ADVENTIST AGRICULTURAL ASSOCIATION 4TH ANNUAL CONVENTION 2018 SESSION 1

The life of the flesh is in the Plant Sap

PRESENTED BY:

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The Role of Science in Agriculture

- ▶ I have been shown that study in agricultural lines should be the A. B. and C. of the educational work of our school. HFM 39.1
- No one can succeed in agriculture or gardening without attention to the laws involved. ...and compliance with the laws governing each is the condition of success. Ed 111.3
- Agriculture should be advanced by scientific knowledge. ... Many say, "We have tried agriculture, and know what its results are," and yet these very ones need to know how to cultivate the soil, and to bring science into their work. ST, August 13, 1896 par. 8

Purpose of Avondale College

▶ In the school that is started here in Cooranbong, we look to see real success in agricultural lines, combined with the study of the sciences. We mean this place to be a center from which shall irradiate light, precious advanced knowledge, that shall result in the working of unimproved lands, so that hills and valleys shall blossom as the rose. ...The cultivation of the mind will bring tact and fresh incentive to the cultivation of the soil.

Advocate, March 1, 1901 par. 8

Leviticus 11:17

- And the lord said to Moses:
- ► For the life of the flesh is in the blood: and I have given it to you upon the altar to make an atonement for your souls: for it is the blood that maketh an atonement for the soul.

Spirit of Prophecy

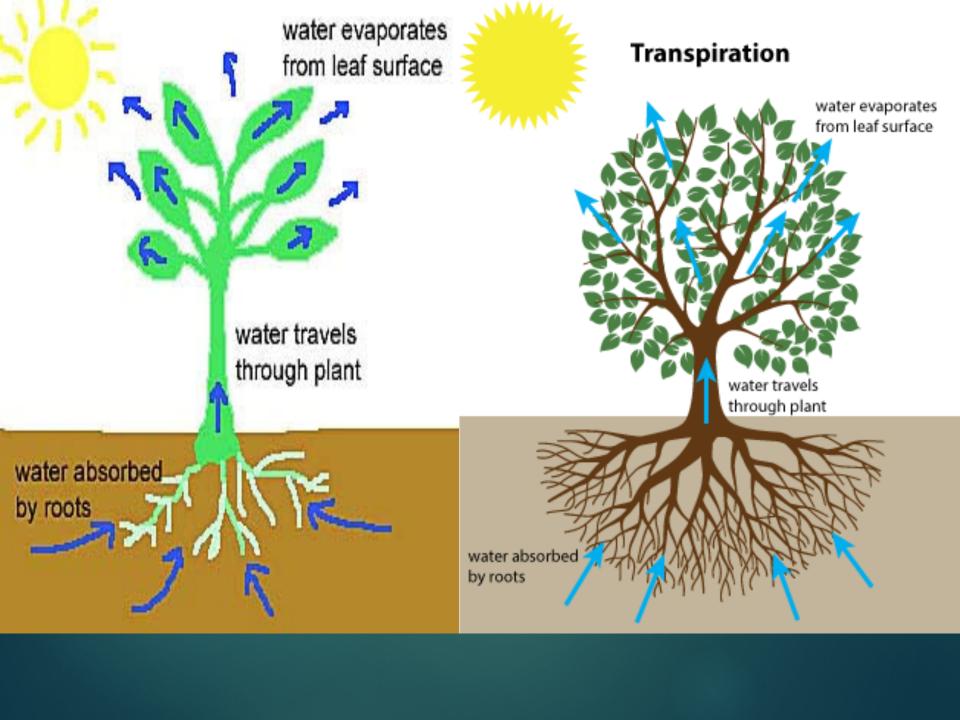
In order to have good health, we must have good blood; for the blood is the current of life. It repairs waste and nourishes the body. When supplied with the proper food elements and when cleansed and vitalized by contact with pure air, it carries life and vigor to every part of the system. The more perfect the circulation, the better will this work be accomplished. MH 271.2

Biblical power of Herbs

- And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat. Genesis 1:29
- In the midst of the street of it, and on either side of the river, was there the tree of life, which bare twelve manner of fruits, and yielded her fruit every month: and the leaves of the tree were for the healing of the nations.

