

LP 1

Introduction to Climate Change

# of Days	2		
Prior Knowledge	Students will likely know about different weather phenomena, but may confuse weather and climate.		
Lesson Objective	Students will be able to identify the relevance of studying climate change and differentiate between elements of weather and climate. Students will be able to identify main parts of a graph. Students will be demonstrated understanding of evidence and claims.	Language Goals/Demands	Students will be able use different terms to relate components of the climate system and weather to each other. Demands: Definitions - Students must be able to recognize keywords that identify definitions; Concept Map - Students must know the difference between and be able to use nouns and verbs. Standards: Reading 2.3, 2.4, 2.5, 2.8 (Article Analysis) Listening & Speaking 1.2 (Article Analysis) Writing 2.3.c (Concept Map)
Lesson Assessment	Concept Map, Graphin' It Up activity	Changes for Next Time	
(Benchmarks or Standards)	E6.a, E6.b		
Materials Needed	Student handouts, powerpoint slides, computer, projector, internet connection	What Worked Well	
Time	Learning Task or Activity	Method & Notes	
Day 1			
30 min	<p>Lesson Hook</p> <ul style="list-style-type: none"> - Tell students that they are about to start a three week unit on climate change. - Climate change is a big issue in the news, but why is it such a big deal? - You will read a one-page article about the impact of climate change. (The article is adapted from an article about sea level rise on small Pacific island nations) - Students will read in small groups and then discuss the article using the provided questions. - Make sure you have students think about whether this will impact them or not. -Watch video on Tuvalu 	<p>SMALL GROUPS</p> <p>See 1.1.1 for Article</p> <p>See 1.1.2 for Activity</p> <p>See Slide 1.1.3 for Article Vocabulary</p> <p>http://www.youtube.com/watch?v=BNqI8BiAijw&feature=related (video on Tuvalu)</p>	

8 min	<p>Sea Level Impact in the Bay Area</p> <ul style="list-style-type: none"> - Here is a map of the sea level rise that could take place here in the Bay Area. (Show Google Map Image of Sea Level Rise) - Show students the current sea level and then have them make predictions about how much rise it will take to flood certain areas close to their school 	<p>WEB DEMO</p> <p>Google Maps Sea Level Rise http://flood.firetree.net/?ll=43.3251,-101.6015&z=13&m=7 (Find the North America Map and Zoom in on your coastal area. Start with 0 meters sea level rise so that students have a baseline and then increase in increments of your choice).</p>
15 min	<p>Defining Weather and the Climate System</p> <ul style="list-style-type: none"> - Tell students that over the next three weeks you will learn more about how climate is changing and the impacts of this change. - But first, we have to make sure we understand exactly what weather and climate are. 	<p>LECTURE/POWERPOINT</p> <p>See Slides 1.1.4</p>
10 min	<p>Weather or Climate Activity</p> <ul style="list-style-type: none"> - Teacher will have students identify whether the phenomenon are weather or climate - Write each on the board OR teacher may put up posters with phenomenon listed. Students write "weather" or "climate" for each. 	<p>See 1.1.5 Weather or Climate Activity</p>
HW	<p>HW sheet 1.1.6.</p>	<p>HOMEWORK</p>
Day 2		
5 min	<p>BW: in journals: define climate, define weather. Which layer of the atmosphere is where weather occurs?</p>	<p>INDIVIDUAL SEAT WORK</p> <p>Hand out 1.2.1 Reading on Atmosphere- read and discuss as group</p>
10 min	<p>Consequences of Global Warming (or Climate change) is extreme weather and weather events (wildfires, floods)</p>	<p>Activity 1.2.0 - have students share skits and discuss</p>
15 min	<p>Evidence and Claims</p> <ul style="list-style-type: none"> - Explain that one way of "doing science" is to make claims and find/use evidence (proof). Review definition then show videos and have students complete the worksheet. 	<p>VIDEO PRESENTATION</p> <p>Use 1.2.2 Claims and Evidence</p> <p>tornado: http://www.youtube.com/watch?v=oJlfAGC8G8w&feature=relmfu drought: http://www.youtube.com/watch?v=u9s_A0G7oUU&feature=related rainstorm: http://www.youtube.com/watch?v=ugK4AsMEVsg blizzard: http://www.youtube.com/watch?v=gqi0K1CaWXI&feature=related wildfire: http://www.youtube.com/watch?v=yujOhGio_BE</p>
10 min	<p>Graphing and Data</p> <ul style="list-style-type: none"> - Students discuss the answers to the questions on their worksheet while examining the projected graph. 	<p>GROUP DISCUSSION AND STUDENT WORK</p> <p>Use 1.2.3 Whole Class Graph</p> <p>Use 1.2.4 Student Worksheet Graph Reading</p>

15 min	<p>Concept Map Introduction</p> <ul style="list-style-type: none"> - Handout Concept Map Instructions - Explain that students will be making a concept map throughout the unit. - Make sure students write in pencil 	<p>LECTURE</p> <p>See 1.2.5 Concept Map Instructions</p>
10 min	<p>Graphin It Up!</p> <ul style="list-style-type: none"> - Students individually complete worksheet to learn skills on how to read graphs which essential in later lessons. 	<p>INDIVIDUAL WORK</p> <p>Use 1.2.6 Graphin It Up!</p>
HW	<p>Pass out Homework</p> <p>Questions and Reading on personal connection to climate change</p>	<p>HOMEWORK:</p> <p>Use 1.2.7 Questions</p> <p>Use 1.2.8 Reading</p>