



BIOLOGY

BOOKS - NAND LAL PUBLICATION

DIVERSITY IN LIVING ORGANISMS

Activity

1. We have heard of desi' cows and Jersey cows.

Does a desi cow look like a Jersey cow?



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2. Soak seeds of green gram, wheat, maize, pea and tamarind. Once they become tender, try to split the seed. Do all the seeds break into two nearly equal halves ?

The seeds that do are the dicot seeds and the seeds that don't are the monocot seeds.



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3. We have heard of desi' cows and Jersey cows.

Will we be able to identify a Jersey cow in crowd of desi cows that don't look like each other



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4. We have heard of desi' cows and Jersey cows.

What is the basis of our identification ?



5. Soak seeds of green gram, wheat, maize, pea and tamarind. Once they become tender, try to split the seed. Do all the seeds break into two nearly equal halves ?

The seeds that do are the dicot seeds and the seeds that don't are the monocot seeds.

Now take a look at the roots, leaves and flowers of these plants.

Are the roots tap-roots or fibrous ?

Do the leaves have parallel or reticulate

vcnation ?

Are the roots tap-roots or fibrous?



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6. Soak seeds of green gram, wheat, maize, pea and tamarind. Once they become tender, try to split the seed. Do all the seeds break into two nearly equal halves ?

The seeds that do are the dicot seeds and the seeds that don't are the monocot seeds.

Now take a look at the roots, leaves and flowers

of these plants.

Are the roots tap-roots or fibrous ?

Do the leaves have parallel or reticulate venation ?

Do the leaves have parallel or reticulate venation?



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7. Soak seeds of green gram, wheat, maize, pea and tamarind. Once they become tender, try to split the seed. Do all the seeds break into two

nearly equal halves ?

The seeds that do are the dicot seeds and the seeds that don't are the monocot seeds.

Now take a look at the roots, leaves and flowers of these plants.

Are the roots tap-roots or fibrous ?

Do the leaves have parallel or reticulate venation ?

How many petals are found in the flowers of these plants?



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8. Soak seeds of green gram, wheat, maize, pea and tamarind. Once they become tender, try to split the seed. Do all the seeds break into two nearly equal halves ?

The seeds that do are the dicot seeds and the seeds that don't are the monocot seeds.

Now take a look at the roots, leaves and flowers of these plants.

Are the roots tap-roots or fibrous ?

Do the leaves have parallel or reticulate venation ?

Can you write down further characteristics of

monocots and dicots on the basis of these observations?



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9. Find out the names of the following animals and plants in as many languages as you can:

1. Tiger 2. Peacock 3. Ant 4. Neem 5. Lotus 6
Potato.



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Intext Questions

1. Why do we classify organisms?



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2. Give three examples of the range of variations that you see in life forms around you:



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3. Which do you think is a more basic characteristic for classifying organisms?

(a) the place where they live.

(b) the kind of cells they are made of. Why?



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4. What is the primary characteristic on which the first division of organisms is made?



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5. On what basis are plants and animals put into different categories?



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6. Which organisms are called primitive and how are they different from the so-called advanced organisms?



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7. Will advanced organisms be the same as complex organisms ? Why ?



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8. What is the criterion for classification of organisms as belonging to kingdom Monera or Protista?



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9. In which kingdom will you place an organism which is single celled, eukaryotic and photosynthetic?



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10. In the hierarchy of classification, which grouping will have the smallest number of organisms with a maximum of characteristics in common and which will have the largest number of organisms?





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11. Which division among plants has the simplest organisms?



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12. How are pteridophytes different from phanerogams?



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13. How do gymnosperms and angiosperms differ from each other?



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14. How do poriferan animals differ from coelenterate animals?



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15. How do annelid animals differ from arthropods ?



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16. What are the differences between amphibians and reptiles?



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17. What are the differences between animals belonging to the aves group and those in the mammalia group ?



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Exercises

1. What are the advantages of classifying organisms ?



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2. How would you choose between two characteristics to be used for developing a hierarchy in classification ?



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3. Explain the basis for grouping organisms into five kingdoms.



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4. What are the major divisions in kingdom Plantae ? What are the basis for these divisions ?



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5. How are the criteria for deciding divisions in plants different from the criteria for deciding the subgroups among animals ?



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6. Explain how animals in vertebrata are classified into further sub-groups.



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1. What is important in forming desired category?



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2. Name the largest mammal.



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3. What is meant by classification of living organisms?



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4. What is the basis of classification (in animals)?



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5. What were the basis of classification of organisms into five groups?



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6. Who suggested the monera group?



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7. What is the basic unit of classification?



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8. Define species.



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9. Name the major terms used in classification of living organisms.



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