



a place of mind

FACULTY OF EDUCATION

Department of
Curriculum and Pedagogy

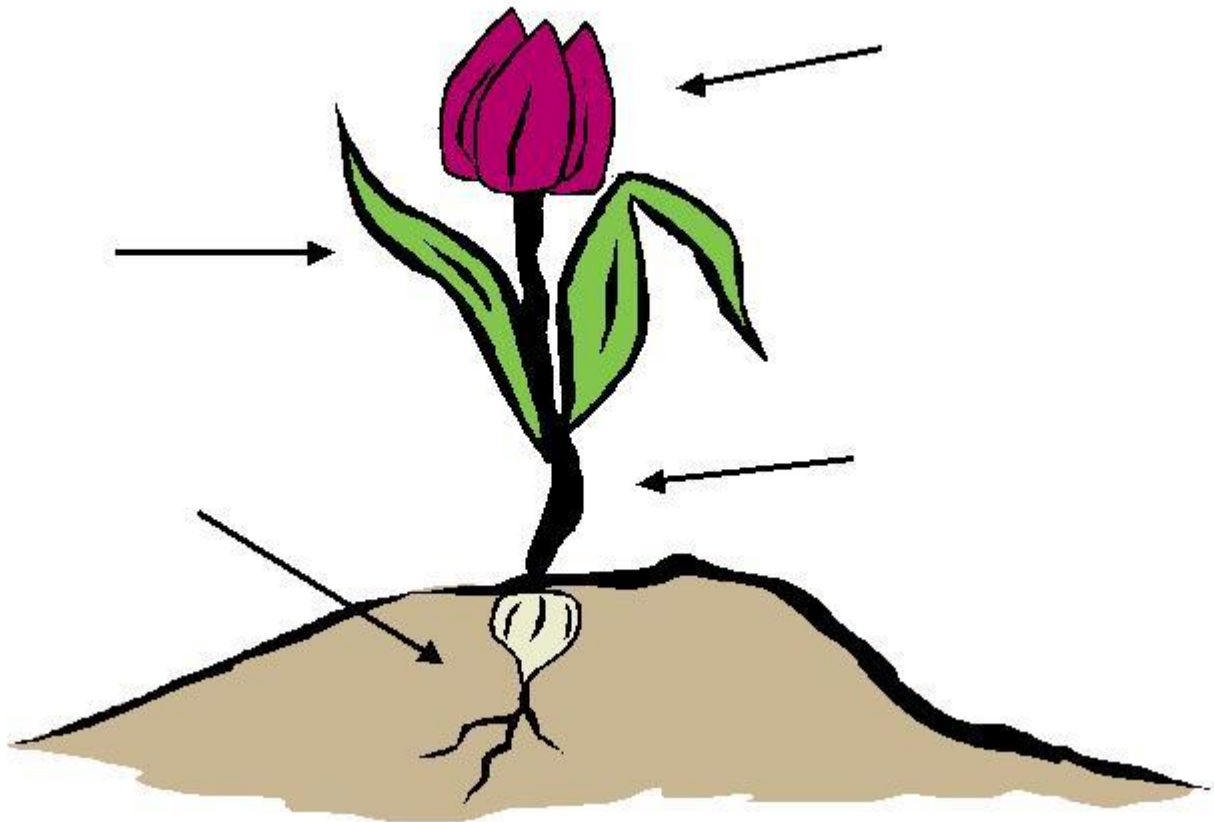
Life Science

Needs of Living Things:

Plants

Science and Mathematics
Education Research Group

Plants



Plants I

We are around plants and animals every day.

What makes a plant different from an animal?

	Plants	Animals
A.	Get energy from the ground	Get energy from the sun
B.	Have seeds	Have babies
C.	Find food to eat	Make their own food
D.	Both can move around on their own	

Solution

Answer: D

Justification: There are many differences between plants and animals.

Plants can make their own food, while animals cannot. Plants absorb nutrients from the ground and get energy from sunlight to breakdown the nutrients. Animals get nutrients from eating plants and other animals and their bodies break them down for energy.

In order to reproduce, plants produce seeds which then grow into new plants. Animals either lay eggs or carry their young inside the body until they are ready to be born.

Plants also have roots, which limits their ability to move around. Animals have the ability to move from one place to another.

Plants II

Which of the following is not a plant?



A. Moss



B. Mushroom



D. Fern



C. Coniferous tree

Solution

Answer: B

Justification: Mushrooms are fungi, a close relative to plants! Fungi are different from plants because of the way they get nutrients.

Plants photosynthesize, making energy from the sun. Fungi do not photosynthesize. Fungi get energy through **osmotrophy**, meaning they absorb nutrients from their surroundings.