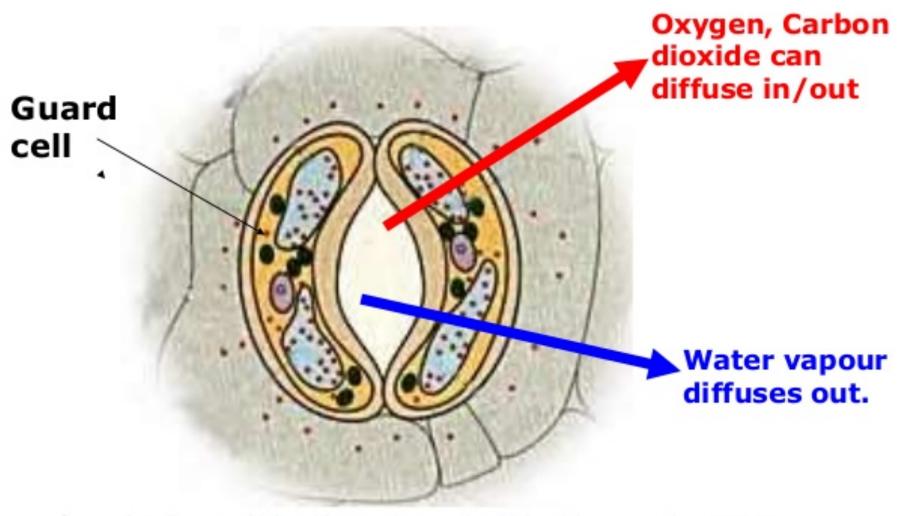
Transpiration





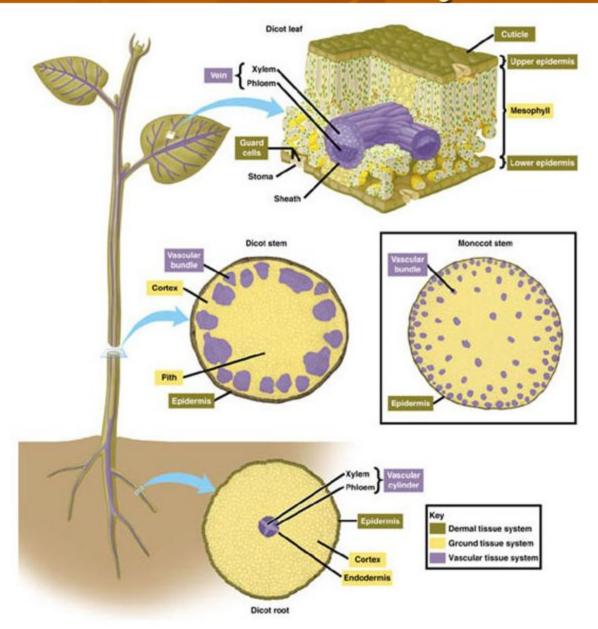
Functions of stomata

1. Gas Exchanges and 2. Transpiration

