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Basic Science

Time : 2 hours

Class 7

Instructions

1. 15 minutes cool-off time for reading the questions.
2. TEN activities are given.
3. Answer any EIGHT activities.

Activity - 1

The following table is the observation results of an experiment conducted in the class.

	Blue litmus	Red litmus	Methyl orange	Turmeric
Sample -1	Blue	Blue	light yellow	Red
Sample - 2	Red	Red	light pink	Yellow

- What properties do Sample -1 and Sample - 2 have? ✓
- Name two natural indicators that can be used in this experiment.
- Find the odd one from the following
 - buttermilk
 - soap water ✓
 - Vinegar
 - Lime water

Activity - 2

- Is there any relation between the distance to the object and the distance to the image from a plane mirror? Design an experiment to prove this relation.
- Write two peculiarities of the image formed in a plane mirror.

Activity - 3

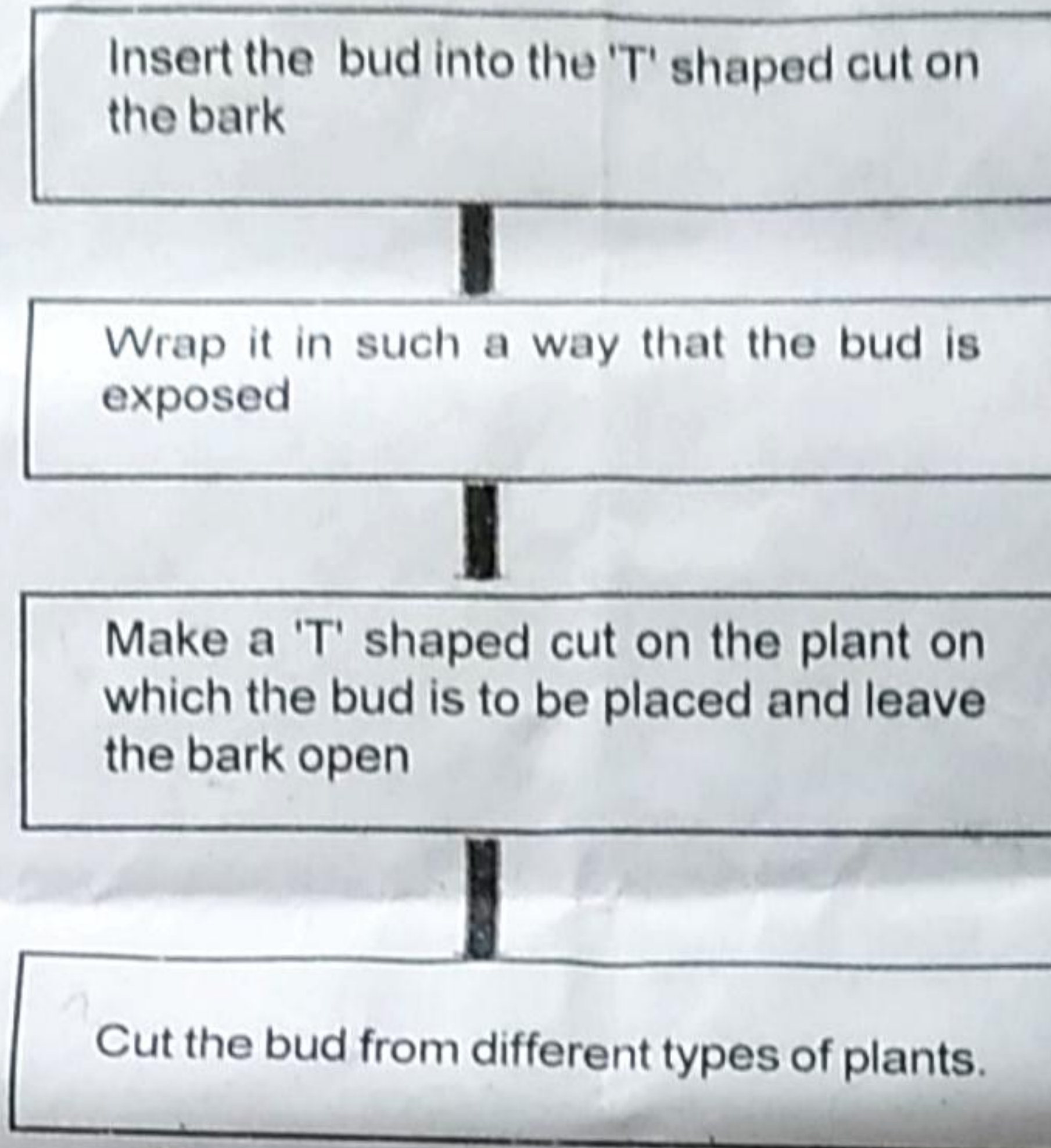
The data collected by visiting the fields of two farmers practicing integrated farming is given below.

