

# The Air Around Us

## Plant Needs Week 3 Reading Page

Take a deep breath in. Take a deep breath out. Of all the things animals need to survive, constant access to air is the most important.

### What is air?

Air on our planet is made up of lots of different components. We usually can't see the air around us because it is made up of gases which are elements in their tiniest forms. Because they are so small, they do not reflect light that our eyes can see.

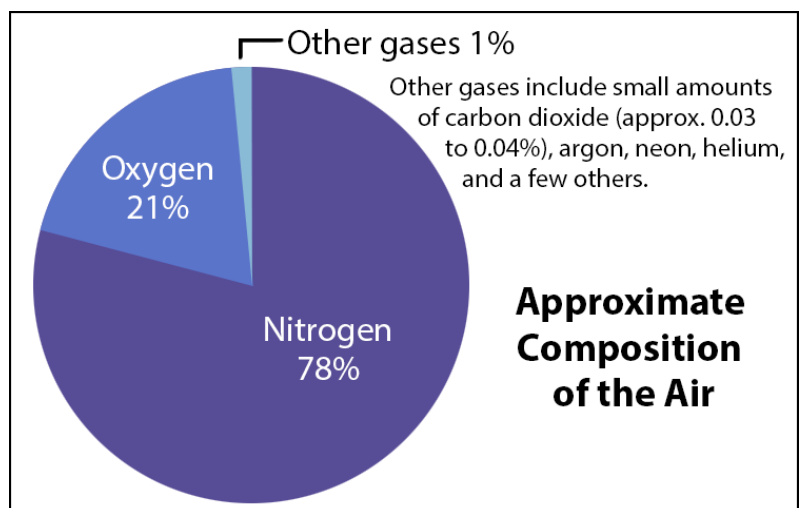
What about using our other senses? Have you ever been able to feel air? Air can change temperatures so sometimes it feels cold and other times it feels warm. Temperature changes can also cause the air particles to move and we feel wind. As the wind moves by objects it may produce a sound so that we can hear air, too!

### Can you smell air?

Although normally the basic elements that make up air don't have a recognizable smell for people, sometimes, additional gases and other really small particles of matter can get into the air, and our sense of smell may notice an odor (sometimes good and sometimes yucky). Finally, can you taste air? Our sense of smell and sense of taste are connected so when things other than the normal gases are in the air around us, it can impact our sense of taste, too — but it is not exactly the same as doing a taste test.

### What are these tiny components that make up air?

The elements present in the biggest amounts are nitrogen and oxygen. Under normal conditions, nitrogen makes up 78% of our air and oxygen makes up 21% of our air. Then there are components that just make up a small amount of the air, including things like carbon dioxide, argon, hydrogen, neon, and water vapor. All these other things usually make up 1% of the air.



Oxygen is the element in the air that is most important to animals. We breathe air into our bodies and use the oxygen to transform the food we eat into the energy our bodies need to stay alive and growing. After we take the oxygen



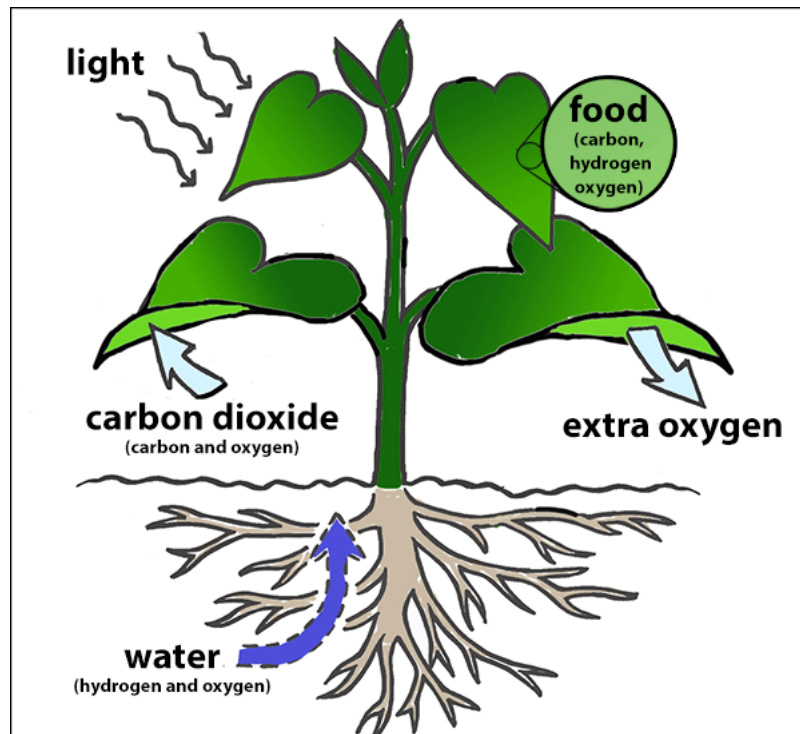
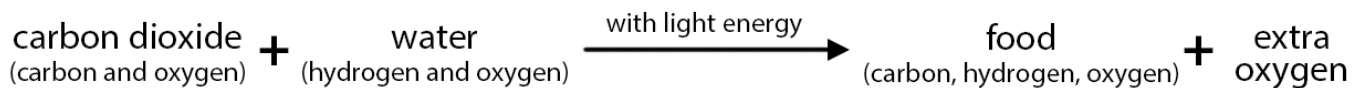
out of the air, we breathe out the stuff we do not need. If animals all over the planet kept taking all the oxygen out of the air and just putting back the other stuff, it would seem like the amount of oxygen found in the air would decrease, right?

**That is where our green plant friends come to the rescue!** Plants also need air. Plants take in air through small openings in their leaves called stomata (stow-MAH-tuh). Like us they use the oxygen in it to transform their food into energy for them to live and grow.

However, unlike us, plants also use the carbon dioxide in the air. Carbon dioxide is made up of carbon and oxygen. Plants use the carbon dioxide they take into their leaves to make food through a process called photosynthesis (foe-toe-SIN-the-sis).

The process of photosynthesis also results in creating extra oxygen that the plants don't need. Plants release this extra oxygen back into the air.

### Photosynthesis:



So, what does all this mean for our air?

- People and animals take in air, use the oxygen in it, and then breathe out air that has more of the other elements like carbon dioxide in it.
- Plants take in air, use the carbon dioxide to make food, and then release the extra oxygen they don't need back into the air.

Plants and animals are working like a team to keep the amount of oxygen and carbon dioxide in the air about the same.

There are some other activities on the Earth that can also impact the types of gases in our air, but the way that people/animals and plants use air differently plays an important role in helping keep the amounts of all the elements in the air in balance. This amazing cycling of air is just another reminder of why plants are so important to us!

### Reading Comprehension Questions:

1. True or false: Both plants and animals need air to live and grow.
2. What kind of particles is air usually made up of?
  - A. Liquids
  - B. Solids
  - C. Gases
  - D. None of the above
3. What element in the air is most important to animals?
4. What two elements in the air do plants need to survive?
5. Together people and plants help keep the amount of oxygen and carbon dioxide in the air about the same. What might happen to our air if we cut down too many trees and other plants on the Earth?