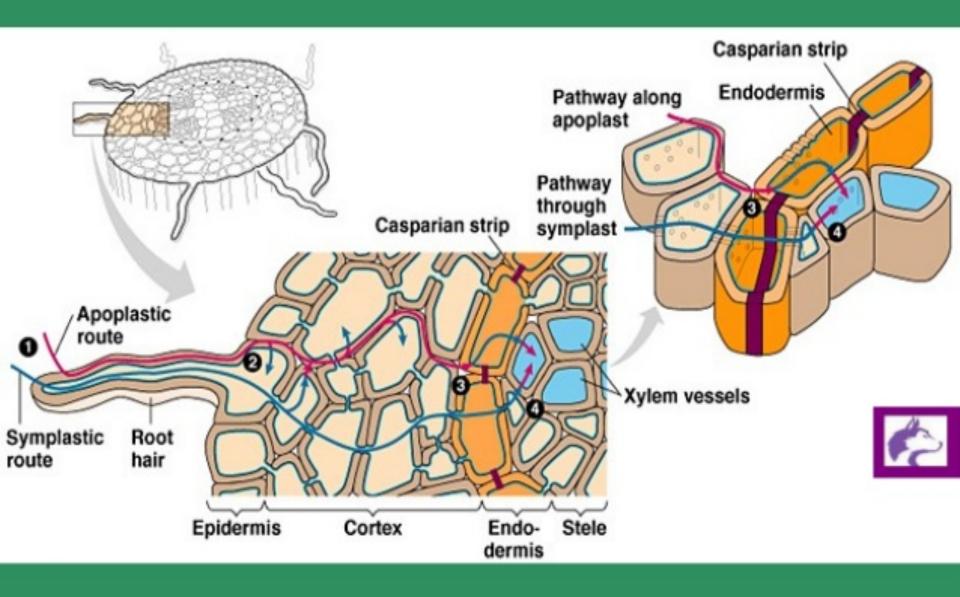


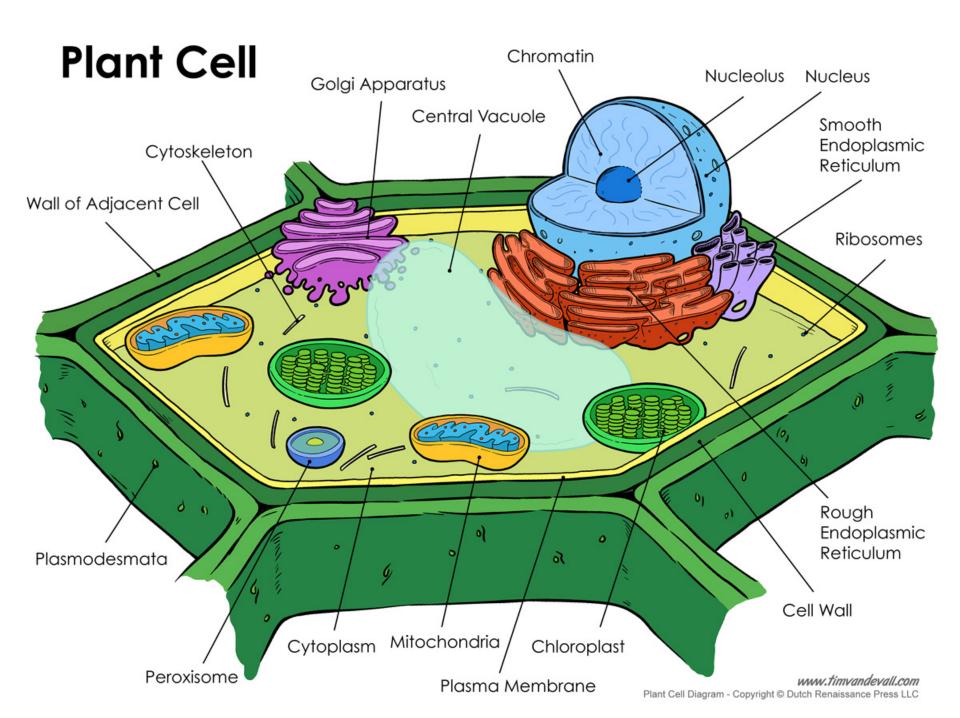
Source: http://www.worldofteaching.com/powerpoints/biology/plantsgeneral.ppt#262,13,

