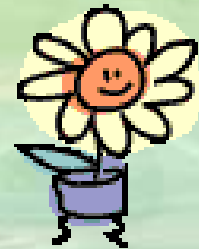


What is Photosynthesis?

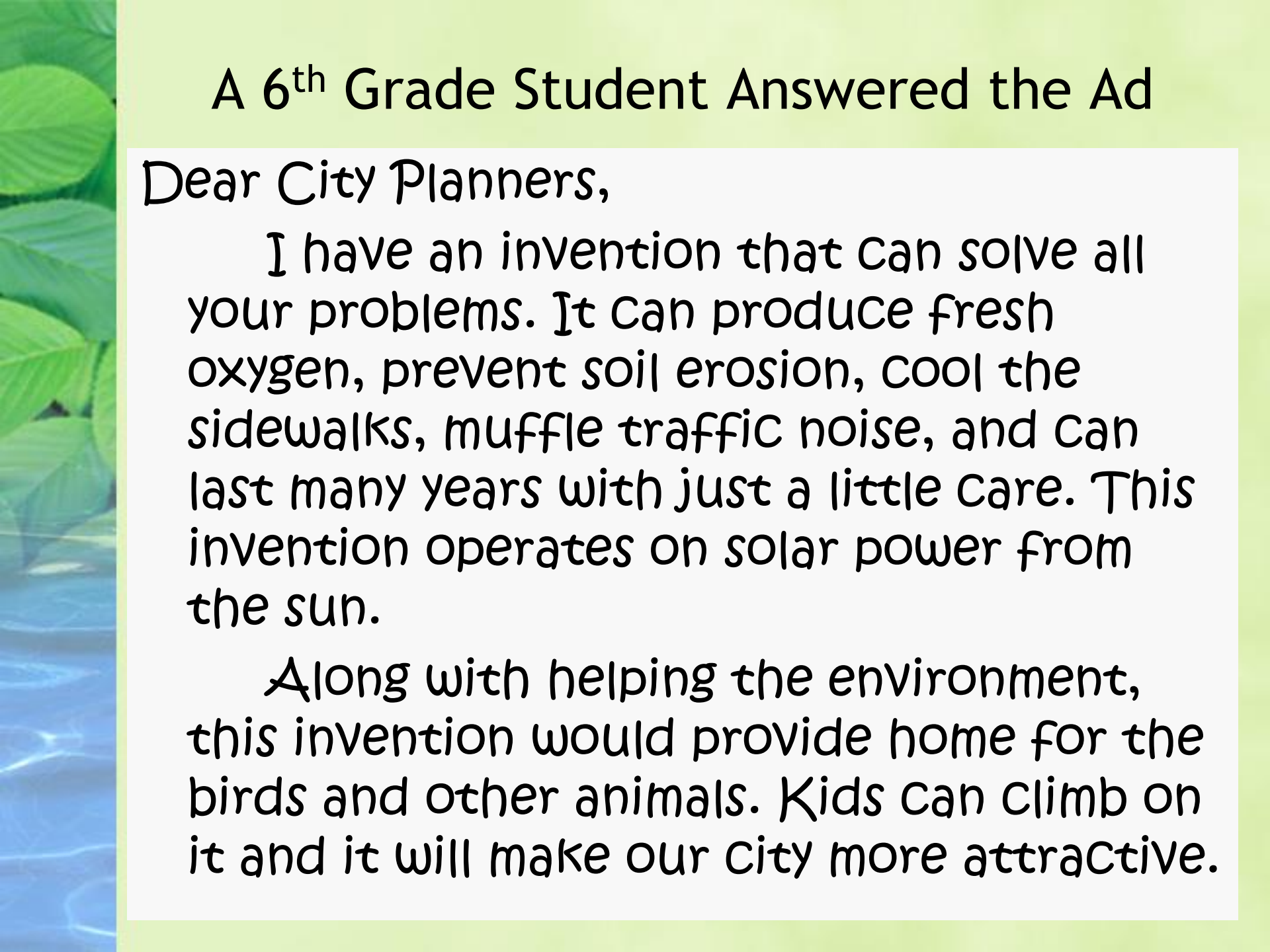




Ad From Newspaper

INVENTORS NEEDED!

