

Photosynthesis 2

STARTER

-List 3 plant organs and describe their function!

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- Name 3 things that you think plants need to photosynthesise.

Write your ideas down in your books. Feel free to draw a diagram



Lesson Aims

- State that Light energy is absorbed by the chlorophyll of green plants
- Describe that Light energy is used by converting water and carbon dioxide into glucose and oxygen in the process of photosynthesis
- -describe that Oxygen is released as a by product and the uses of glucose by a plant

ACTIVITY

- Write a definition of photosynthesis using the following words

Chemical reaction chlorophyll
chloroplasts by-product algae light
energy

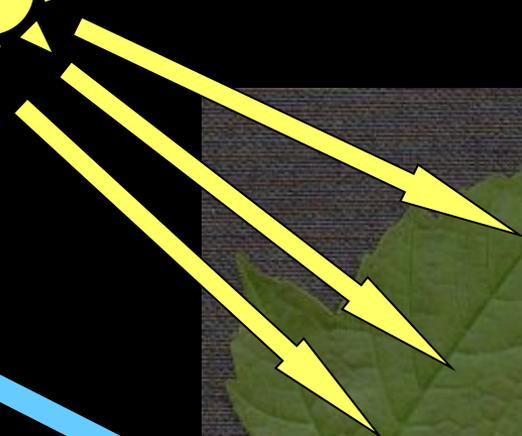
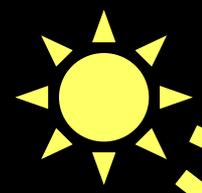
Photosynthesis is a chemical reaction that takes place in the chloroplasts of green plant cells and algae, where light energy, absorbed by chlorophyll, is used to convert carbon dioxide and water into glucose and oxygen. Oxygen is released as a by-product

Things needed for photosynthesis

Photosynthesis takes place in the leaf, in a cell known as a Palisade cell.

