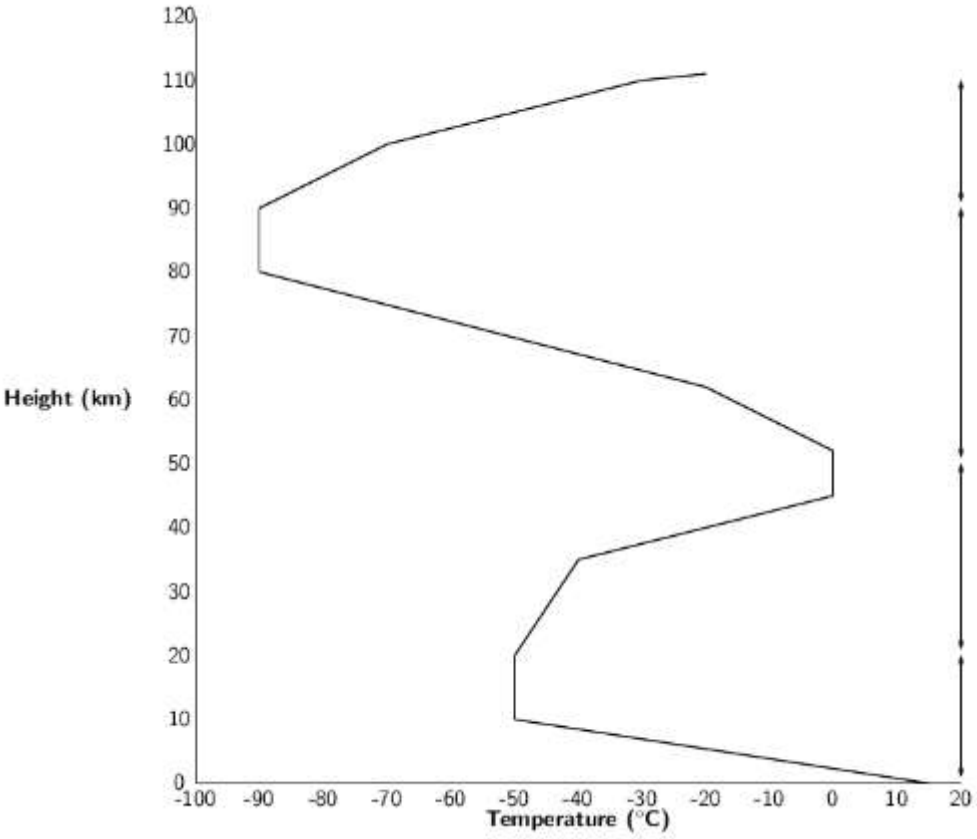
Atmosphere Notes

Name:

Date:

Atmospheric Layers



- Label the four following layers of the atmosphere onto the above picture: thermosphere, stratosphere, mesosphere, and troposphere.
- Additionally draw a horizontal line corresponding to each layer's approximate altitude.

