Adopt a City Project: Weeks 4-6

Week Four

**Task 5: Air Quality**

1. Find the current weather conditions for your city.
2. Record the daily weather on your paper data chart.
3. On **Map #3**, put a dot and the name of your city.
4. Using your favorite weather site, find the “UV index” for your city. This is on a scale of 1-10 with the higher numbers indicating a greater chance of exposure.
5. Under your map, answer these three questions:
6. What is the UV index for your city?
7. What is your risk of being exposed to UV rays today? (high, medium, low)
8. What is one thing you can do to prevent being exposed to UV rays?

**Task 6: Ozone Action Days**

1. Find the current weather conditions for your city.
2. Record the daily weather on your paper data chart.
3. Using the EPA’s “Air Now” site, find your city.
4. Color your city and surrounding area the corresponding color to your Air Quality Index (there are 6 colors) on **Map #4.**
5. Answer the following two questions under your map:
6. What is your air quality index today?
7. What does your health message say?

**Task 7: Precipitation and Cloud Cover**

1. On **Map #5** color the precipitation for your city and surrounding area.
2. On **Map #6** color any precipitation for the entire United States that you see on the weather map.
3. Click on ***Satellite*** ([link](https://www.wunderground.com/wundermap/)) to view cloud cover for the US. Find your adopted state and describe the cloud cover.
4. Zoom the map into your state then click on ***Webcam*** ([link](https://www.wunderground.com/wundermap/)) to view the sky in a city *closest* to your adopted city. Click on ***Video Loop*** to see the weather conditions for the past 24 hrs. What did you notice about the cloud cover? Precipitation?
5. Answer these two questions under **Map #5**:
   * + 1. What do you notice about the cloud cover and precipitation?
       2. What do you predict will happen in your city in the next few days? Explain why you say this.

Week Five

**Task 8: Fronts**

1. On **Map #7** draw the fronts (using blue and red dotted lines), along with H and L, for today ([link](https://www.wunderground.com/maps/us/Fronts.html)).
2. Color in the precipitation (rain-green and snow-blue).
3. Use the following resources:
   * Study Jams Video – Air Masses and Fronts ([link](http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/air-masses-and-fronts.htm?eml=SSO/aff/20141015/21181/banner/EE/affiliate/////2-238950/&affiliate_id=21181&click_id=2088680603))
   * Interactive Website ([link](http://www.phschool.com/atschool/phsciexp/active_art/weather_fronts/))
4. Answer the two questions below **Map #7:**
   * + 1. What do you notice about the temperature on either side of the fronts?
       2. What happens when air masses meet?

**Task 9: Fronts, Part 2**

1. On **Map #8**, draw the fronts (using blue and red dotted lines), along with H and L, for today ([link](https://www.wunderground.com/maps/us/Fronts.html)).
2. Color in the precipitation (rain-green and snow-blue).
3. Answer the two questions below **Map #8:**
   * + 1. How has the map changed since the **Map #8**?
       2. How can you use fronts to predict the weather?

Week Six

**Task 1O: Weather Symbols**

1. Practice using weather station symbols – worksheet ([pdf](https://middleschoolscienceblog.files.wordpress.com/2015/02/plotting_weather_symbols_practice.pdf))
2. Weather Symbols Reference Handout ([link](http://www.state.nj.us/dep/seeds/wssym.htm))
3. Create a Weather Station Model (WSM) for your city **and** Raleigh on your **Map #9-12**. This will be done over several consecutive days.
4. On your mini-map, lightly color in any areas of precipitation according to the national radar ([link](http://www.wunderground.com/wundermap/)) using the colors shown.
   * Be sure you can see the 48 continental states on the map at once
   * Make a key to show areas of rain (green) and snow (blue)

**Resources:**

1. The Weather Channel: <https://weather.com>
2. Weather Underground: <https://www.wunderground.com>
3. National Weather Service: <https://www.weather.gov/phi/localclimate>
4. Intellicast Weather Maps: <http://www.intellicast.com/local/wxmap.aspx>
5. Doppler Radar Maps: <https://weather.com/maps/usdopplerradar>
6. For Historical Data: [Localconditions.com](file:///E:\7th%20Grade%20Science\Adopt%20a%20City\Adopt-A-City%20Weather%20Project.docx) (go to “past” tab on the right) Thanks, RH!