SUNLIGHT

Gives the plant energy



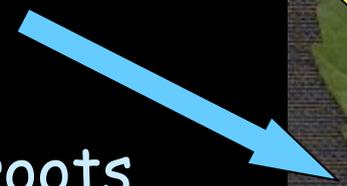
CHLOROPHYLL

The green stuff where the chemical reactions happen



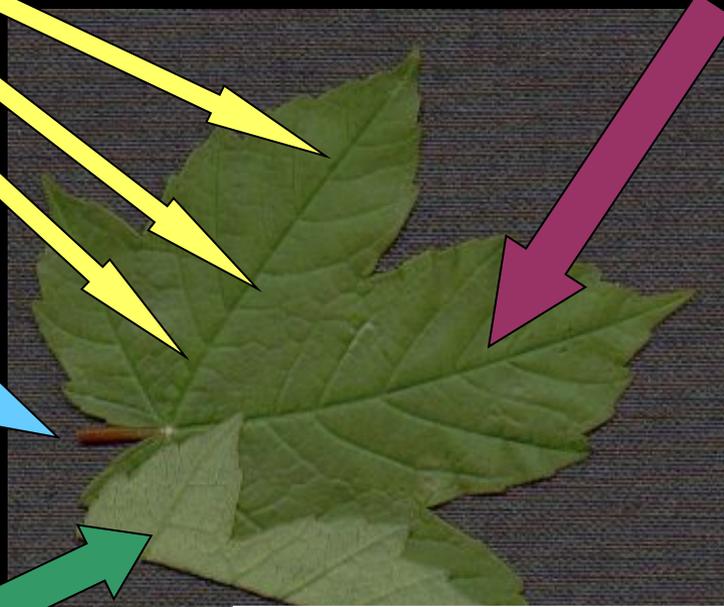
WATER

Travels up from the roots



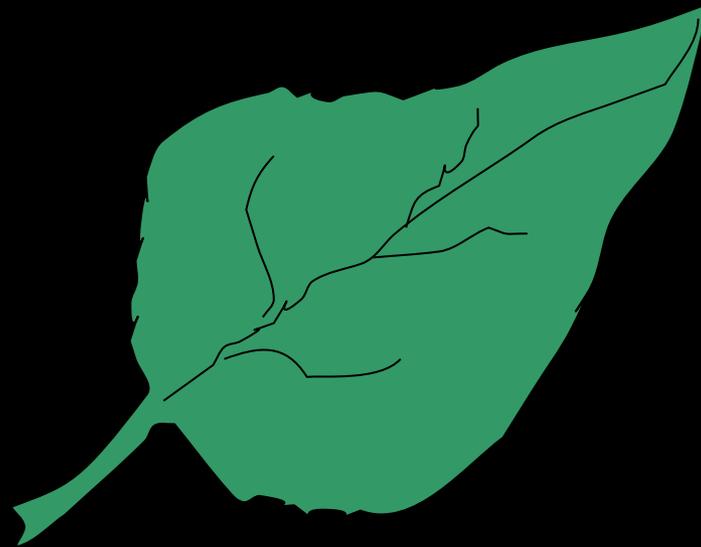
CARBON DIOXIDE

Enters the leaf through small holes on the underneath



Things needed for photosynthesis	Location/how it gets into the plant

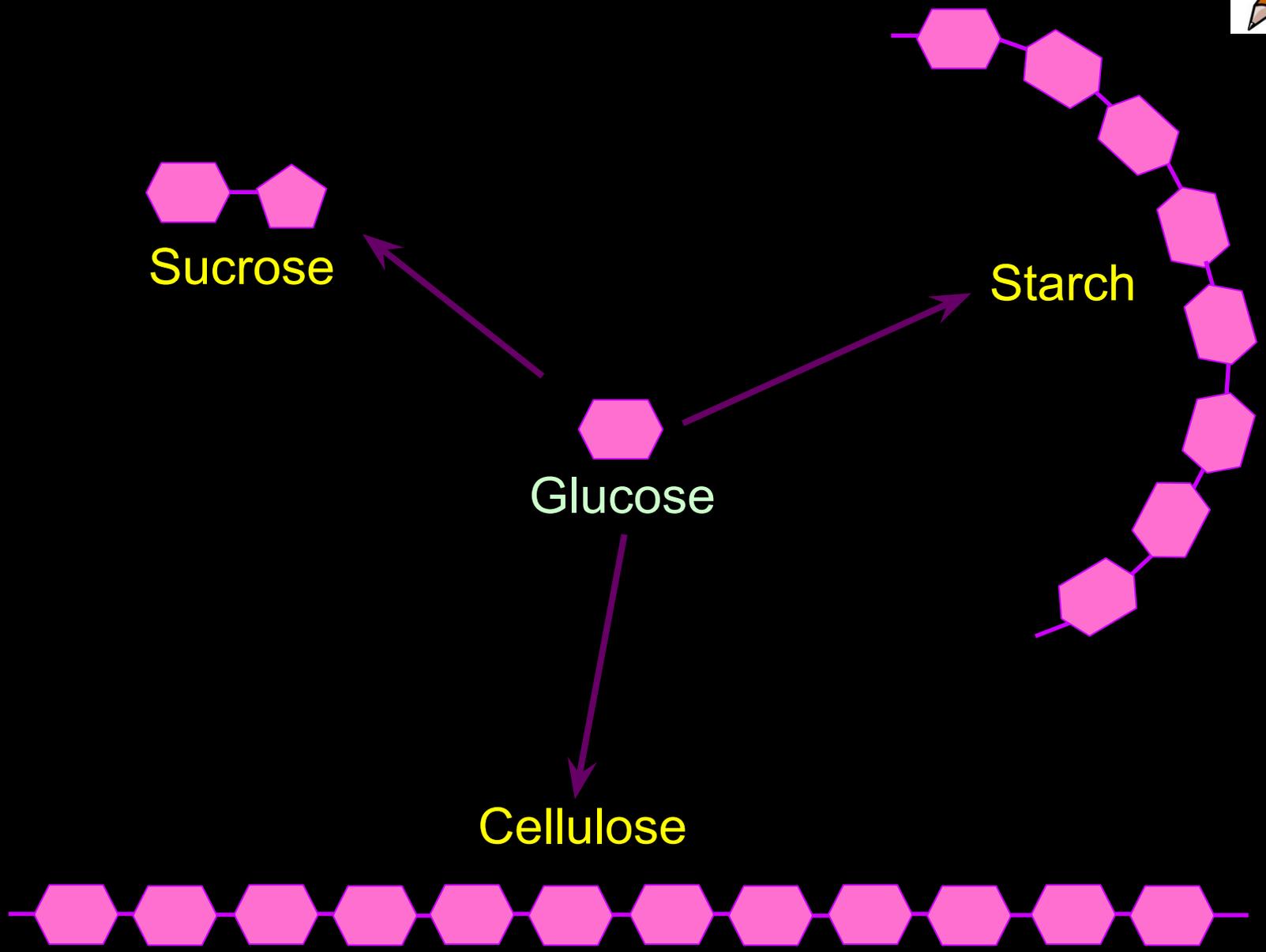
Photosynthesis takes place in the leaf, in a cell known as a Palisade cell.