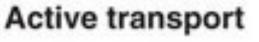
Plant Vascular System

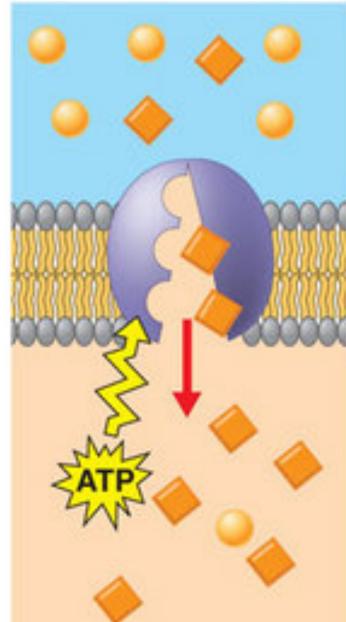


Uptake of water and nutrients by roots



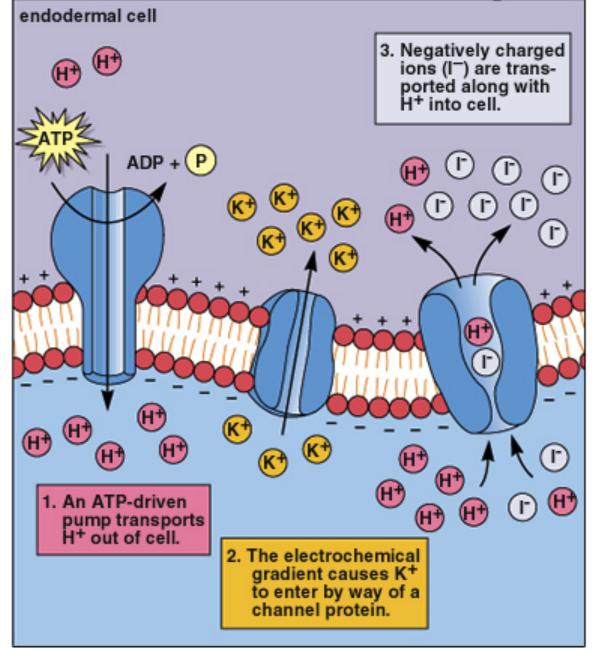


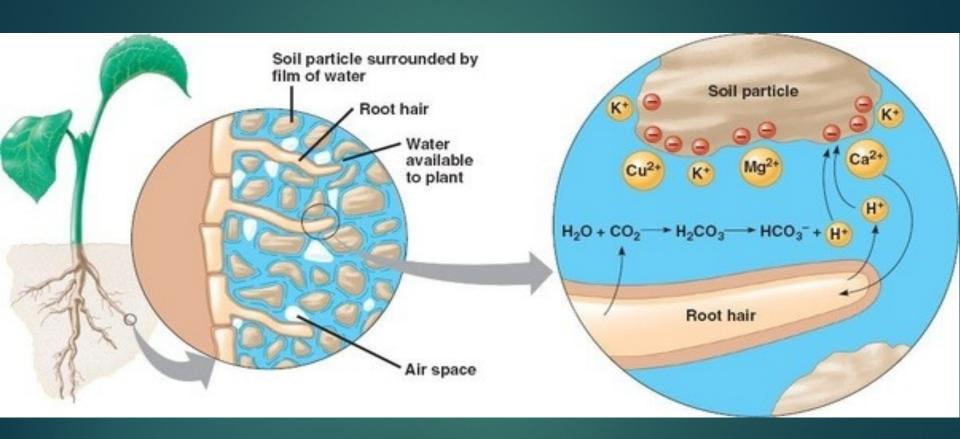




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Water and mineral uptake





Outside air Ψ = −100.0 MPa

