

A satellite view of Earth showing the atmosphere and oceans. The image captures the curvature of the planet, with a thick layer of white clouds and blue oceans. The atmosphere is visible as a thin, glowing blue layer against the black background of space. The oceans are a deep blue, with whitecaps and wave patterns visible. The clouds are scattered, with some large, dense formations. The overall scene is a vast, dynamic view of our planet from space.

**CfE Higher Geography**  
**Physical Environments**

**Atmosphere**

# \*What are the outcomes?

## **1. Use a range of mapping skills and techniques in physical environment contexts by:**

- 1.1 Interpreting complex geographical information from at least two sources
- 1.2 Annotating a geographical resource
- 1.3 Presenting complex geographical information
- 1.4 Analysing geographical information
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## **2. Draw on and apply knowledge and understanding of the processes and interactions at work within physical environments on a local, regional or global scale by:**

- 2.1 Giving detailed descriptions and detailed explanations of a process/interaction at work in a physical environment
- 2.2 Giving detailed descriptions and detailed explanations of the impact of weather/climate on a physical environment
- 2.3 Giving detailed descriptions and detailed explanations of a complex issue in a physical environment

# What do You need to know?

- \* The composition and structure of the atmosphere
- \* The global heat budget (variations in solar energy between the poles and tropics)
- \* The patterns of atmospheric circulation
- \* The patterns of oceanic circulation
- \* The influence of the Inter Tropical Convergence Zone on Africa's climate
- \* How to interpret climate graphs

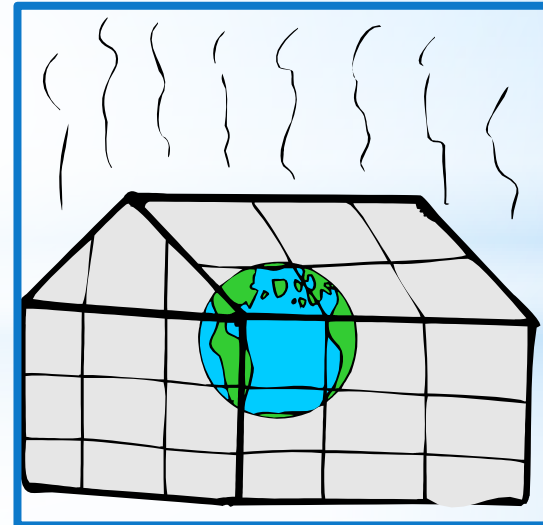


# Introduction

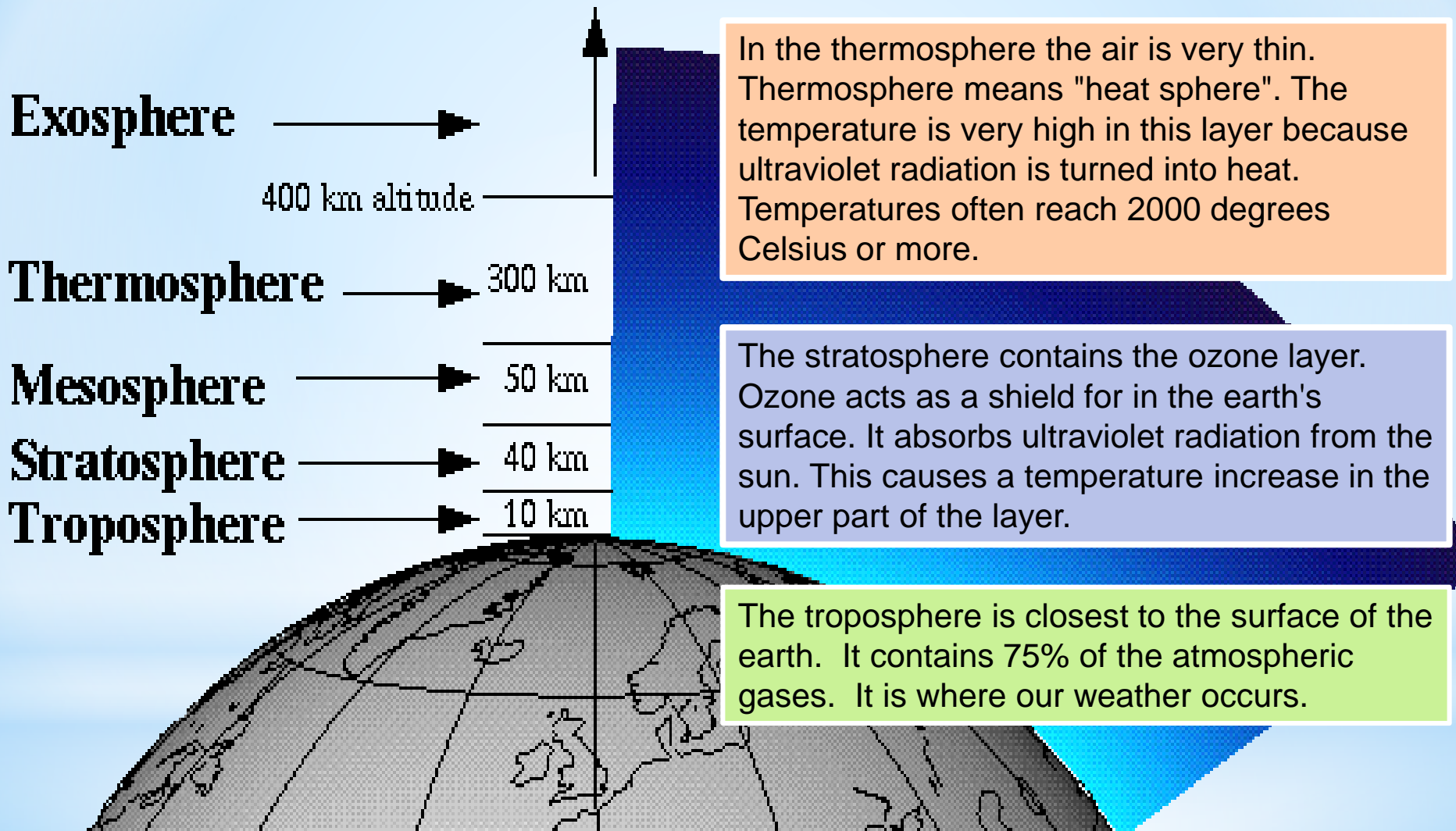
- \* Originally formed as the earth cooled, the atmosphere is a blanket of gases which contains solid particles, such as volcanic dust and wind blown soil, and is attached to the Earth by the force of gravity.
- \* It comprises several different gases