Moss, conifer trees and ferns are all plants that grow in British Columbia rainforests. It is interesting to see how plants can be many different sizes and shapes.

Extend Your Learning: Activity

Making a Spore Print

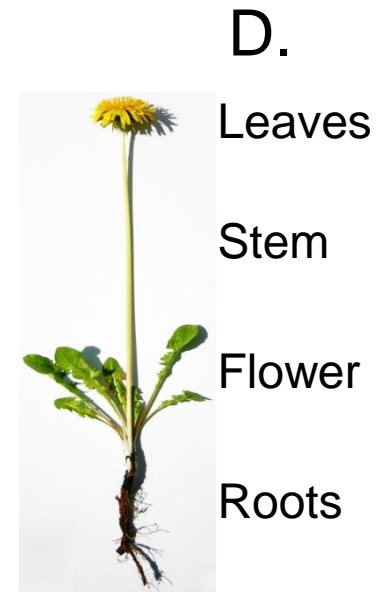
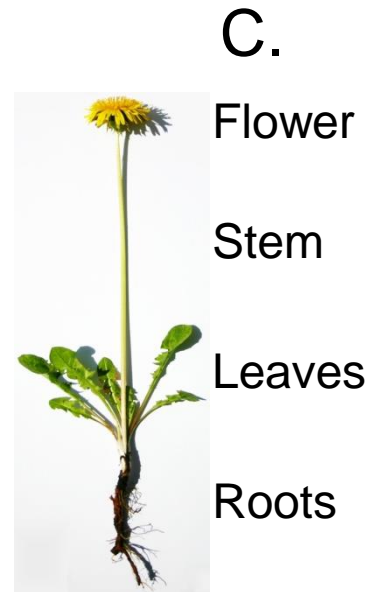
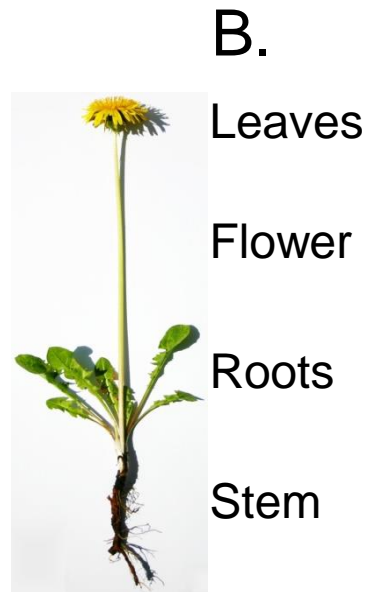
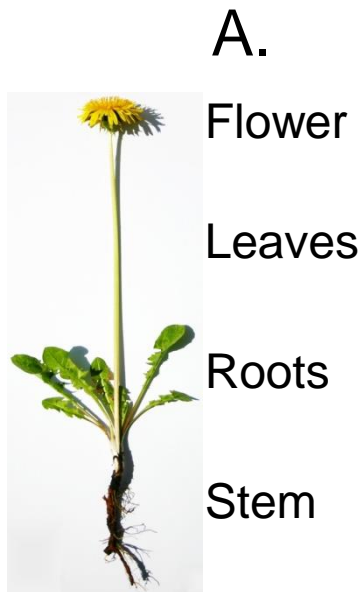
Some mushroom spores are white; others are yellow, pink, purple, black or brown. See this for yourself: make “spore prints” of different kinds of mushrooms.

1. Take each mushroom and pull off the stem. You will only use the cap.
2. Put the cap on a piece of paper, with the gills resting face down on the paper. Use a half white/half black piece of paper, so you can see different spore colours).
3. Cover with a glass container.
4. In an hour or two, lift up the glass and mushroom cap. Enough spores will have fallen on the paper to make a print.
5. If you spray the print with lacquer/hairspray, you can keep it as a record. Just as no two people have identical fingerprints, no two species of mushrooms have the same spore print!

Plants III

Plants have many different parts. All plants have roots, a stem, and a combination of leaves, flowers, and seeds.

Which diagram below correctly labels the roots, stem, leaves, and flower on this plant (dandelion)?



Solution

Answer: C

Justification: All parts of the plant are labeled correctly in this diagram.

