# Introduction to Climate Change

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| **Day 1** | Lesson Hook  
- 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 from Reuters about the impact of climate change on students their age. (The article is about sea level rise in a foreign country.)  
- 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.  
- At the end of the activity, have students report to the entire class their headline for the sea level rise issue in the Bay Area | GROUP WORK  
See 1.1.1 for Article  
See Slide 1.1.2 for Article Vocabulary  
See 1.1.3 for Discussion Questions |
| **# of Days** | 1 |  |
| **Prior Knowledge** | Students will likely know about different weather phenomena, but may confuse weather and climate. | California English-Language Arts Content Standards  
Reading 2.3, 2.4, 2.5, 2.8 (Article Analysis)  
Writing 2.3.c (Concept Map)  
Listening & Speaking 1.2 (Article Analysis) |
| **Lesson Objective** | Students will be able to identify the relevance of studying climate change and differentiate between elements of weather and climate. | 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. |
| **Lesson Assessment** | Quiz 1: Questions in quiz on LP1 & LP2 | Changes for Next Time  
Earth Science 6.a and 6.b |
| **California State Science Standard** | Student handouts, powerpoint slides, computer, projector, internet connection | What Worked Well |
| **Materials Needed** | | |
| 8 min | Sea Level Impact in the Bay Area  
- 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 | WEB DEMO  
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). |
| 10 min | Defining Weather and the Climate System  
- 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  
- Go through Slides | LECTURE WITH SLIDES  
See Slides 1.1.4  
You may find it helpful to post 1.1.5 - "Keywords to identify definitions" for the remainder of the unit |
| 5 min | Weather/Climate Confusion  
- Have students watch the Stephen Colbert Video that addresses the common misconception of climate and weather.  
- While watching the video, have students think about the proper use of weather, climate, and climate systems | WATCH VIDEO  
| 5 min | Video Discussion  
- Discuss the ways in which people use the terms weather and climate and climate system improperly  
- Discuss the main evidence for support of climate change despite the heavy snowfall. | DISCUSSION |
| 5 min | Concept Map Introduction  
- Handout Concept Map Instructions  
- Explain that students will be making a concept map throughout the unit.  
- Make sure students write in pencil  
- Finish by explaining students’ homework for the night | LECTURE  
See 1.1.6 Concept Map Instructions (Student Handout) |
| HW | Homework: Start your concept map with the following terms: Climate System and Weather. Also, add two or three factors to your map that you think will affect the climate system. |