

PLANTS (teacher's notes)

ROOTS






About roots:

Carrots are roots: why are they swollen?

- Annual plants complete their cycle of life (germination, growing, form flowers, pollination and producing seeds) in a year.
- Biennial plants complete their cycle of life in two years. Carrots, beetroots... are roots from biennial plants; in the first year the seeds sprout, they grow leaves and a fleshy root (where the plant stores the food made by the leaves) and in the second year the plant uses the stored food to go on growing, to bloom with flowers and to produce seeds. So the carrots and beetroots we eat are harvested the first year.

Activity 1: Let's compare roots!

A) The pupils need, for example, a carrot or beetroot because they have a tap root, a grass plant because they have a fibrous root and a garlic bulb, a tulip bulb or gardeners' cuttings with roots after being in water for a while because they are adventitious roots.

A	B	C	D	E
				
radish		tulip	ivy	mangrove

B)

	A	B	C	D	E
1.- A tap root is a large root with small lateral roots growing out of the large root.	✓				
2.- Fibrous roots are many equal-sized roots, with small lateral roots growing out of the equal-sized roots.		✓			
3.- Adventitious roots grow directly from a stem.			✓		

4.- Aerial roots normally grow out of the plant above ground not underground.				✓	
5.- Prop roots are aerial roots that grow from a stem and go down into the ground.					✓

C)

- Picture A: The big radish, in the example, a carrot, a parsnip... are roots.
- Picture B: (See the definition in part B).
- Picture C: In the example given the roots are white. The bulbs are not the roots, they are stems.
- Picture D: You can see them on the left hand side of the photograph and they are short and brown.
- Picture E: (See the definition in part B)