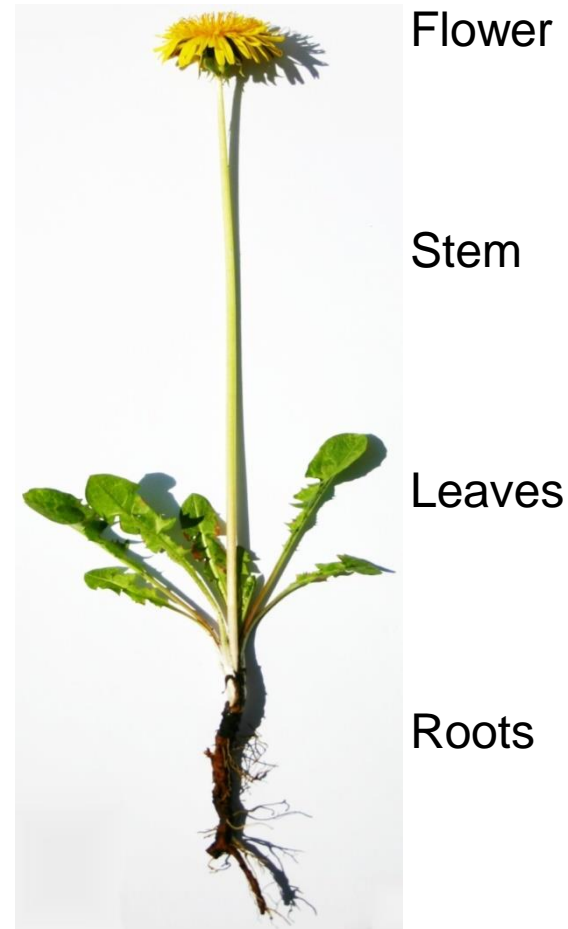
In general, plant roots are always under the ground, and the stem is always above ground. Both the stem and the root always have a cap on the end of it. For the stem, this is often the leaves, flowers, or seeds.

Also, although all plants have some combination of leaves, flowers, and seeds, they don't have to have all of them. This plant has all three, but you cannot see the seeds! They aren't visible to the naked eye because they are too small. The seeds are in the flower. The wind will blow them out of the flower. When they land in the grass, they will grow into new plants.

Extend Your Learning: Compare and Contrast

Plants and fungi have very similar parts and structures.

Using what you know about plants, what can you guess about the parts of fungi?

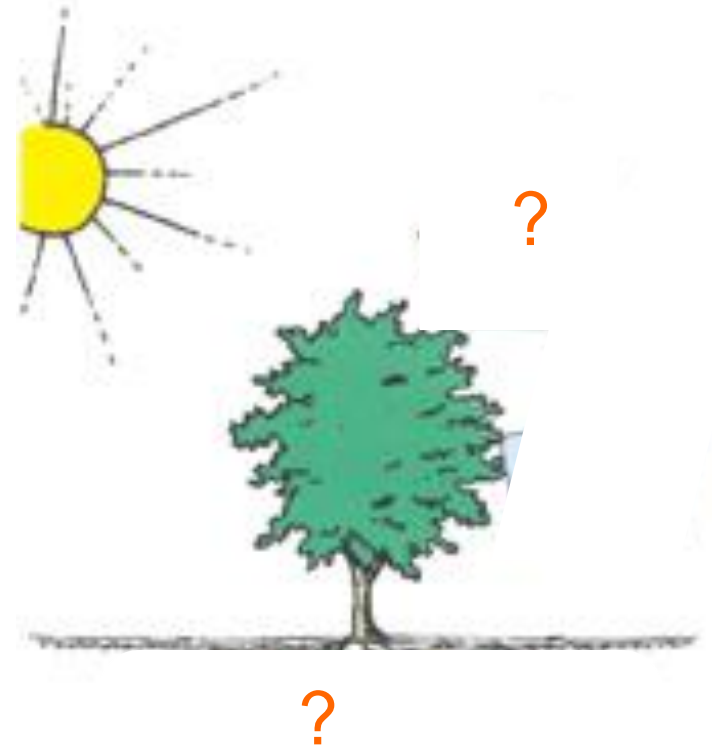


Plants IV

Plant's have basic needs that must be met for them to grow.

What are a plant's basic needs?

- A. Sunlight and nutrients
- B. Sunlight, nutrients, air and water
- C. Sunlight, air and water
- D. Sunlight, air, water, nutrients and shelter



Solution

Answer: B

Justification: Plants have four basic needs – sunlight, air, water, and nutrients (from the soil). Plants do not need shelter.

Plants must have all of their needs met in one spot, since they do not travel, and they do not have the option to travel once they have rooted down.

Humans also have four basic needs, which are slightly different from plants. Humans needs water, air, food, and shelter.

Humans, unlike plants, cannot withstand the elements and seasons, and need some sort of shelter. Plants, unlike humans, cannot move around to find food so they must be able to get nutrients from their direct surroundings.

Extend Your Learning: Online Activity

Title: The Life Cycle of Plants

The Life Cycle of Plants

This is a set of revision activities to familiarise pupils with the life cycle of plants from seed to dispersal. Click on a button to enter an activity.

Seed Growth Parts of a flower Seed Dispersal Worksheets Plant Identification