Our city is experiencing environmental problems. The streams and rivers in our city are brown from the soil eroding into them after it rains. Our air is brown and hazy from all the smog and pollution. The buildings and pavements create so much heat in the summer the temperature is getting uncomfortably hot. We need your help! We are looking for inventors to come up with a solution to save our city!



A 6th Grade Student Answered the Ad Dear City Planners,

I have an invention that can solve all your problems. It can produce fresh oxygen, prevent soil erosion, cool the sidewalks, muffle traffic noise, and can last many years with just a little care. This invention operates on solar power from the sun.

Along with helping the environment, this invention would provide home for the birds and other animals. Kids can climb on it and it will make our city more attractive.

Letter continued....

This invention can also be made into other things people can use like paper, houses, baseball bats, or even medicine.

When the invention is no longer useful, it is biodegradable which means it will break down and become part of the environment. It can also be used for fuel.

Finally, this invention is not new. It has been around for years.

Can you guess what this invention is?

A TREE!



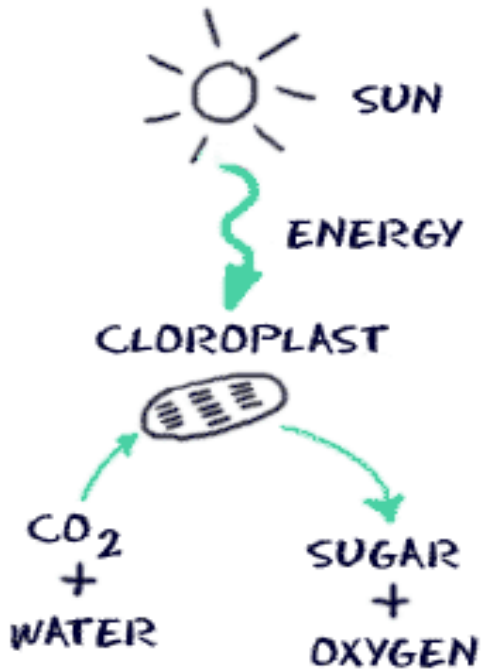
Why Study Photosynthesis?

- **Photo** means light
- **Synthesis** means put together

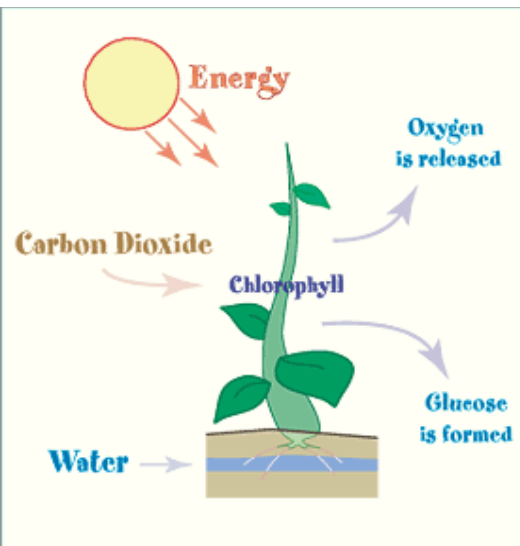
Photosynthesis is how plants put together stuff with light to make their own food

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

Photosynthesis (How do green plants make their own food?)

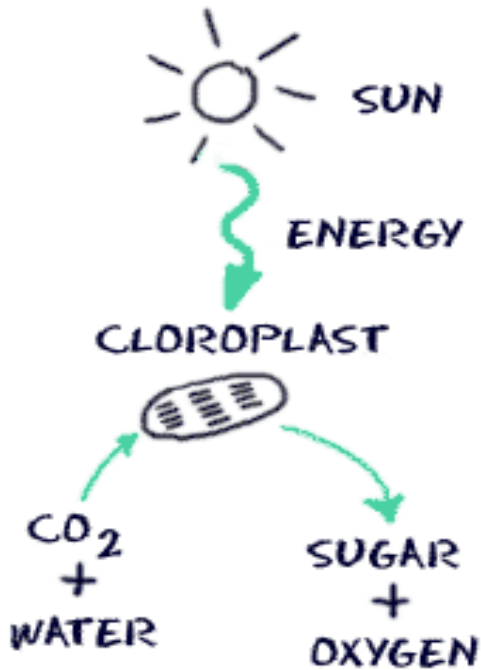


- Plants Need
 - Light from the sun
 - Water from roots
 - Carbon dioxide from air, enters plant through tiny openings in the leaves called stomata
 - Chlorophyll: green pigment in plants that trap the sun's energy to make food