What do plants do with the glucose?

They either use it immediately in **respiration** or store it as **starch** in their cells...



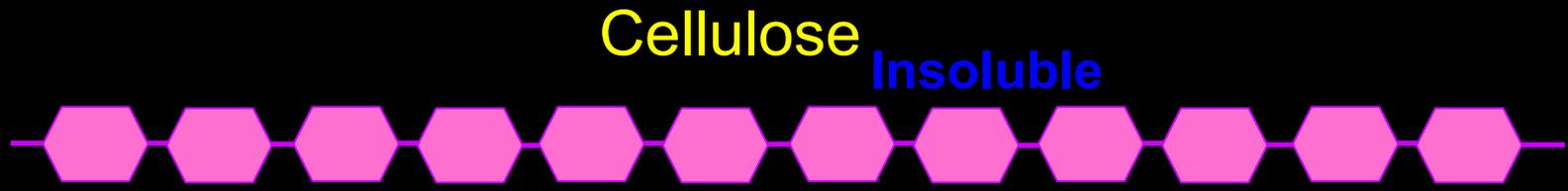
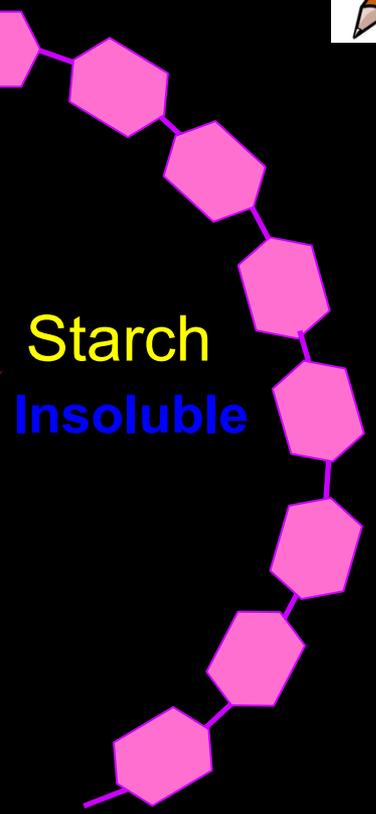
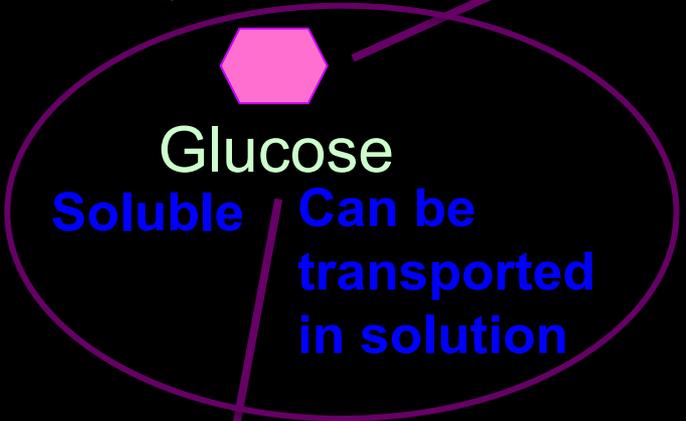
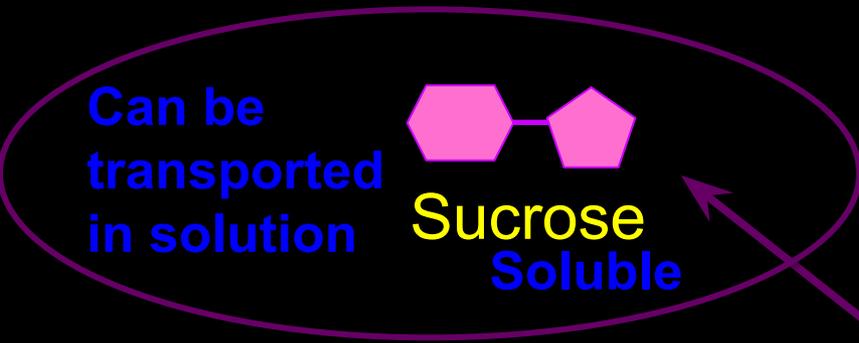
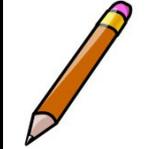


