

EARTH'S ATMOSPHERE

Cut the half circles.

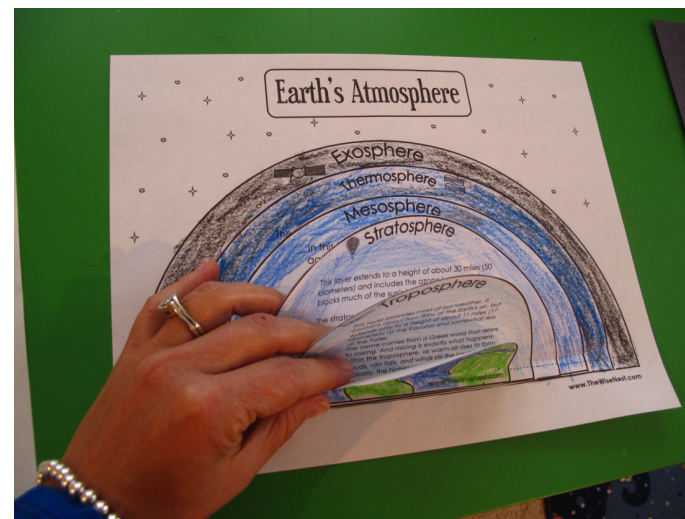
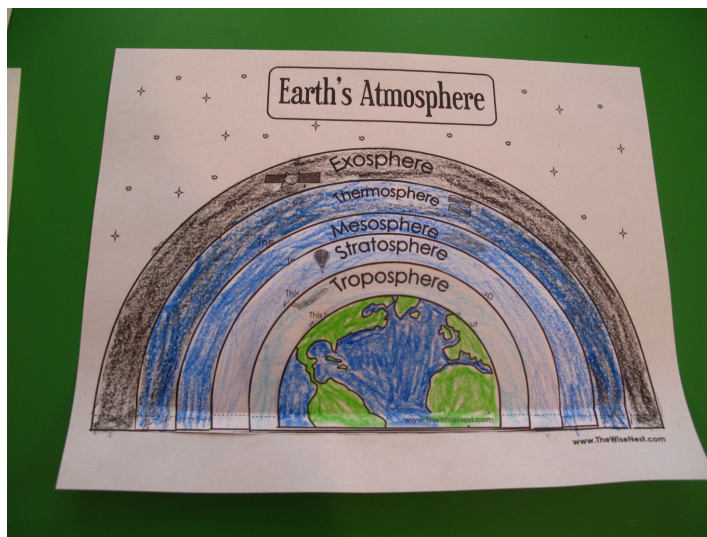
Stack them by increasing in size.

Glue the bottom edge of each layer at the bottom of the previous layer.

Have the student color each layer in a different color.

Have fun learning about the Earth's atmosphere!

Here's an example of the finished project:



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To watch a video go to:

https://www.youtube.com/watch?v=jcH9HL_sZxw

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Graphics from www.graphicsfactory.com

Earth's Atmosphere

Exosphere

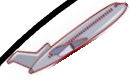


The exosphere is the uppermost layer, where the atmosphere thins out and merges with interplanetary space. It is located directly above the Thermosphere.

This tenuous portion of the Earth's atmosphere extends outward until it interacts with the solar wind. Solar storms compress the exosphere. When the sun is tranquil, this layer extends further outward. Its top ranges from 620 miles (1,000 kilometers) to 6,214 miles (10,000 kilometers) above the surface, where it merges with interplanetary space.

Glue next layer here

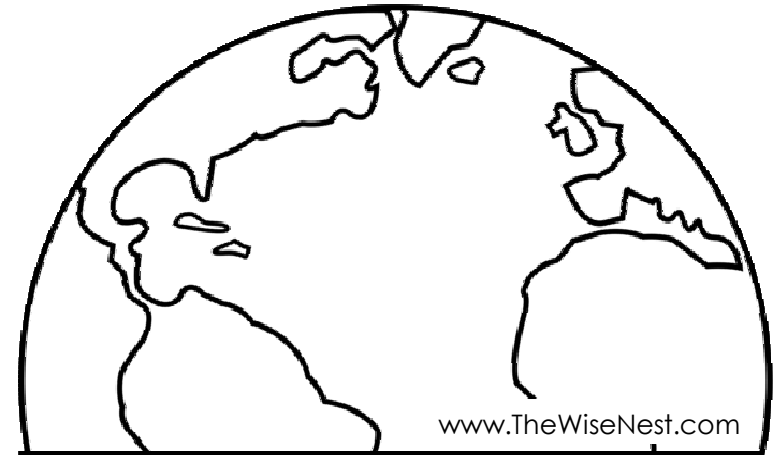
Troposphere



This layer provides most of our weather. It contains about four-fifths of the Earth's air, but extends only to a height of about 11 miles (17 kilometers) at the Equator and somewhat less at the Poles.

The name comes from a Greek word that refers to mixing. And mixing is exactly what happens within the troposphere, as warm air rises to form clouds, rain falls, and winds stir the lands below. Typically, the higher you go in the troposphere, the colder it gets.

Glue next layer here



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Thermosphere



The thermosphere begins about 85 kilometers (53 mi) above the Earth. The highly diluted gas in this layer can reach 2,500 °C (4,530 °F) during the day. Even though the temperature is so high, one would not feel warm in the thermosphere, because it is so near vacuum that there is not enough contact with the few atoms of gas to transfer much heat.

The Aurora Borealis is caused by the collision of energetic charged particles with atoms in the high altitude atmosphere (thermosphere).

Glue next layer here



Stratosphere

This layer extends to a height of about 30 miles (50 kilometers) and includes the ozone layer, which blocks much of the sun's harmful ultra-violet rays.

The stratosphere is warmer than the troposphere because of the energy from the ultra-violet light absorbed by the ozone. At its base, the stratosphere is extremely cold, about -110 degrees Fahrenheit (-80 degrees Celsius). At its top, the temperature has risen back nearly to freezing.

Weather balloons reach the Stratosphere.

Glue next layer here

Mesosphere



In this layer, the air temperature drops again, down to nearly -180 degrees Fahrenheit (-120 degrees Celsius) at the top. Meteors generally burn up in the mesosphere, which extends to a height of about 52 miles (85 kilometers). This is why the Earth's surface isn't pocked with meteor craters, like the moon's.

Glue next layer here