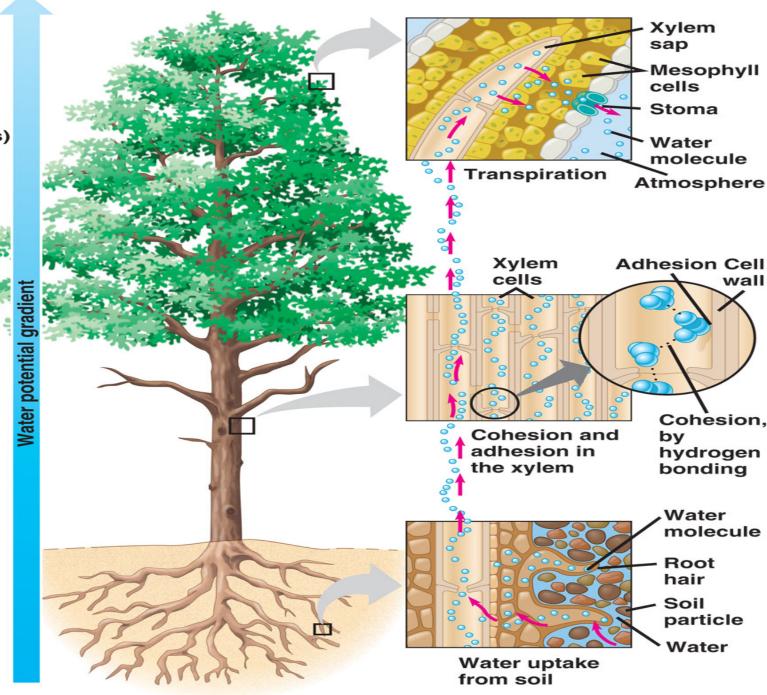
Leaf Ψ (air spaces) = -7.0 MPa

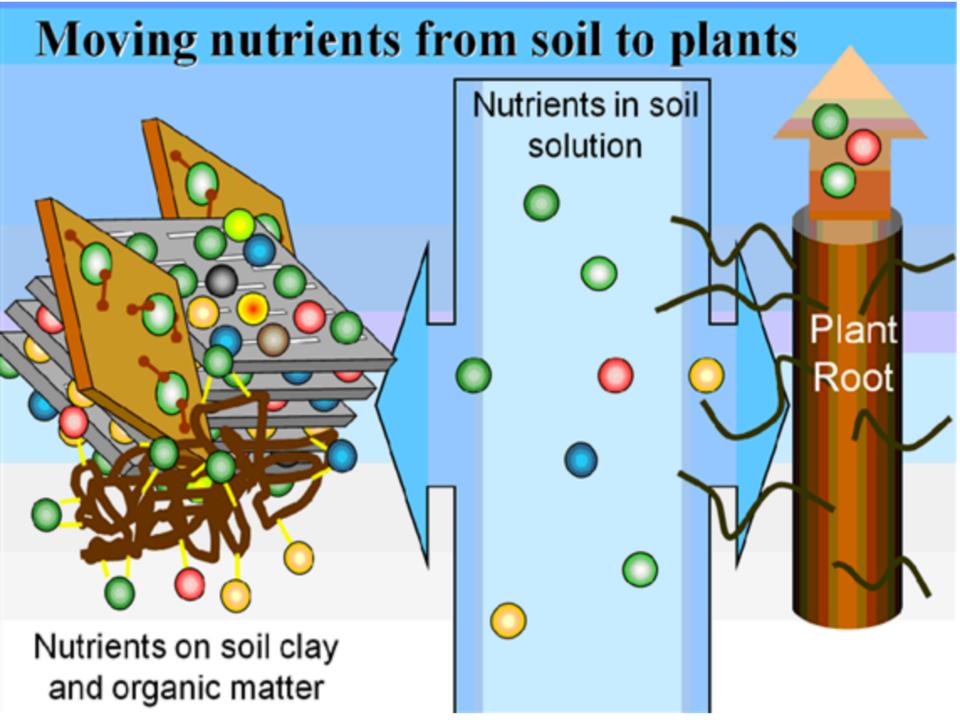
Leaf Ψ (cell walls) = -1.0 MPa

Trunk xylem Ψ = -0.8 MPa

Root xylem Ψ = -0.6 MPa

Soil Ψ = -0.3 MPa





NUTRIENT CYCLE

Dead Leaves



Plant Growth

Water and air penetrate soil

Decomposers break down organic matter

Rocks broken down

Rocky Subsoil