



Photosynthesis

How do plant get what they need to grow

What Does Photosynthesis Mean?

Photo means light

Synthesis means put together

Photosynthesis is how plants put together stuff with light to make their own food.

Directly or indirectly, all life on Earth depends on photosynthesis!





How Does Photosynthesis Work?

Plants need:

- **Light** from the sun
 - Green pigment in plants called **chlorophyll** that trap the sun's energy to make food
- **Water** from roots or air
- **Carbon Dioxide** from air
 - Enters plant through tiny openings in the leaves called **stomata**



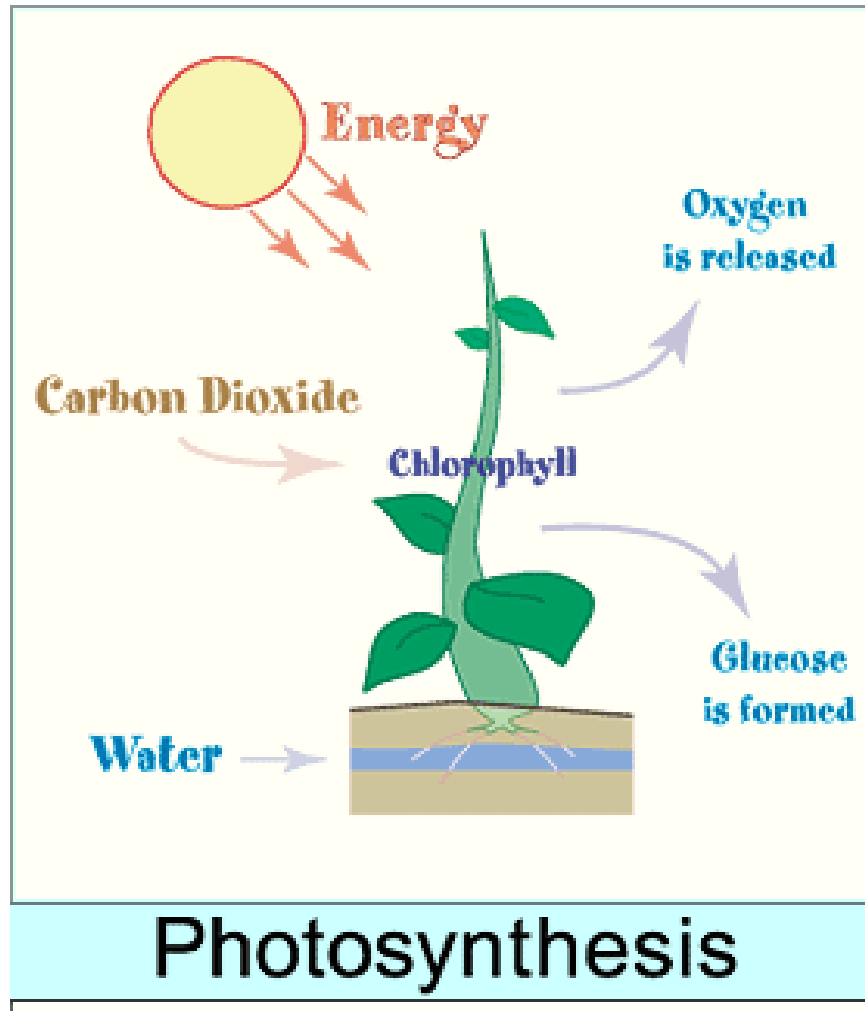
How Does Photosynthesis Work?

Plants use those items to produce:

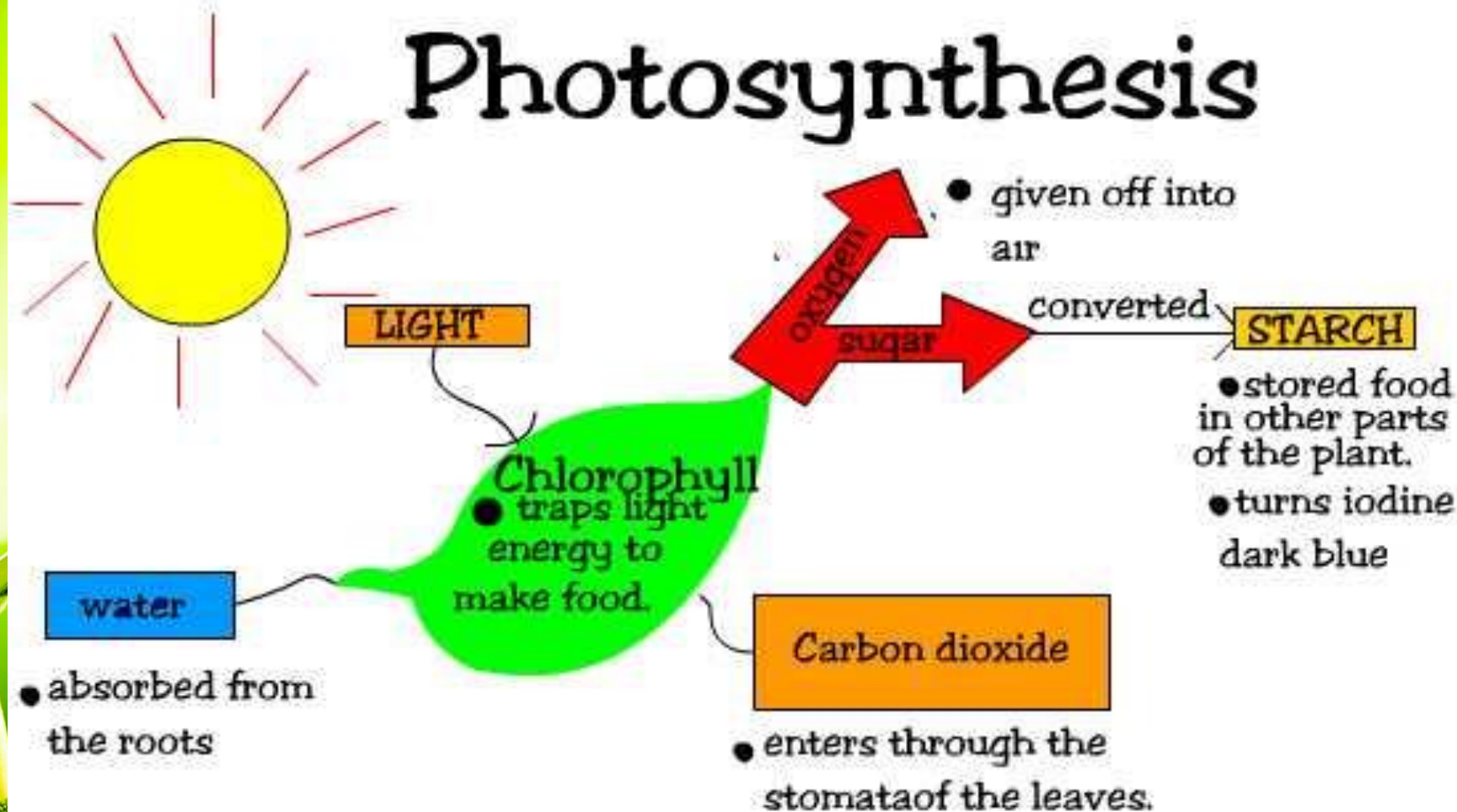
- **Glucose** (sugar) that the plant keeps for food to help it grow
- **Oxygen** that the plant releases into the atmosphere

Carbon dioxide + water + sunlight = glucose + oxygen





Photosynthesis



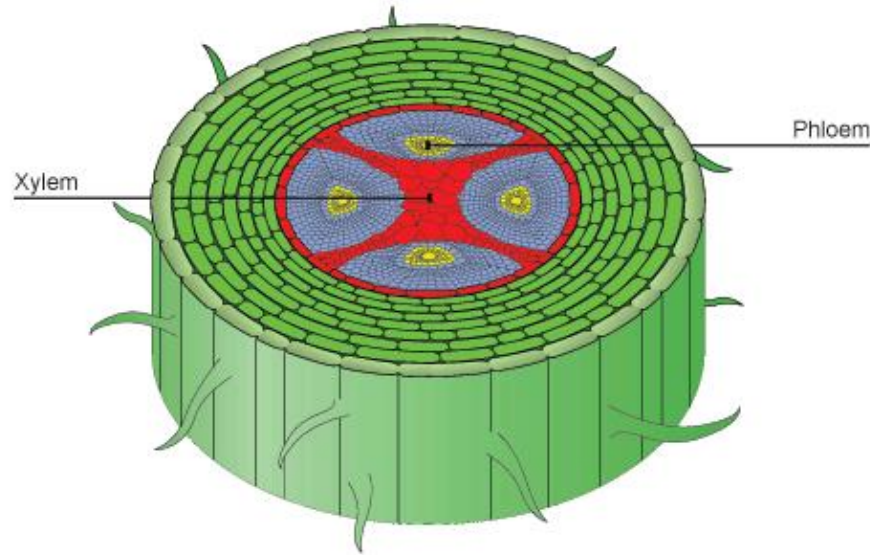
How Does the Plant Transport Everything?

Xylem

Carries water and minerals up through the stem of the plant

Phloem

Carries water and nutrients up and down to the roots



Photosynthesis

1. **Ingredients:**
 - Sunlight, water, carbon dioxide
2. **Energy from the sun is captured by the chlorophyll and transforms the original ingredients**
3. **Once the process is done you have the final product: glucose**
4. **Oxygen is released**

Sugar Cookies

1. **Ingredients:**
 - Sugar, butter, flour, eggs, vanilla
2. **Heat from the oven transforms the original ingredients**
3. **Once the process is done you have the final product: sugar cookies**
4. **Aroma from baking cookies is released**



History of Photosynthesis

Describe the experiment that was used to help understand photosynthesis.

Photosynthesis and your food

How does ATP connect with photosynthesis?

Remember!



Photosynthesis Project



Create something to present that describes the process of photosynthesis in such a way that anyone can understand it

What you create is up to you (skit, rap, poem, commercial, etc.) but it must have the following terms:

- Photosynthesis
- Sunlight
- Carbon dioxide
- Water
- Glucose
- Oxygen
- Chlorophyll
- Xylem
- Phloem

For each vocab word, you must describe the **purpose**, how it is **used**, and how it **relates** to the process.