You’ve probably heard of solar energy, but have you ever heard of sugar energy? Well, guess what? That’s what sugar is — pure and simple — it’s the plant’s energy!

All green plants make sugar through photosynthesis. Photosynthesis is the process by which plants transform the energy from sunlight into sugar, their stored food and energy supply.

The recipe is pretty easy and contains just four natural ingredients:
- **carbon dioxide**
- **sunshine**
- **soil**
- **water**

This powerful combination is all Mother Nature needs to create sugar (chemical name sucrose).

Energy from the sun is absorbed by the **chlorophyll** in the cells of the plant’s leaves. The leaves also take in carbon dioxide (CO₂), a gas that we release when we exhale. Water, and the minerals it carries, is soaked up by the plant’s roots. The combination of these ingredients produces a chemical reaction, and sucrose, or sugar, is made. This sugar in plants provides energy for them to grow.

Sugar exists naturally in almost every fruit and vegetable, but two special plants are packed full of sugar. Sugar occurs in the greatest quantities in sugarcane and sugar beets.

**SugarCane**

Sugarcane is a tropical grass that grows 10-20 feet high. The sucrose that is created by the plant is stored in the thick stalks or canes. A stalk of sugarcane contains 12-14% sucrose.

The sugar we extract from sugar beets and sugarcane is exactly the same as the sugar/sucrose in a peach, watermelon or carrot.

So, now you know how Mother Nature and plants produce sugar. It’s pure and simple.
Complete this diagram to help you identify and remember the parts of the sugarcane plant. Use the key below to color the different parts of the plant as indicated. Use the word bank to fill in the blanks.

**Color Key**

- YELLOW: Where plants get energy.
- GREEN: Where chlorophyll is located.
- LIGHT BLUE: Where plants get carbon dioxide.
- BROWN: Where plants get water and minerals.
- TAN: Where sugar is stored in plants.

**Word Bank**

- SUN
- LEAVES
- SOIL
- AIR
- STALK