

## Photosynthesis

We want to know a couple of things, 1) why are we breathing out carbon dioxide [CO<sub>2</sub>], and 2) how might plants be able to help if there is too much CO<sub>2</sub> about?

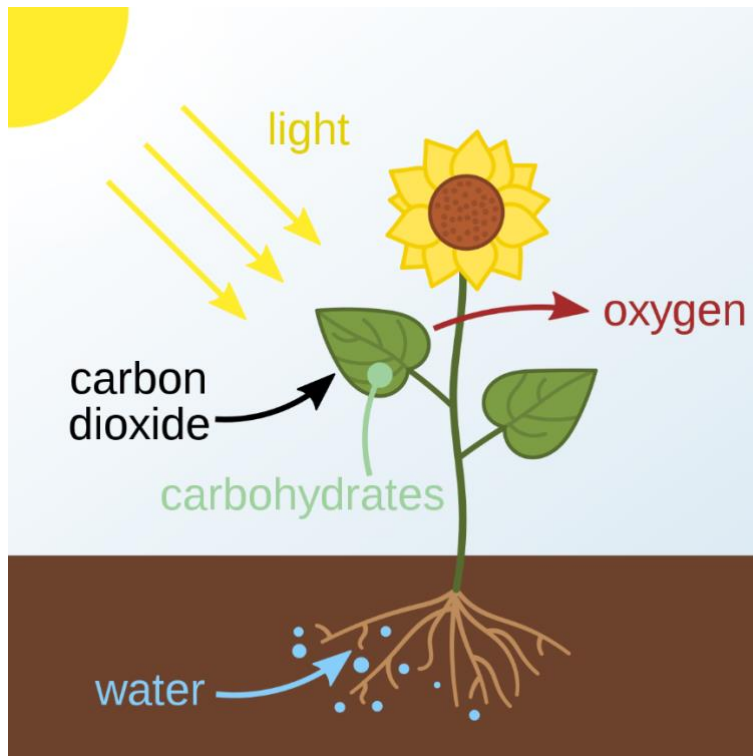
We said that coal is pure carbon, and that coal can be burnt to make us warm. Of course, wood can also be burnt to make us warm. Coal and wood are also burnt in large factories to get energy to make things like steel and rubber.

When things burn, oxygen combines with another molecule like carbon, and energy is given out. Therefore, when most things burn, we get energy given out [which is what we want] and CO<sub>2</sub> – which we didn't worry about many years ago, but now we do worry about, and don't want in the environment.

Now, we can answer that **first question** above. We breathe out CO<sub>2</sub> because to get energy we burn up the food we have eaten, like a fire. Carbon and oxygen combine in our bodies. We need to get rid of CO<sub>2</sub> [because too much will kill us]. We have to breathe it OUT. We don't get hot like a fire, but a similar chemical process takes place. Absolutely amazing!

The answer to that **second question** is just as amazing. Plants are able to grow and live because of '**photosynthesis**'. Photo means light – you can't take a photograph in your room at night with the light off. You need light to take a photograph because the light is a form of energy and without energy the graph [picture] cannot be made.

Plants are a bit like cameras – they need light [energy] to work properly. So, here is the wonderful process of photosynthesis.



[Wikimedia Commons, the free media repository. Many thanks.  
[https://commons.wikimedia.org/wiki/File:Photosynthesis\\_en.svg](https://commons.wikimedia.org/wiki/File:Photosynthesis_en.svg)]

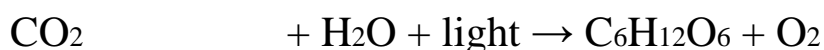
The leaves take in CO<sub>2</sub> from the air and with some water [don't forget to water the garden] and energy from the Sun [sunlight] they turn it into more leaves and stems – and grow!

Not only do plants get rid of some CO<sub>2</sub>, but, after they have stripped off the carbon [to keep] – they release the oxygen – for us to breathe! Wonderful!

We make CO<sub>2</sub> which we don't want, and they release oxygen which we do want.

### Photosynthesis in brief

Carbon dioxide + water + light → Glucose + oxygen



Not only does photosynthesis manage the gas problem – but it also enables the plants to grow – which provides us with food.

Show your parents  
Chapter 32.

**Knock, knock.**

**Who's there**

**Tank.**

**Tank who?**

**You're welcome.**



[Foto-Rabe. Thanks also to Igor.  
<https://fancycrave.com/two-green-mamba-snakes-hanging-on-a-branch/>]



[Alessio Lin. Thanks also to Igor  
<https://fancycrave.com/butterfly-and-toad-friendship/>]