

TENDER HEART HIGH SCHOOL

BIOLOGY

CLASS X

REVISION

PHOTOSYNTHESIS

- Definition + Equation (FAQ)
- Definition should contain names of raw materials, all the products formed and both the conditions of sunlight and chlorophyll.
- Textbook definition states –

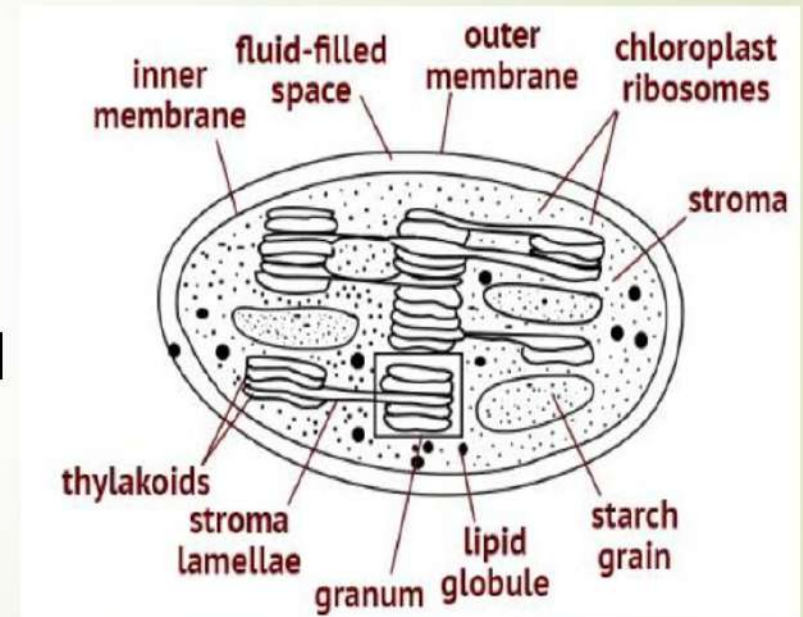
Photosynthesis is the process by which living plant cells, containing chlorophyll, produce food substances (glucose and **starch**), from carbon dioxide and water, using light energy and release oxygen as a gaseous byproduct.

Note* – Do not use the word starch as it is not the immediate product of photosynthesis.

Tips and suggestions

Instructions to draw a chloroplast

- Oval Shape
- Double envelope
- Stress on the fact that the double envelope has to be labelled as inner and outer membrane and not cell wall and cell membrane.
- A minimum of 4 labelings



Tips and suggestions

- Experiments on photosynthesis require de starching a plant
- De starching (Removal of starch)
- **FROM WHERE?**
- The leaves
- Teach the students to mention that on de starching a plant the leaves become free from starch not the plant.
- Starch is translocated from the leaves of the plant to the storage organs of the plant
- If students don't specify leaves marks will be lost.

Tips and suggestions

➤ STARCH TEST / IODINE TEST

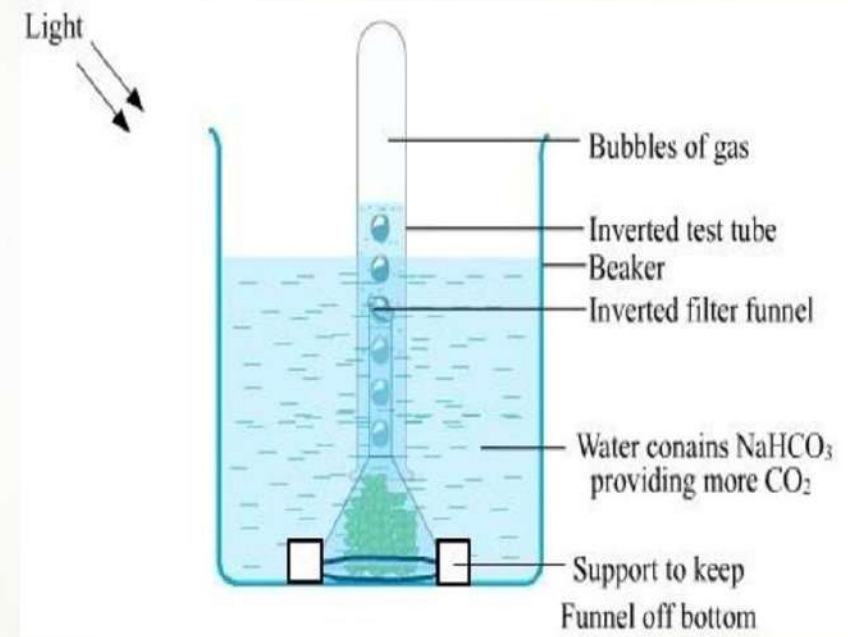
- Dip the leaf in boiling water – To kill the cells
- Boil the leaf in methylated spirit – To remove the chlorophyll (Do not use the word bleach it, to make it colorless)
- Place it again in Hot water to soften it.
- Add Iodine solution to the leaf
- If the leaf contains starch the leaf will turn Blue black(Blue, black – not accepted)
- If the leaf doesn't contain starch the leaf will turn Brown / yellowish brown (golden brown, pale brown – not accepted)

