Adopt-A-City

Over the next 6 weeks you will be collecting weather data on your assigned city. Periodically you will input this data into a Google spreadsheet and track the weather patterns. At the end of the quarter you will be compiling your data and observations into a weather prediction activity.

Week One

Students pick cities (first Friday back).

Lesson Topic of the Week: Layers of the Atmosphere

1. Use the resources below to learn about the layers of the atmosphere and complete your notes ([pdf](https://middleschoolscienceblog.files.wordpress.com/2015/03/layers_atmosphere_adopt_a_city_task_11.pdf))
   * Study Jams-Atmosphere ([link](http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/earths-atmosphere.htm?eml=SSO/aff/20141015/21181/banner/EE/affiliate/////2-238950/&affiliate_id=21181&click_id=2088633710))
   * Brain POP-Atmosphere video ([link](https://www.brainpop.com/science/earthsystem/earthsatmosphere/))
   * Interactive-where does it go ([link](http://aim.hamptonu.edu/outreach/flash/atmosphere.swf))
   * Layers of the Atmosphere NOAA ([link](http://www.srh.noaa.gov/jetstream/atmos/layers.html))
2. One you have completed your notes:
   * Complete the illustration by adding an object to each layer and color each layer lightly.
   * Add the miles to each layer.
   * Can you add the Ozone Layer and the Ionosphere to your diagram?

Week Two

**Task 1:** **Recording your City’s Weather each School Day (Paper Weather Log)**

1. Using your Weather Log (paper copy), find the following information for your city each day: High Temperature, Low Temperature, Humidity, Sunrise Time, Sunset Time, Barometric Pressure, and Dew Point.
2. You will record this information every day. Periodically, this data will be collected and checked. Make sure you stay up to date.
3. I will be recording the information for Raleigh, NC each day for comparison to your city.

**Task 2:** **Finding your City**

1. Find your state and city using Google maps ([link](https://www.google.com/maps)).
2. Make a dot to represent your city on your Map #1.
3. Write the name of your city next to it.
4. Using a yellow colored pencil, color in your state on the map.

Week Three

**Task 3: Time zones**

1. What time zone is your city in? The information is posted on the weather site ([link](https://www.wunderground.com/)) can you find it?
2. Using this website ([link](https://nationalmap.gov/small_scale/printable/images/pdf/reference/timezones4.pdf)) draw lines on your Map #2 to represent each time zone. Identify and label each one.
3. Put a dot on your Map #2 where your city is and label it. Put a dot where Raleigh, NC is and label it.
4. Answer the following questions under your map:
   1. How many time zones are in the United States?
   2. Is your city in the same time zone as Raleigh? If not what is the difference in time?

**Task 4:** **Summarizing your Weekly Data for your Adopted City (Fridays)**

1. Open the Weather Log spreadsheet for your class ([link](https://docs.google.com/spreadsheets/d/1Ofgl_dGu77Xs-KarMPJpqYNPolbj9azxRbhmJ_oxl_E/edit#gid=967921367)) from Google Docs. Make sure you enter your weekly information in the correct class!! (Period 3, 7, 8, or 9).
2. PLEASE **MAKE A COPY** OF MY SPREADSHEET FOR YOUR DATA.
3. I will record the weather for Raleigh, NC on one tab of the spreadsheet, add your information of the tab for YOUR adopted city. Type your city in the yellow “Your City” column.
4. Watch the interactive graph to your right of the screen. Your city will be represented by a red line and Raleigh will have a blue line.
5. Respond to the questions/reflections on the “City Weather Data Analysis Sheet” and turn in at the end of class.

**Resources:**

1. The Weather Channel: <https://weather.com>
2. <https://www.accuweather.com/>
3. Weather Underground: <https://www.wunderground.com> (historical data)
4. National Weather Service: <https://www.weather.gov/phi/localclimate>
5. Intellicast Weather Maps: <http://www.intellicast.com/local/wxmap.aspx>
6. Doppler Radar Maps: <https://weather.com/maps/usdopplerradar>