

# Student Worksheet

Refer to “Climate TimeLine Tutorial” and “Overview of Climate Processes” that begin at <http://www.ngdc.noaa.gov/paleo/ctl/drought.html> and <http://www.ngdc.noaa.gov/paleo/ctl/about4.html> respectively.

The primary force outside the Earth’s internal system that drives the planet’s weather and climate systems is \_\_\_\_\_.

Two factors outside Earth’s environment and climate system that can cause the amount of energy reaching the surface of the Earth to vary are \_\_\_\_\_ and \_\_\_\_\_.

About \_\_\_\_\_ % of the radiation entering the Earth’s atmosphere is reflected back to space, and about \_\_\_\_\_ % is absorbed by the atmosphere and surface of the planet.

About \_\_\_\_\_ % of the radiation entering the Earth’s atmosphere is absorbed by greenhouse gases.

In recent years, concern has grown that human activities, most particularly \_\_\_\_\_, are increasing carbon dioxide levels in the atmosphere to levels that haven’t been seen in over 400,000 years.

Venus receives about \_\_\_\_\_ the radiation received by Earth, and has an atmosphere rich in \_\_\_\_\_.

\_\_\_\_\_ is the time it takes for a volume of water to cycle through the hydrologic system.

\_\_\_\_\_ scales are used to describe variation in Earth’s climate over the past 300 million years.

\_\_\_\_\_ scales are used to describe variation in Earth’s climate over the past 3 million years.

\_\_\_\_\_ scales are used to describe variation in Earth’s climate over the past 1000 years.

\_\_\_\_\_ is the primary measure of climate and can be measured or reconstructed for the Earth’s surface and sea surface.

\_\_\_\_\_ may be discerned in a variety of ways and provide evidence of how ecosystems change to adapt to climate change.

Sea Level is usually related to the degree of \_\_\_\_\_ in high latitudes and elevations.

\_\_\_\_\_ can alter climate due to aerosols emitted into the atmosphere.

\_\_\_\_\_ refers to specific phenomena that directly influence changes in climactic dynamics.

The \_\_\_\_\_ has been described as Earth’s thermostat.

\_\_\_\_\_ is the primary greenhouse gas in the atmosphere.

\_\_\_\_\_ are changes in Earth’s orbit that occur in 100,000, 41,000, and 21,000 year periods.

\_\_\_\_\_ is an oscillation in the sea surface temperature pattern across the North Pacific Ocean.

\_\_\_\_\_ is an oscillation in sea surface temperature and surface pressure across the tropical Pacific Ocean, causing both local and far away changes in weather and climate.