**DO YOU KNOW WHAT THEY ARE?**

- \* Nitrogen - 78.01%
- \* Oxygen - 20.95%
- \* Argon - 0.93%
  
- \* Small variable amounts of carbon dioxide and water vapour  
These are greenhouse gases.

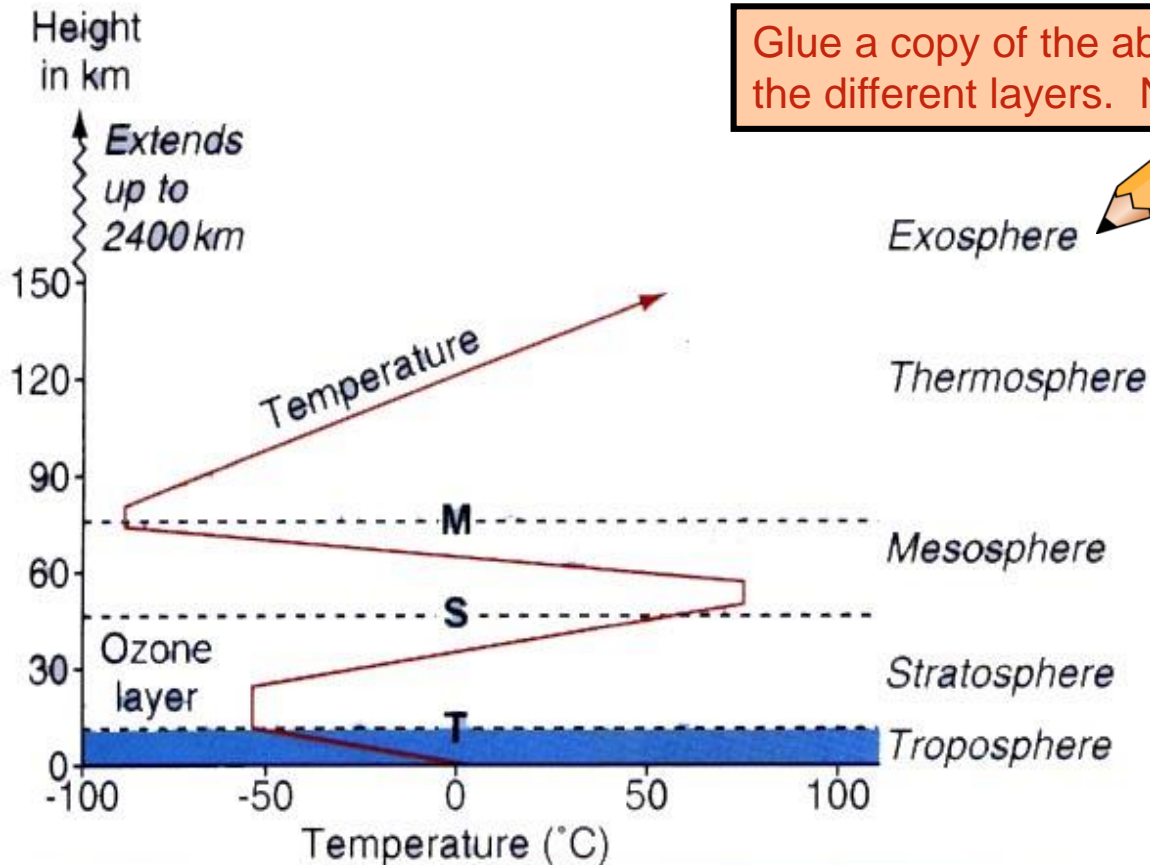


# What Structure does the atmosphere have?



The atmosphere has a distinctive vertical structure with different names applied to each of its zones

Glue a copy of the above diagram into your notes. Label the different layers. Now answer the questions below



### Key

--T-- Tropopause

--S-- Stratopause

--M-- Mesopause



Contains 75% of the mass of the atmosphere and almost all the moisture and dust

The composition of the atmosphere varies with altitude and also close to industrial areas where various pollutants seriously affect air quality. Close to oceans and seas, Water Vapour makes up a significant proportion of the atmosphere.

- 1) Describe what happens to temperature with height in the troposphere.
- 2) Which layer contains ozone? What is the function of the ozone layer?
- 3) What happens to the temperature in the thermosphere? Why?
- 4) How do oceans and seas affect the composition of atmosphere?
- 5) Which layer will contain the poorest air quality? Why?

Things to find out about!!!!

- In which layer do most jet planes fly?
- In which layer does the International Space Station orbit?