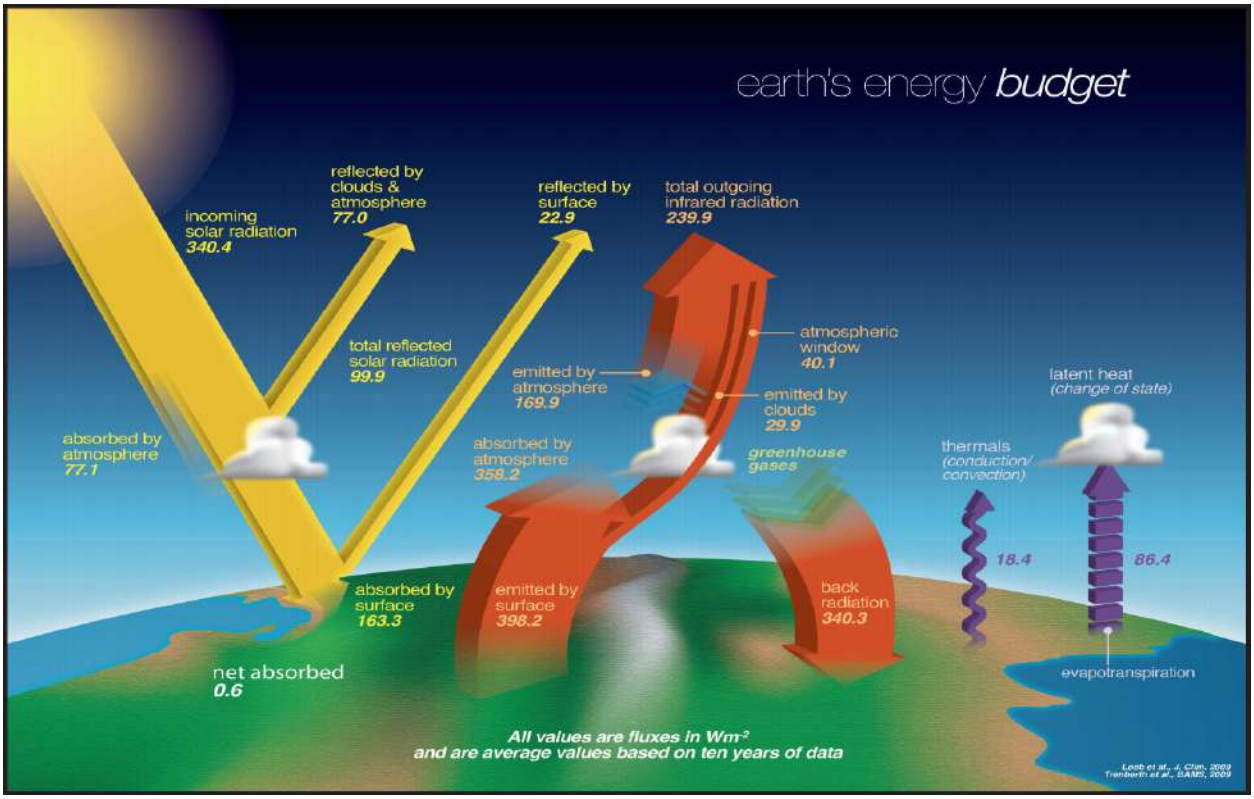
Circle the layer that contains the ozone layer. Highlight the location of this layer on your diagram.

. Troposphere
a. Mesosphere
b. Stratosphere
c. Thermosphere

Why is the ozone layer crucial to mankind? Give a brief explanation.

Name the cause of ozone depletion.

Radiation Budget



Explain how the **radiation budget** is used and what the radiation budget **measures:**

Fill in the blank.

The radiation budget is in _____ when the energy Earth receives is equal to what is lost to space.

Give an example of radiation that is reflected by the earth. Absorbed? Reradiated?

Reflected:

Absorbed:

Reradiated:

The common radiation budget measure is the top of atmosphere (TOA). Where is this data collected?

Greenhouse Effect

Circle one.

The Sun's emitted energy is disproportionately in short/long wavelengths.

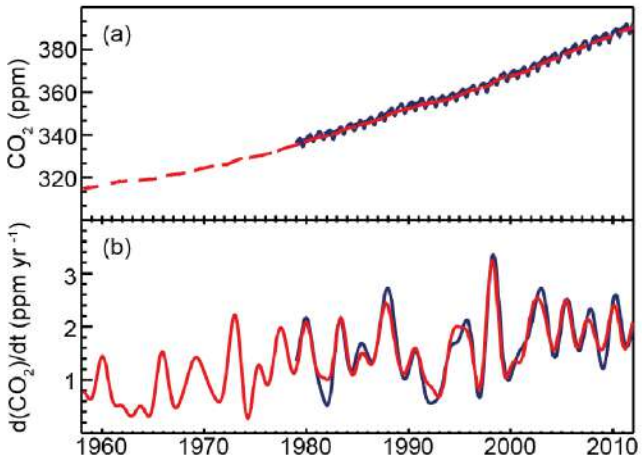
Earth's emitted energy is disproportionately short/long wavelengths.

Name the four most abundant greenhouse gasses.

How does **water vapor** act as a **greenhouse gas**? What effect does it have on atmospheric temperature?

What are some common sources of methane (CH_4)?

Use the provided graph to answer the following questions.



The concentration of _____ in the graph above is **increasing/decreasing**.

Three causes for this trend are:

As greenhouse gasses increase **the land surface air** temperature **increases/decrease**.

As greenhouse gasses increase the **sea surface** temperature **increases/decrease.**