	Total agricultural land	Paddy cultivation	Fish farming	Coconut farming	Cattle farming	Poultry farming	Apiculture	Availability of water
Farmer-1	2 Acres	1 Acres	20 cents	100 coconut	10	100	50 boxes	available
Farmer-2	2 Acres	1 Acres	5 cent	100 coconut	2	10	10 boxes	available

- Which farmer interrelatedly utilizes the resources to the maximum?
- Justify your opinion.
- Give two suggestions to the farmers who practice integrated farming

Activity – 4

- a) You want a hibiscus plant having three different flowers in your biodiversity park. Which method do you adopt for this?
- b) Following are the activities done by a student for this. Arrange the steps in the correct order.



- c) Write two things to be considered when you select plants for budding.

Activity 5

The following are the peculiarities of two types of guava.

Variety A	High resistance to disease	Fruits are less sweet	Fruits are small in size
Variety B	Low resistance to disease	Fruits are more sweet	Fruits are big in size

- a) Write the peculiarities of the saplings produced by hybridisation of these two varieties.

Sapling 1 Low resistance to disease, less sweet, big in size

Sapling 2

Sapling 3

Sapling 4

Sapling 5

- b) Write the peculiarities of hybrid plants which have the most desirable qualities of these two varieties.
- c) Write the names of any two hybrid paddy seeds.

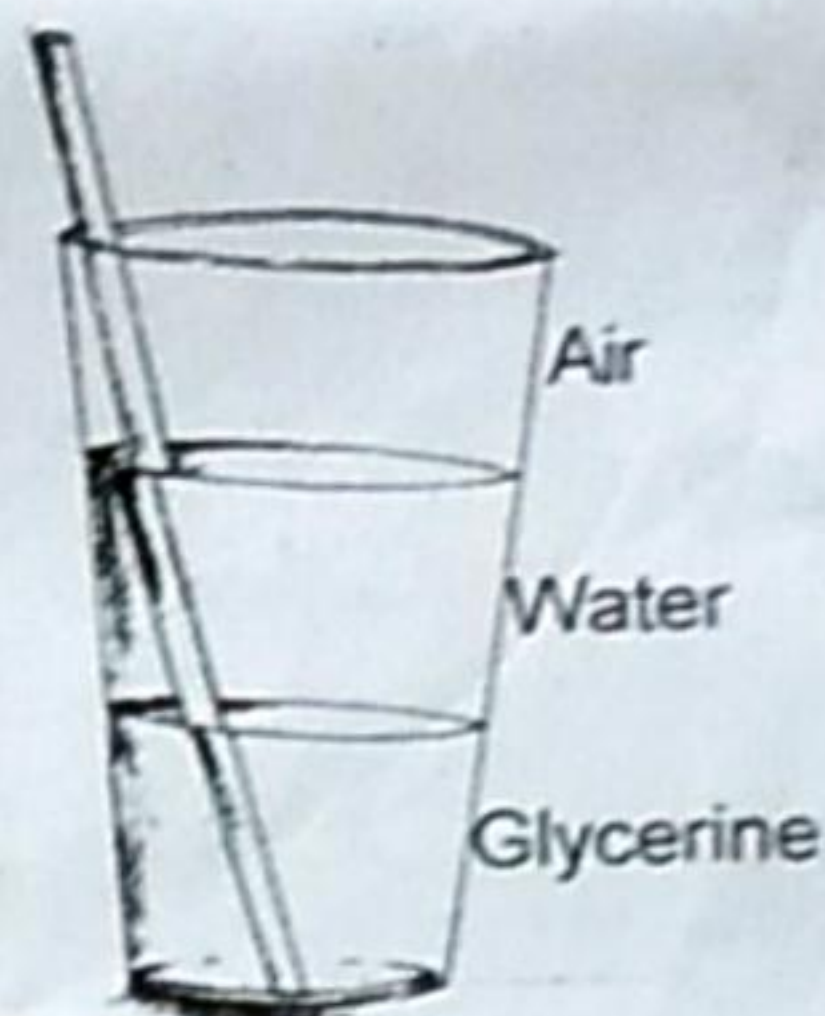
Activity - 6

Sulfuric acid
Citric acid

- Prepare a questionnaire for conducting an interview with the agricultural officer (minimum 6 questions) related to crop management (Pest control, intercropping, organic farming).
- Explain the method of preparation of any one of the bio pesticides.