Sucrose

Starch

Glucose

Cellulose



Which carbohydrates are soluble, and which are insoluble?

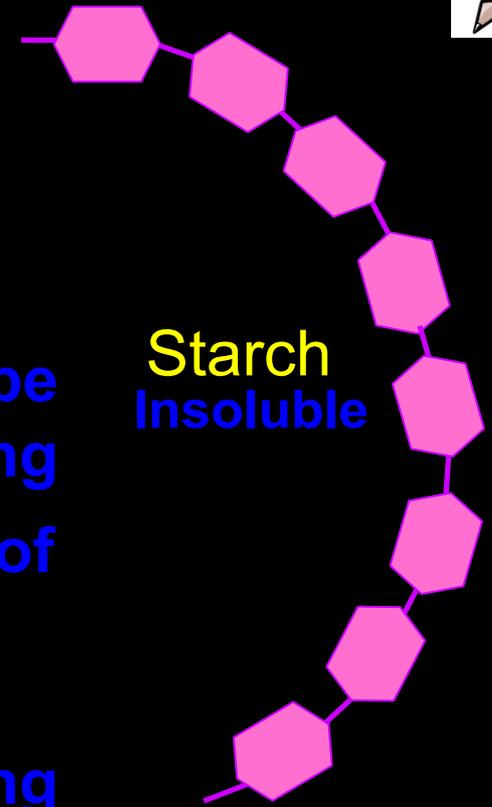
Which carbohydrates can be transported round the plant in solution?



