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THANK GOD FOR AIR!

by Lanny and Marilyn Johnson

When you get up in the morning, take in a deep breath and then gently blow it outward across your hand. What you feel moving across your hand is air. Now take another deep breath and thank God for air!

You probably already know that you need air to live – just hold your breath for a few seconds and you will quickly understand just how much you need the oxygen in air to live! However, air is much more than just oxygen and does many things for us besides enabling us to breathe. Air is one of the main things that make life on Earth possible.

We live in a protective blanket of air that surrounds the Earth. This air is called the atmosphere. The Earth's atmosphere is made up of different invisible gases. Most of the gases in the air are nitrogen (78%) and oxygen (21%). There are also small amounts of argon gas (0.97%) and carbon dioxide (0.03%). Besides gases, all air carries tiny specks of dust, salts



from the sea, volcanic ash, ice crystals, and pollution. Air also contains water vapor.

All living things need the gases found in air in order to live. People and animals use the oxygen they breathe in to turn food into energy that the body can use. Carbon dioxide is released when we breathe out. By a process called photosynthesis, plants take in carbon dioxide from the air plus water from the ground and use them to make food and oxygen (which goes out into the air). Air also has nitrogen, which plants need to grow.

The amounts of the gases in the air are just right. If there was much less oxygen in the air, animals and people would always be gasping for air. On the other hand, too much oxygen can cause oxygen poisoning, which is very harmful. If the air was mostly oxygen, even a tiny spark could set off a huge fiery explosion. We could not live on Venus, because not only is it very hot, but the atmosphere there is mostly carbon dioxide and nitrogen. We also could not live on Mars where it is very cold and has an atmosphere of mostly carbon dioxide. Large amounts of carbon dioxide are poisonous for us (even 1 – 7% is too large for us!).

The air surrounding the Earth also does many other things:

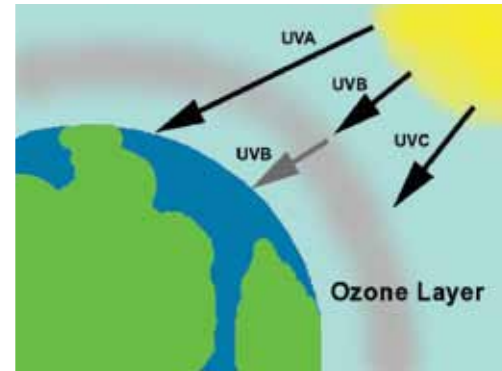
- ☉ Air acts like a thermal blanket, keeping the Earth from getting too hot or too cold. The carbon dioxide in the air is able to soak up infrared radiation, or the heat coming from the Sun, thus keeping it warm enough for life. As water evaporates and rises into the air, it carries the extra heat from the Earth's surface into the atmosphere.

- ☉ In the air about 6 to 30 miles above the Earth,

a special type of oxygen known as ozone blocks out most of the ultraviolet (UV) rays from the Sun. UV rays can hurt the eyes, cause sunburn and skin cancer, and large amounts can be harmful or deadly. However, ozone does not filter out all of the UV. This is actually good, because our bodies need some UV rays to make

Vitamin D, which helps to keep our bones strong.

- ☉ Air is colorless which makes vision clear. Yet the sky is blue ... why? Because the Earth's air is full of tiny pieces of dust that are so small that they cannot be seen. These tiny pieces of dust are the same size



as the wavelength of the color blue. As the light from the Sun hits this dust it scatters the blue light in every direction, which can be seen with our eyes. You would not see a beautiful blue sky on our moon because it has no air.

- ☉ Air can carry sound. When any object vibrates, it pushes on molecules (particles) in the air. These particles then push, bump, or shake the air particles next to them, which push the air particles next to them, and so on, making sound waves. When these sound waves reach our ears, our eardrums vibrate and we are able to hear.

Although most of the sound we hear comes through the air, sound waves can also travel through solids and liquids. Sound travels slower through air because air particles are farther apart than the particles in solids and liquids.

- ☉ Air has no smell of its own (odorless).

However, things like flowers, cookies, perfume, and skunks give off chemicals that float in the air which we are able to smell.

- ☉ Air has weight which is also called air

pressure. Air is constantly pushing down on you with a force of 14.7 pounds per square inch (1 kilogram per square centimeter). One square inch is about the size of a postage stamp. That is a lot of weight! Thankfully, God designed it so that the air inside of our bodies balances out the pressure outside so that we aren't squished by air! The different pressures in the atmosphere (high air pressure moves to low air pressure) keeps air moving, which helps make weather (like rain and snow).

All of these things about air (there are even more not listed) are essential for life here on the Earth. All these things are too complicated to have ever happened by just chance and accident. Our amazing atmosphere is evidence of design, which points to a designer, which points to God. So gives thanks to God for air!



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