**The Atmosphere and Heating of the Earth’s Surface Webquest**

1. [Cozy Blanket Around Earth](http://www.enchantedlearning.com/subjects/astronomy/planets/earth/Atmosphere.shtml)

What is the atmosphere and what is its purpose?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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How thick is the atmosphere and where is most of it located? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Where does it end? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which four gases are most common in Earth's atmosphere?  Give the percentages.

|  |  |
| --- | --- |
| **Most common gases in Earth’s atmosphere** | **percent** |
|  |  |
|  |  |
|  |  |
|  |  |

What happens to air pressure as altitude increases? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Why do you think the layers are often called a "Cozy Blanket Around Earth?"

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1. [Layers of the Atmosphere](http://www.vtaide.com/png/atmosphere.htm): Use the interactive picture and read the text below the picture. Write two facts about each layer of the atmosphere.

Troposphere: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Stratosphere: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Mesosphere: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Thermosphere: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. [Specific Heat](http://oceanservice.noaa.gov/education/pd/oceans_weather_climate/media/specific_heat.swf):

**Direction:**

1. Click on the instructions tab to learn how to use the simulator.
2. Click play.
3. Watch the temperature of the soil and water change as they are heated by the lamp.

Record the temperatures of the water and soil below:

 Temperature with light on (C) Temperature with the light off (C)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time (mins) | Sand | Water | Time (mins) | Sand | Water |
| 0 |  |  | 0 |  |  |
| 2 |  |  | 2 |  |  |
| 4 |  |  | 4 |  |  |
| 6 |  |  | 6 |  |  |
| 8 |  |  | 8 |  |  |
| 10 |  |  | 10 |  |  |
| 12 |  |  | 12 |  |  |
| 14 |  |  | 14 |  |  |
| 16 |  |  | 16 |  |  |
| 18 |  |  | 18 |  |  |
| 20 |  |  | 20 |  |  |

What does the lamp represent in this experiment? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which substance heated up more quickly? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

After the light turned off, which substance cooled down more quickly? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Based on the results of the experiment, is the Earth heated by the sun equally or unequally?

Support your answer with details from the experiment. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Greenhouse Effect <https://climatekids.nasa.gov/greenhouse-effect/>

What is a greenhouse?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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How is the Earth like a greenhouse?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Too much carbon dioxide in the making the Greenhouse Effect stronger. Will planting

trees help? Why or why not?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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