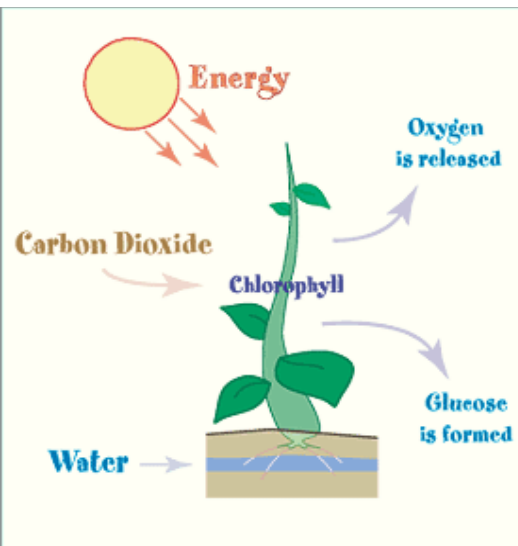


Photosynthesis

Photosynthesis (How do green plants make their own food?)

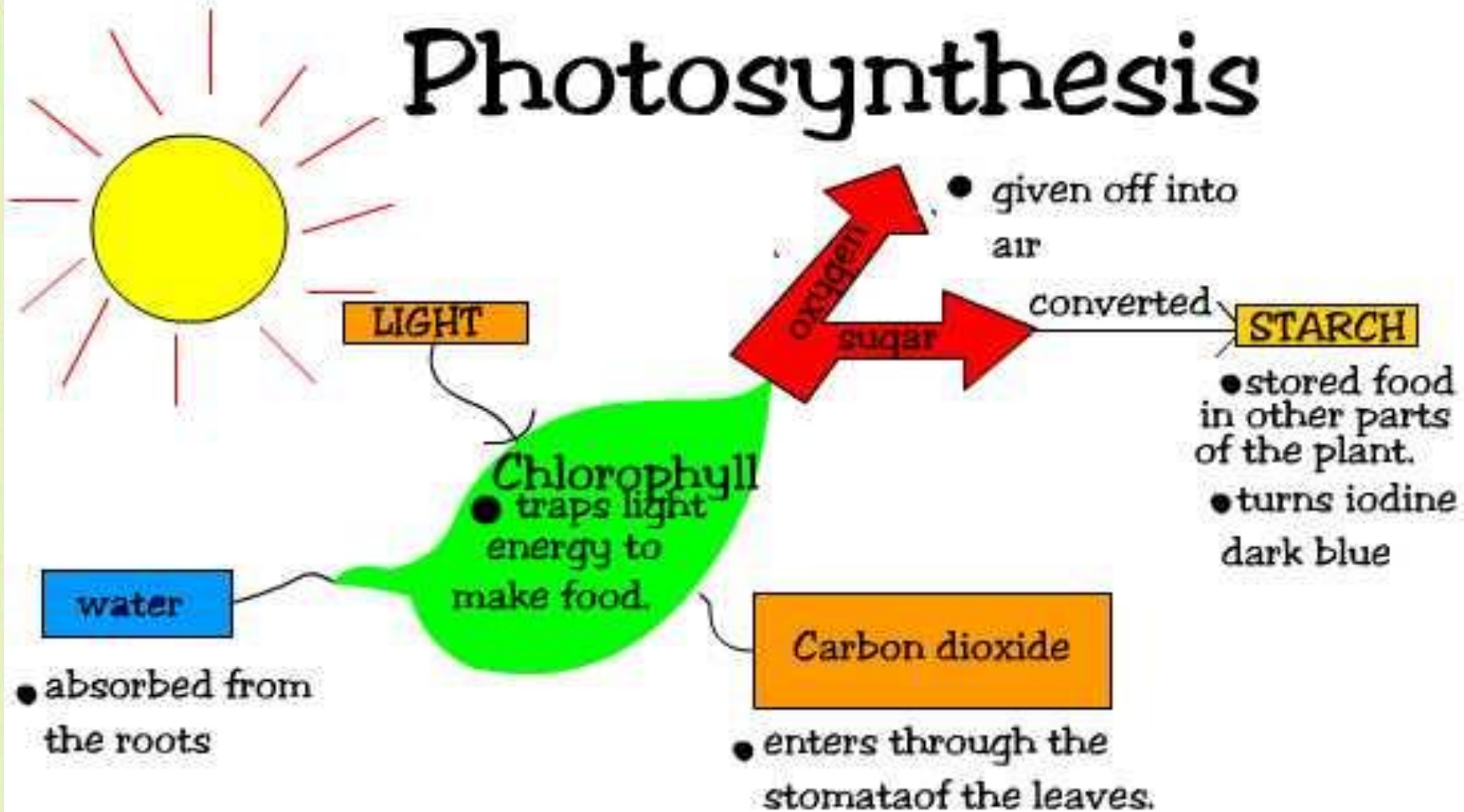


- That energy creates **glucose** (**sugar**) and **oxygen** from the carbon dioxide and water
 - The plant keeps the glucose as food for the plant to help it grow
 - The plant releases the oxygen into the atmosphere



Photosynthesis

Photosynthesis



Carbon dioxide + water + sunlight = glucose + oxygen



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

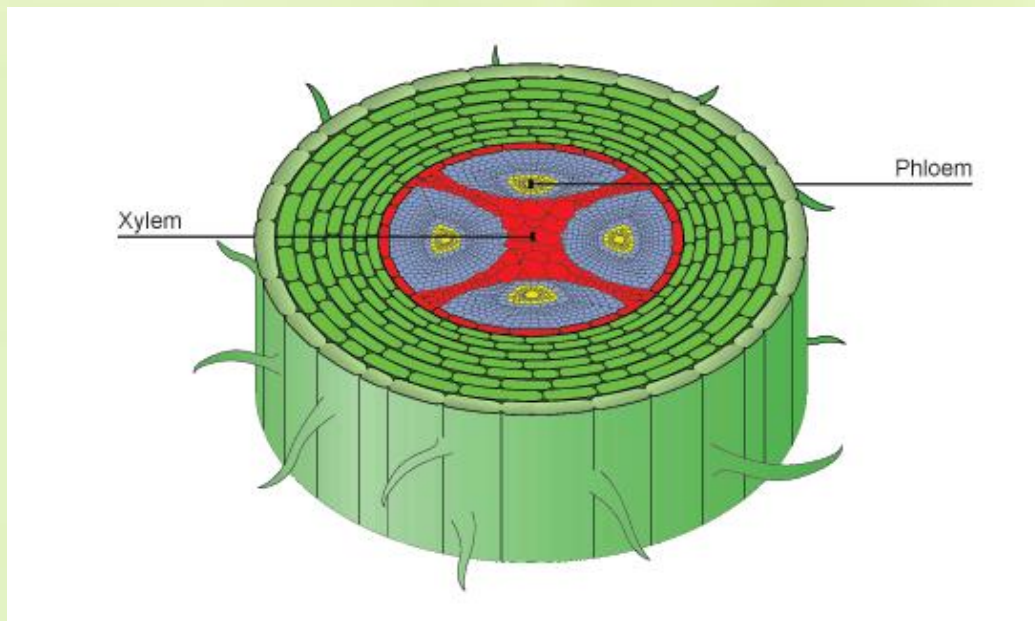
What carries all this?

Xylem

Carries water and minerals up through the stem of the plant

Phloem

Carries water and nutrients up and down to the roots



Photosynthesis Videos

- [Process of photosynthesis](#)
- [Bill Nye](#)
- [Photosynthesis Song](#)



**Create a photosynthesis
project!**

Directions for Project

- You can create a play, rap, poem, song, diagram, or commercial explaining photosynthesis.
- You must use all of the following terms correctly:
 - Photosynthesis, sunlight, carbon dioxide, water, glucose, oxygen, energy, chlorophyll
- [An example](#)