Activity - 7

Observe the picture of a glass rod placed in the liquids in a glass.



- How does the glass rod appear?
- What is the reason for this? Explain
- Write any two situations where we can observe this phenomenon of light.

Activity - 8

- Pickle is kept in a metal containers in the kitchen. Is it the right practice? Justify your opinion.
- Name two acids used in laboratories.

Activity - 9

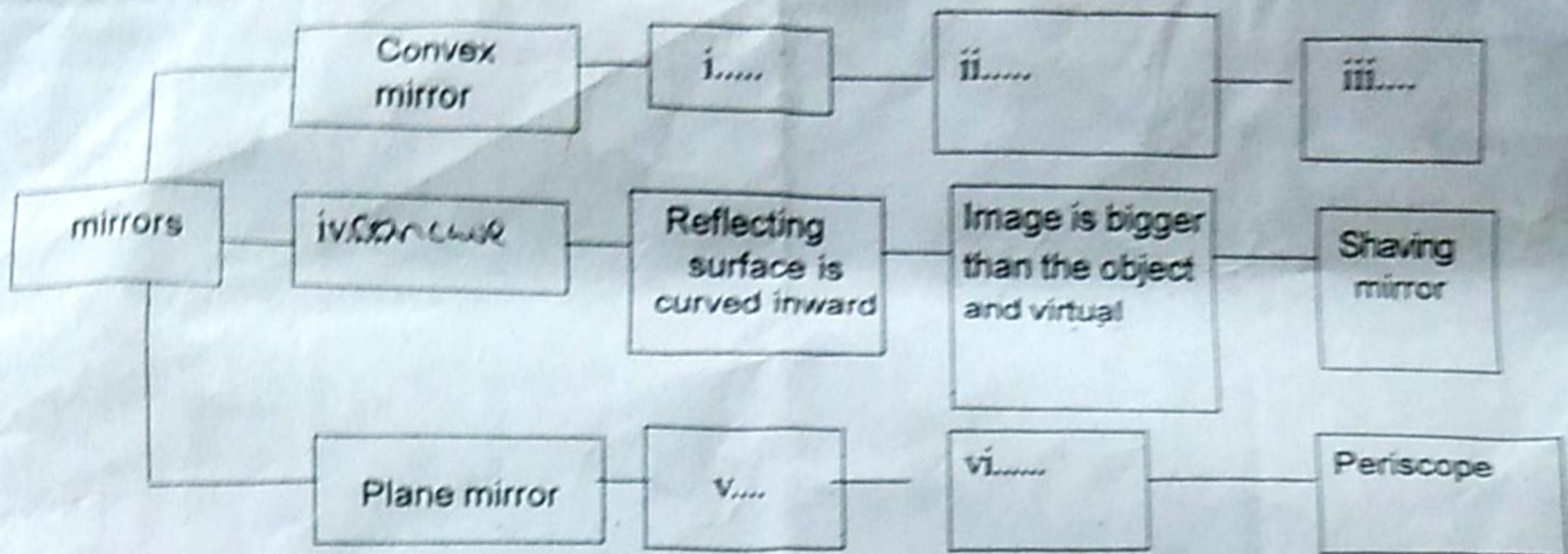
Experiments done by a student in a bright noon are given below. Read it.

Activity 1	Activity 2	Activity 3
Let the sunlight fall on a paper, through a convex lens	Let the sunlight fall on a paper through a transparent plain glass	Let the sunlight fall on a paper through a thick cooling glass.

- After a while the paper in the activity 1 burns. Why?
- In activity II the paper gets heated but in activity III the paper is not heated well. What is the reason?
- The image can be made to fall on the screen using a convex lens. But it is not possible in a concave lens. Why?

Activity - 10

a) Complete the concept map given below



b) Write any two important things to be considered while making a periscope.