



KNOWLEDGE ORGANISER

SCIENCE: HOW DOES YOUR GARDEN GROW? YEAR THREE

KEY KNOWLEDGE:

QUESTION 1: What do we know about leaves?

ANSWER

The purpose of a leaf

Photosynthesis is the process trees (and plants) use to make their food. Taking energy from the sun, water from the ground, and carbon dioxide from the air, they make glucose (sugar) to 'eat' so they can grow into strong, healthy trees. The leaves of a tree (or plant) are where photosynthesis happens because the chlorophyll in the leaves is what makes photosynthesis possible. Chlorophyll also has another job...it is what makes leaves green. So, as long as the leaves are able to soak up enough heat and energy from the sun to make food, the leaves on the tree stay green.

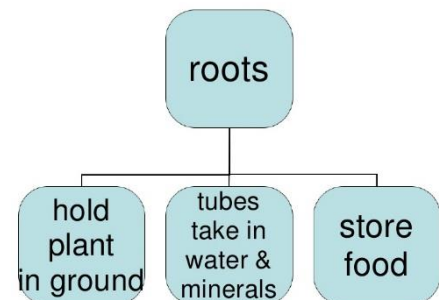
QUESTION 2: What happens if a plant loses its leaves?

ANSWER

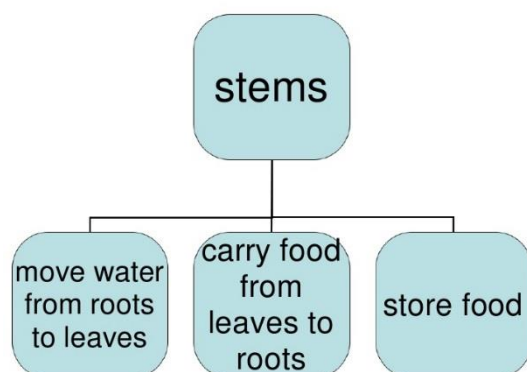
If plants lose all their leaves then, generally they die as there is nothing to help make the food the plant will need. How then, do trees that lose all their leaves in Autumn survive the Winter? Well, without the leaves the tree does not need as much food and go through a process called dormancy (which is similar to hibernation).

QUESTION 3: What do roots do?

There are many parts of a plant, including the roots. Roots are very important for the plant because they suck the water and nutrients up out of the soil and into the plant. But the roots are not only good for the plant, they are good for soil. When it rains, the roots hold the soil in place so it is not washed away. When soil gets washed away it is called erosion. In places with a lot of rain and not a lot of trees, mudslides can be a big problem.



QUESTION 4: Why do plants need stems?



The **stem** is a part of the **plant** that holds up other structures such as the leaves and flowers. ... **Stems** also carry water and minerals up from the roots to the leaves to help with photosynthesis and take food back down to be stored and distributed to the **plant** as it has **need**.



KNOWLEDGE ORGANISER

SCIENCE: HOW DOES YOUR GARDEN GROW? YEAR THREE

QUESTION 5: How are seeds dispersed?

ANSWER

Seeds are dispersed away from each other and from the parent plant so that there is less competition. The commonest methods of seed dispersal are:

wind e.g. dandelion, sycamore fruits are light and have extensions which act as parachutes or wings to catch the wind

animal internal e.g. tomato, plum, raspberry, grape have brightly coloured and succulent fruits which contain seeds with indigestible coats which allow the seeds to pass through the animal undamaged

animal external e.g. goose grass, burdock, the fruits have hooks which attach them to the fur of passing animals.

explosive/ self propelled e.g. pea pod. The pod burst open when ripe projecting the seeds away from the plant.

How Seeds Travel

by the wind



milkweed



dandelion



maple

by animals



beggar-ticks

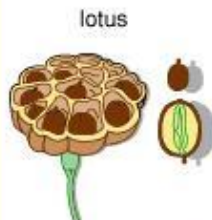


sandbur



blackberry

by water



lotus



cattail



coconut

by bursting



violet

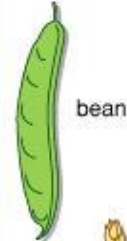


jewelweed



witch hazel

by humans



bean



wheat



cherry

© 2006 Encyclopædia Britannica, Inc.