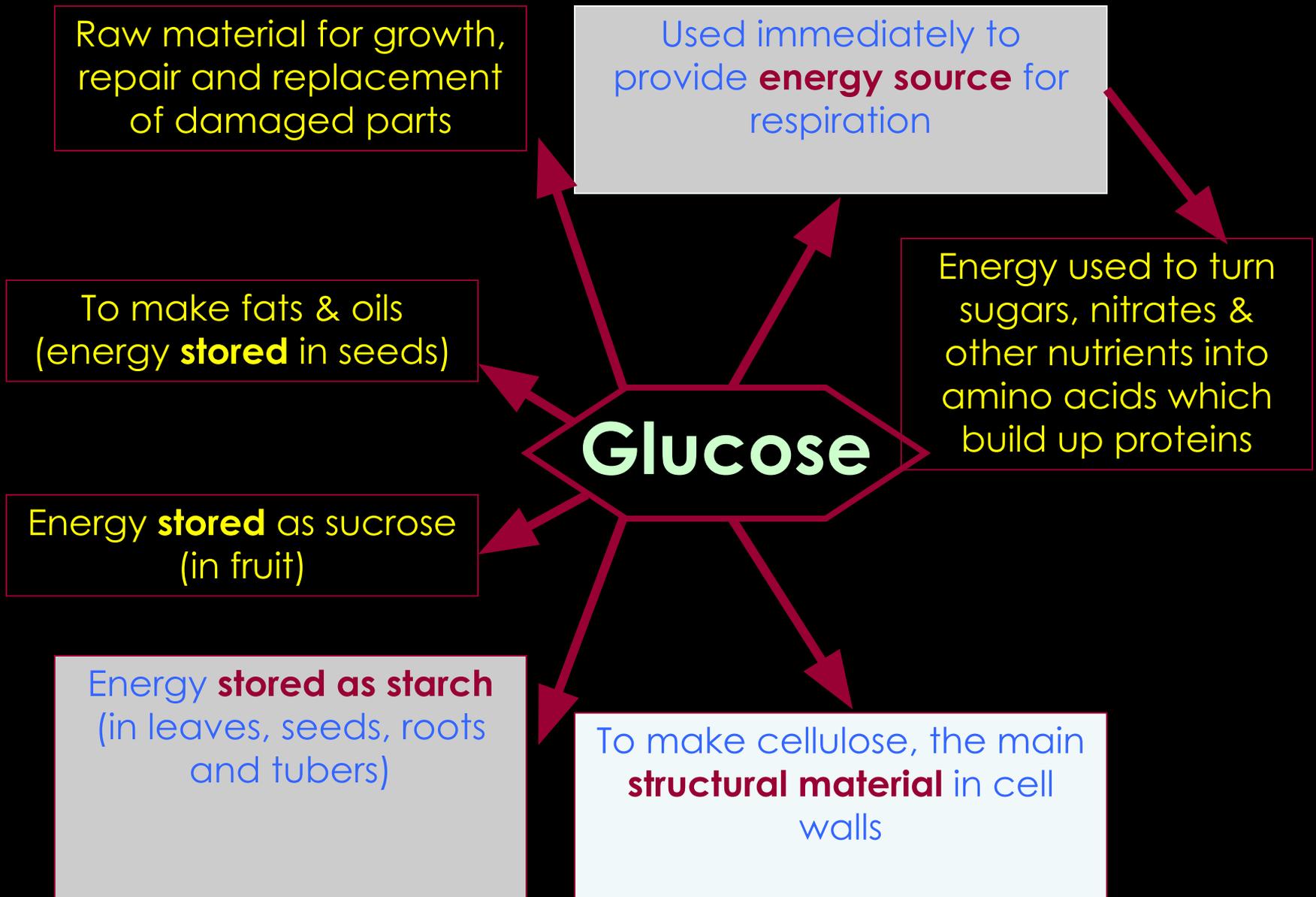
Because starch is insoluble it can be stored in the cell without affecting **water movement** into and out of the cell