Tips and suggestions

► Experiment to show that oxygen is given out during photosynthesis.

Instructions to keep in mind

- The mouth of the funnel should not touch the bottom of the beaker. Support needs to be shown.
- The stem of the funnel should always be lower than the level of water in the beaker.
- The inverted test tube should be resting on the funnel to show a watertight apparatus
- Rays of light need to be shown / sun can be drawn-
To show that photosynthesis occurs in light



Tips and suggestions

Chemical Coordination in Plants

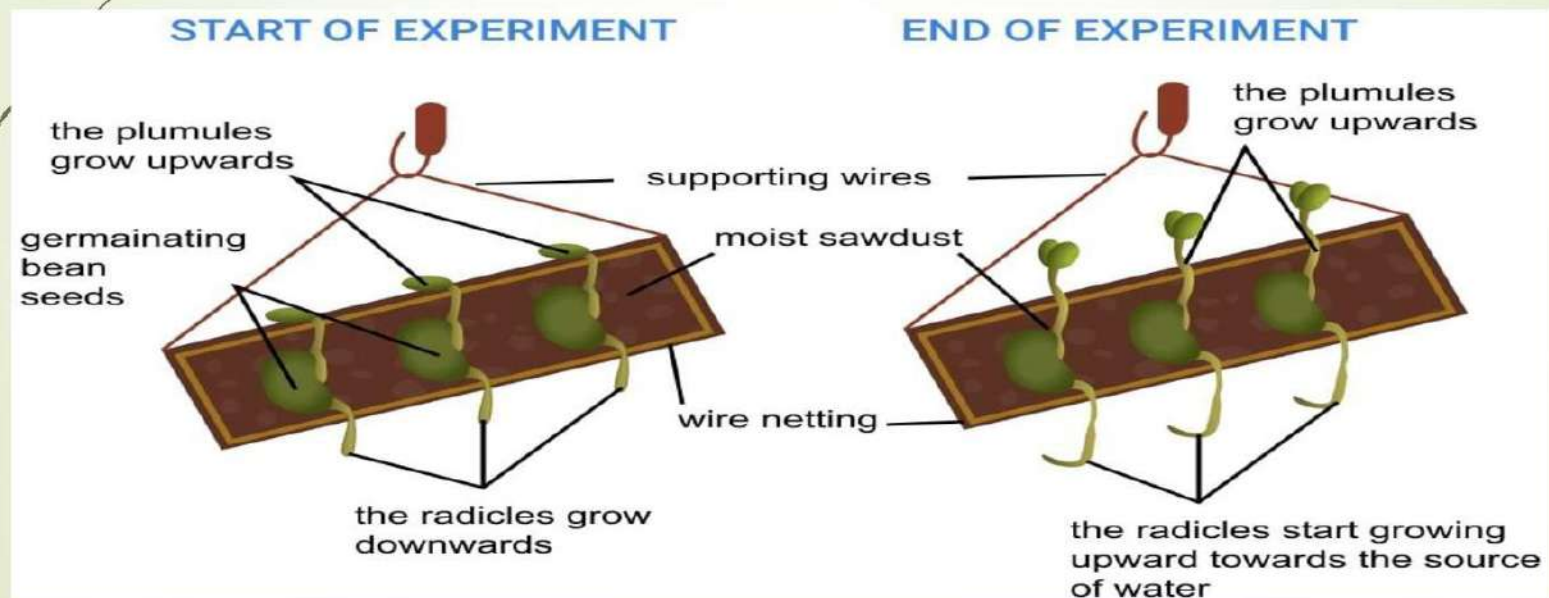
FAQ's

- Full form of IAA – Indole 3 – acetic acid.
- ABA – Absciscic Acid.
- Definitions of Apical dominance, Parthenocarpy with examples
- The phytohormone which is a gas at ordinary temperature
- The stress hormone.
- Tropic movements.
- Examples of plants showing thigmotropism – do not give generalized answers like creepers and climbers.

