

## Details

- 🌐 Global
- 🕒 About 1 Period (2 hours)
- ✅ Download, share and remix
- ✍️ High School and Up

## Weather Principles & Climate Literacy - Online Activity

### Main Link

<https://www.softchalkcloud.com/lesson/serve/chrsM0IOVIL9Gx/html>

### Overview

The main objective of this activity is to increase climate and weather literacy. Users will be exposed to The Essential Principles & 12 Key Messages about Climate Science established by the U.S. Global Change Research Program. This information is combined with other open educational resources, including streamed in YouTube videos.

### Objectives

In this online activity that integrates the [www.globalchange.gov](http://www.globalchange.gov) guide on climate literacy by the U.S. Global Change Research Program with information from NOAA, NASA, and [OpenGeography.org](http://OpenGeography.org). The learning outcomes are:

- Understand how incoming solar radiation influences weather.
- Explain how the atmosphere is warmed from the ground up.
- Describe how energy is transferred around the planet.
- Describe the basic elements of weather.
- Assess how air masses and weather fronts create mid-latitude cyclones.
- Describe some ways that climate change has been an important part of Earth history.
- Discuss what factors can cause climate to change and which of these can be exacerbated by human activities.
- Discuss the consequences of rising greenhouse gas

### Materials

- A computer with Internet connection is needed to complete this activity.

levels in the atmosphere, the impacts that are already being measured, and the impacts that are likely to occur in the future.

### **Lesson Preparation**

No content needs to be covered before giving this lesson.

### **Procedure**

Users will only need time, minimum of two hours, to go through the entire lesson. It is designed as a homework activity. Simply provide the user with the link: <https://www.softchalkcloud.com/lesson/serve/chrsM0IOVIL9Gx/html>

### **Extension**

n/a

### **Resources**

Global Change Website: <http://www.globalchange.gov/>  
Climate Literacy Website:  
<http://cpo.noaa.gov/OutreachandEducation/ClimateLiteracy.aspx>

### **Assessment**

Users engage with the activity through questions and activities embedded within the lesson. Each question or activity is automatically scored. There is a total of 45 questions. Users can print out a certificate of completion with a score summary sheet at the end.

### **Author / Credits**

PolarTREC Teacher Sian Proctor adapted and created this lesson based on her PolarTREC expedition and her curriculum needs as a community college educator and utilizing virtual platforms.

This lesson is adapted from the following sources:

- University Corporation for Atmospheric Research, (n.d), U.S. Global Change Research Program. <http://www.globalchange.gov/>
- NOAA Climate.gov, (n.d), The Essential Principles of Climate Literacy, <http://www.climate.gov/teaching/teaching-climate-literacy-and-energy-awareness>

### File Attachments

n/a.

### Standards

This activity was designed for introductory college science students.

### Note on Permissions

- **Online:** Viewer may use this activity online with this link: <https://www.softchalkcloud.com/lesson/serve/chrsM0IOVIL9Gx/html>. Users will be given the option to print out a certificate of completion at the end of the activity that can be turned in for a grade.
- **Add to a learning management system, download, share, and remix:** Viewers may download and remix this activity or integrate it into a learning management system with a Softchalk account. They can use it as needed, share it with others, and change components to suit their needs. Additional changed versions of the submission can be resubmitted to the Learning Resources by contacting [info@polartrec.com](mailto:info@polartrec.com)