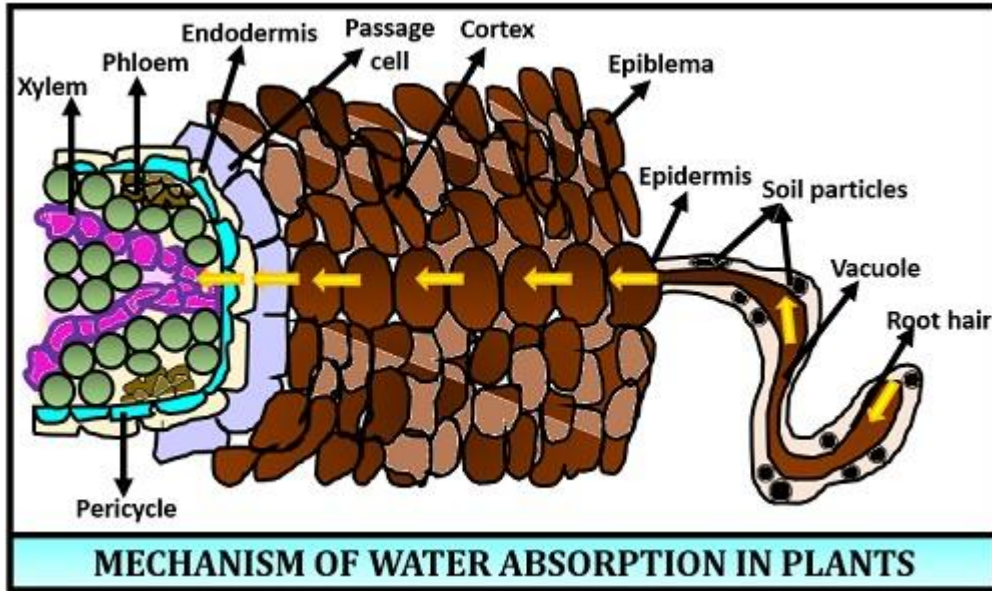


Name of the student: Date: 26/09/2020

In plants, absorption of water and mineral salts occur through different processes.

Absorption of water:

H_2O Root hair → Epidermis → Cortex → Endodermis → Pericycle → Xylem (Vessel)



Q. Describe the process of absorption of water in plant.

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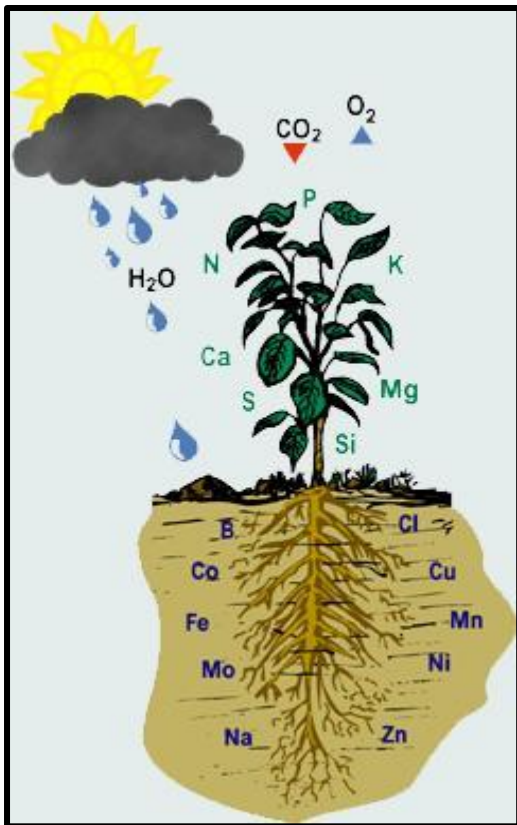
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Absorption of mineral salts:



Learn more

- ✓ Most of the plants absorb some mineral salts with water along.
- ✓ Mainly the meristematic region of the tip of root functions as the main region of absorbing mineral salts.
- ✓ Mineral salts are absorbed as ion.

Absorption of salts is done mainly by the two ways and they are passive absorption and active absorption.

1) Passive absorption

Absorption of ions without the use of metabolic energy is known as **passive absorption**. This type of **absorption** is carried out by purely physical forces. In most of the cases, the movement of **mineral** ions into root occurs by **diffusion**.

- ✓ It is physical and spontaneous process.
- ✓ Do not require energy.
- ✓ Movement of ions occurs along the concentration gradient.
- ✓ Movement of mineral ions proceeds towards the equilibrium constant.
- ✓ Does not cause 'salt accumulation' in the cells.
- ✓ Rate of minerals absorption is independent of respiration.
- ✓ Does not require specific carrier molecules.

2) Active absorption

Active absorption is the absorption of ions with the help of metabolic energy produced in the cells.

- ✓ An active, chemical and nonspontaneous process.

- ✓ Energy is required.
- ✓ Movement of ions occurs against the concentration gradient.
- ✓ Movement of mineral ions does not proceed towards the equilibrium constant.
- ✓ Cause 'salt accumulation' in the cells.
- ✓ Rate of minerals absorption is dependent of respiration.
- ✓ Always require specific carrier molecules.

Why are mineral salts absorbed as ion?



Ans:

Q. Write five differences between active absorption and passive absorption.

Active absorption	Passive absorption