Specific answers like tendrils of a pea plant, Cuscuta

Tips and suggestions

- Emphasize on the wordings, water is a more effective stimulus than gravity.



Tips and suggestions

The Circulatory System

- ➡ Blood to be referred to as oxygenated or deoxygenated.
never as clean/dirty , pure/impure
- ➡ Shape of RBC – Biconcave disc shaped
Shape of WBC – Amoeboid /Irregular
- ➡ Mineral responsible for clotting of blood – Calcium
- ➡ Vitamin responsible for clotting of blood – Vitamin K
- ➡ Ant. Vena cava / Post. Vena cava / Sup. Vena cava / Inf. Vena cava – short forms not accepted. Emphasize on writing the complete word.

Tips and suggestions

- A person with O type of blood is said to be a universal donor and AB type of blood is said to be universal recipient. Give reason
answer should be explained on the basis of antigen on RBC / antibodies in plasma
- Function of Coronary arteries
 - Provide blood to the heart. X
 - Provide oxygenated blood to the muscles of the heart. ✓
- Pulse is the alternate expansion and elastic recoil of the wall of the artery during ventricular systole.

Tips and suggestions

The Excretory System

Excretion – The removal of harmful and unwanted waste products from the body. **X**

Excretion – The removal of harmful and unwanted **nitrogenous** waste products from the body. **✓**

Selective Reabsorption – The glomerular filtrate is a very dilute solution containing a lot of useful materials. As the filtrate passes down the tubule, these useful substances is reabsorbed.

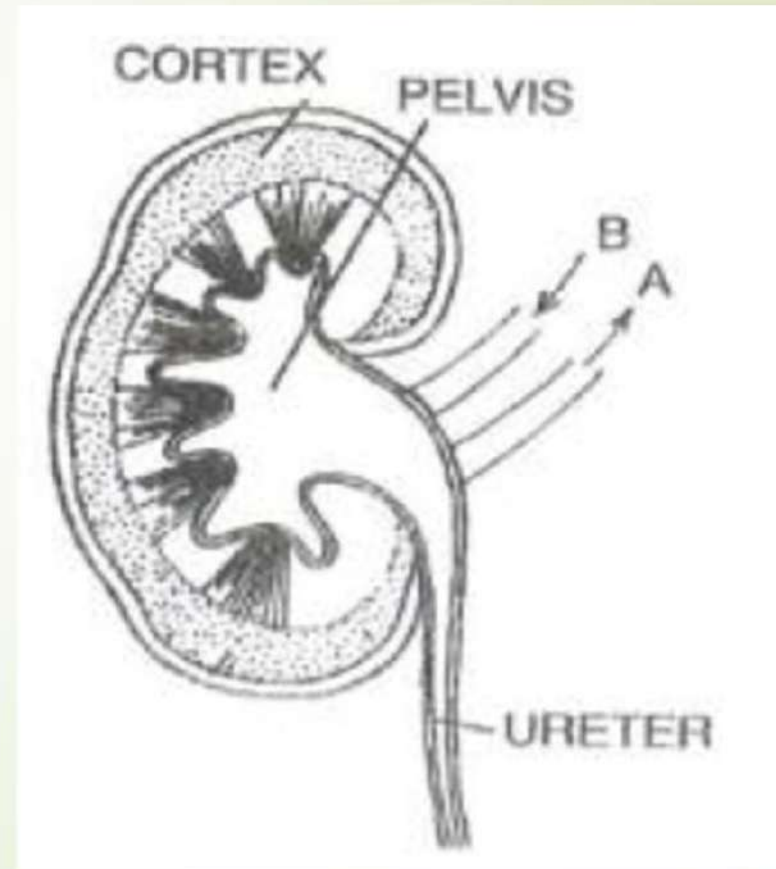
If names of specific useful substances not mentioned , no marks will be awarded.

Mention **water, glucose, sodium and chloride ions.**

Tips and suggestions

Instructions to draw the L.S of a kidney

- Bean shape
- Clear demarcation between the cortex and medulla region of the kidney. Label the parts
- Ureter to be drawn
- Renal artery and Vein to be shown with arrows to show the flow of direction of blood.



Tips and suggestions

Instructions to draw the Malpighian Capsule

- Cup shape of the glomerulus
- Difference in the thickness of the diameters of Afferent and Efferent arteriole.
- Arrows to indicate the direction of flow of blood.