i.e. it can be stored without affecting **osmosis**

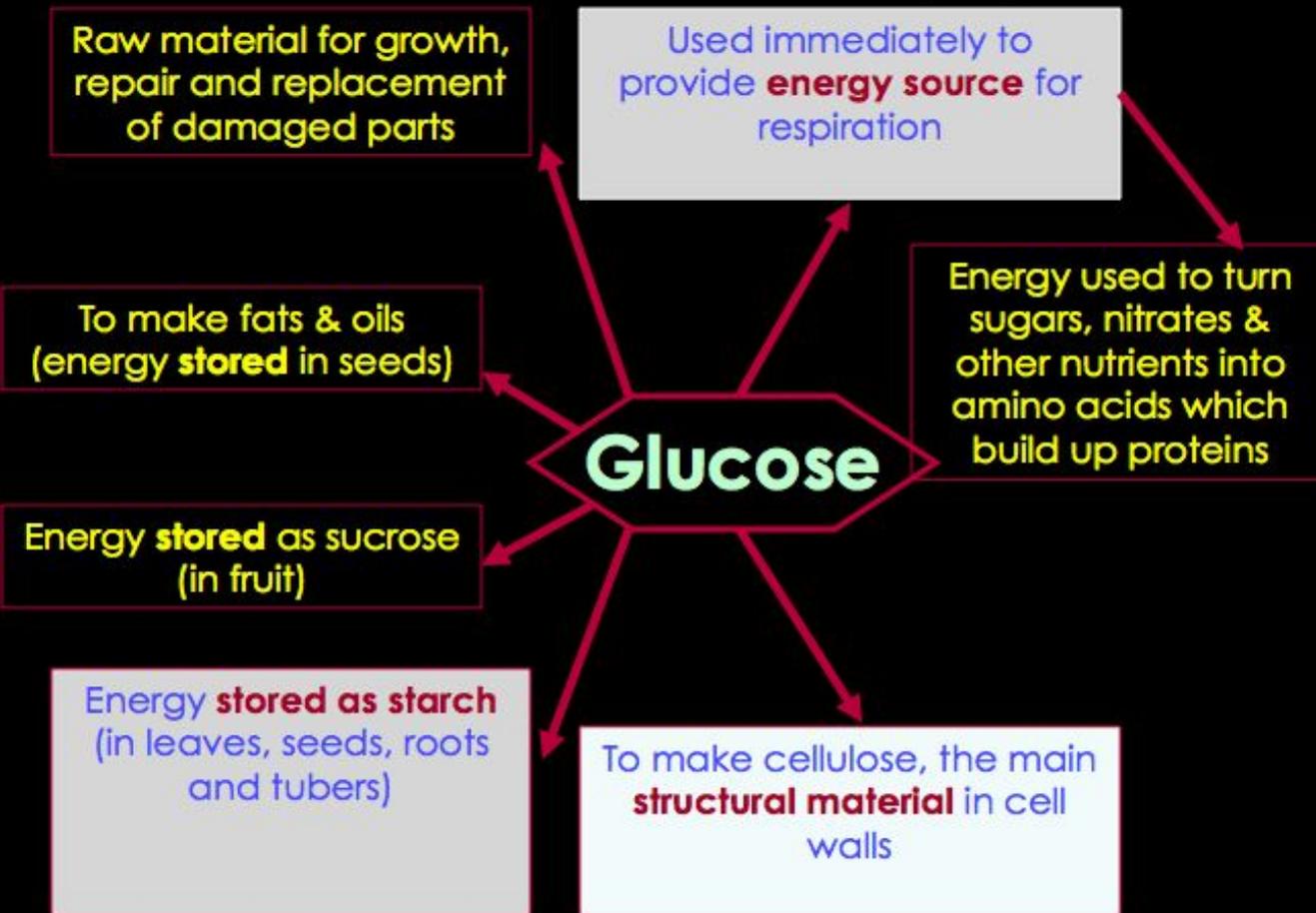
Starch
Insoluble



Uses of Glucose by plants



Uses of Glucose by plants



1. Which of these molecules* is soluble?
2. Name the process by which plants convert glucose into energy?
3. Which molecule is strong? Where is it found?
4. Why do you think plants store starch?

* Molecules = glucose, starch, cellulose and sucrose

PLENARY

Tell your partner one thing you never knew about plants until today

