

Earth's Atmospheric Layers – CLOZE Reading

Name: Key

The Earth is more than just a floating rock in space with life and water. It actually contains a dynamic atmosphere, which makes it very unique! This atmosphere is composed of different layers and these layers help make life suitable and possible. These layers contain gases and vary in temperatures and pressure.

First, let's explore the five layers of the atmosphere. The layer closest to the earth (or the lowest layer) is called the troposphere. This is where weather occurs as water evaporates and returns to the Earth in the form of rain or snow. The troposphere is about 11 miles thick and contains mostly air and oxygen. When thinking about the troposphere (inner layer), it is important to realize that the higher you go in altitude (further you go up) the colder it gets.

Next is the stratosphere, which extends about 30 miles high. Have you heard of the ozone? The ozone is actually located in the stratosphere and protects us from the harmful rays from the sun. The second layer of the atmosphere is cold, except for the ozone in the upper region.

The third and middle layer is called the mesosphere, which reaches about 50 miles from the Earth. This layer is very cold with temperatures as low as -180 degrees Fahrenheit. This is by far the coldest layer in the Earth's atmosphere.

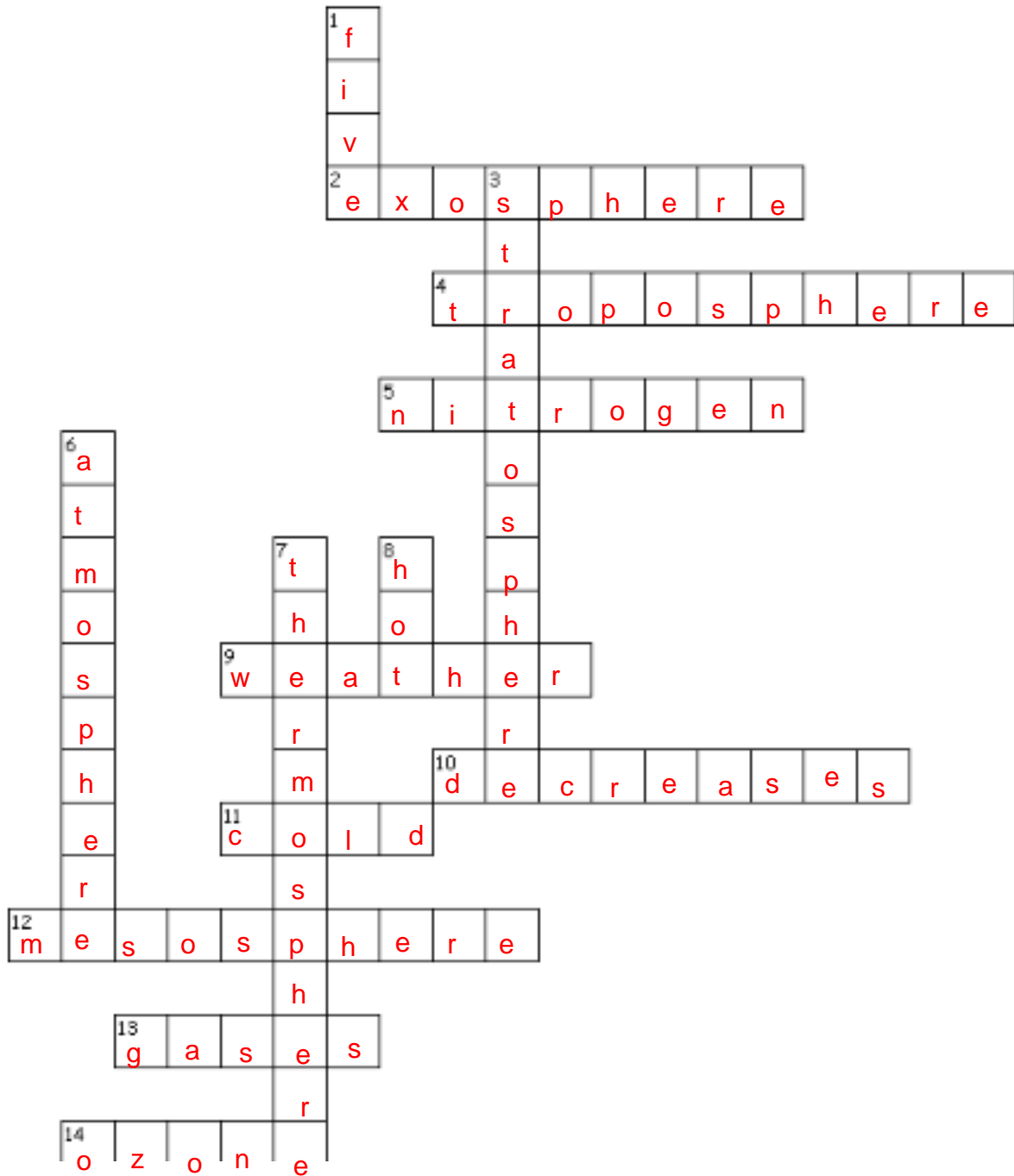
Outside of the mesosphere is the thermosphere (also called the ionosphere occasionally). This fourth layer goes about 430 miles above Earth. Perhaps the neatest thing to happen here is the Aurora Borealis, or Northern Lights. What word comes to mind when you hear "thermo?" Perhaps thermometer or another word. Well, it is interesting to point out that the thermosphere is actually a very cold layer.

The outer layer and the one that is farthest from Earth is the exosphere. This final layer extends into space and is also very hot.

So what's in the atmosphere? Mostly gases! The gas that is most abundant is nitrogen, but you will also find oxygen, carbon dioxide, and other trace gases that are less common (like argon). Remember the ozone we discussed earlier? It's actually a form of oxygen gas in the stratosphere. In the troposphere, two gases (water and carbon dioxide) play an important role with impacting the weather.

One more important factor to consider when talking about the atmosphere is air pressure. This the force (push or pull) exerted on the surface of the Earth. This air pressure plays an important role in the troposphere and impacts weather conditions. Also, as you move up through the atmosphere, the air pressure decreases. Therefore, the troposphere has the highest pressure, while the exosphere has the lowest air pressure. This is because the Earth's pull of gravity decreases as you move further away.

atmosphere (x2)	cold (x2)	decreases	exosphere	five
force	highest	hot	layers	lowest
nitrogen	Northern Lights	ozone	pressure	stratosphere
Sun	thermosphere	up	weather (x3)	



Across

- 2. - outer layer of the atmosphere
- 4. - inner layer which controls weather
- 5. - most abundant gas in the atmosphere
- 9. - impacted by and occurring in the troposphere
- 10. - as you go higher, air pressure...
- 11. - the mesosphere is very...
- 12. - middle layer
- 13. - elements and compounds in the atmosphere
- 14. - oxygen layer in the stratosphere that protects us from harmful rays

Down

- 1. - the number of layers in the atmosphere
- 3. - second layer which contains the ozone
- 6. - layers that surround the Earth and make it suitable for life
- 7. - the fourth layer that is very warm
- 8. - the thermosphere is very