in jar 2 by about 1 cm. After this, observe the growth of roots in both the jars and measure their lengths each day for five more days and record the observations in tables, like the table below:

Length	Day 1	Day 2	Day 3	Day 4	Day 5
Jar 1					
Jar 2					

From the observations, answer the following

questions :

Which of the two onions has longer roots?

Why?



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2. Take two glass jars and fill them with water.

Now, take two onion bulbs and place one on each jar, as shown in Fig. 6.1 of the textbook page 69.

Observe the growth of roots in both the bulbs for a few days.

Measure the length of roots on day 1, 2 and 3. .
On day 4, cut the root tips of the onion bulb in jar 2 by about 1 cm. After this, observe the growth of roots in both the jars and measure their lengths each day for five more days and record the observations in tables, like the table below:

Length	Day 1	Day 2	Day 3	Day 4	Day 5
Jar 1					
Jar 2					

From the observations, answer the following questions :

Do the roots continue growing even after we have removed their tips?



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3. Take two glass jars and fill them with water.

Now, take two onion bulbs and place one on each jar, as shown in Fig. 6.1 of the textbook page 69.

Observe the growth of roots in both the bulbs for a few days.

Measure the length of roots on day 1, 2 and 3. .

On day 4, cut the root tips of the onion bulb in jar 2 by about 1 cm. After this, observe the growth of roots in both the jars and measure

their lengths each day for five more days and record the observations in tables, like the table below:

Length	Day 1	Day 2	Day 3	Day 4	Day 5
Jar 1					
Jar 2					

From the observations, answer the following questions :

Why would the tips stop growing in jar two after we cut them?



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4. Take a plant stem and with the help of your teacher cut into very thin slices or sections.

Now, stain the slices with safranin. Place one neatly cut section on a slide, and put a drop of glycerine.

Cover with a cover-slip and observe under a microscope. Observe the various types of cells and their arrangement. Compare it with Fig. 6.4 given in the textbook page 70.

Now, answer the following on the basis of your observation:

Are all cells similar in structure?



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5. Take a plant stem and with the help of your teacher cut into very thin slices or sections.

Now, stain the slices with safranin. Place one neatly cut section on a slide, and put a drop of glycerine.

Cover with a cover-slip and observe under a microscope. Observe the various types of cells and their arrangement. Compare it with Fig. 6.4 given in the textbook page 70.

Now, answer the following on the basis of your

observation:

How many types of cells can be seen?



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6. Take a plant stem and with the help of your teacher cut into very thin slices or sections.

Now, stain the slices with safranin. Place one neatly cut section on a slide, and put a drop of glycerine.

Cover with a cover-slip and observe under a microscope. Observe the various types of cells

and their arrangement. Compare it with Fig. 6.4 given in the textbook page 70.

Now, answer the following on the basis of your observation:

Can we think of reasons why there would be so many types of cells?



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Intext Questions

1. What is a tissue?



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2. What is the utility of tissues in multi-cellular organisms ?



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3. Think about which gas may be required for photosynthesis?



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4. Find out the role of transpiration in plants.



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5. Name types of simple tissues.



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6. Where is apical meristem found?



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7. Which tissue makes up the husk of cotton?'



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8. What are the constituents of phloem?



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9. Name the tissue responsible for the movement in our body.



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10. What does a neuron look like?



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11. Give three features of cardiac muscles.



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12. What are the functions of areolar tissue?



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Exercises

1. Define the term 'tissue'.



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2. How many types of elements together make xylem tissue? Name them.



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3. How are simple tissues different from complex tissues in plants?



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4. Differentiate between parenchyma, collenchyma and sclerenchyma on the basis of their cell wall.



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5. What are the functions of stomata?



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6. Diagrammatically show the difference between the three types of muscle fibres.



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7. What is the specific function of cardiac muscle?



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8. Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site/ location in the body.



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9. Draw a labelled diagram of a neuron.



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10. Name the following:

Tissue that forms the inner lining of our mouth.



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11. Name the following:

Tissue that connects muscle to bone in humans.



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12. Name the following:

Tissue that transports food in plants.



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13. Name the following:

Tissue that stores fat in our body.



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14. Name the following:

Connective tissue with a fluid matrix.



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15. Name the following:

Tissue present in the brain.



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16. Identify the types of tissue in the following:
skin, bark of tree, bone, lining of kidney tubule,
vascular bundle.



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17. Name the regions in which parenchyma
tissue is present.



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18. What is the role of epidermis in plants?



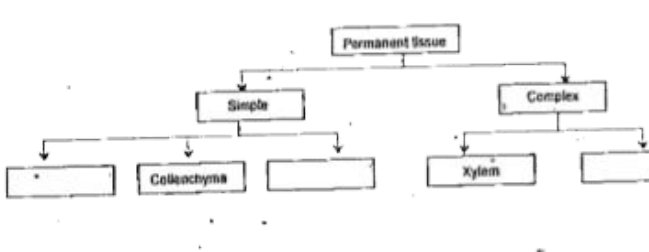
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19. How does cork act as a protective tissue?



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20. Complete the table



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Additional Questions

1. Are plants and animal cells similar?



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2. Distinguish between plant and animal tissues.



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3. What are simple and complex tissues?



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4. Mention the features of meristematic tissues.



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5. On the basis of their presence, in how many types the meristematic tissues can be divided?



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6. What are the functions of cambium?



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