STUDENT HANDOUT

Name _____

Final Project: Creating an Air Quality Report

Project Guidelines

For this project, you will be creating a weather report based upon what you have learned during this module. You will be working (individually/as a group) to complete this project. Your weather report will be in the form of a (written report/poster/presentation). Your report will require you to do some research on predicted weather and air quality conditions. You will also likely need to use your materials from throughout the module to help you.

Your weather report must include the following information:

- A description of the predicted weather conditions including the temperature, sky condition, wind, and any precipitation, along with brief explanations of what each of these means in your own words
- A prediction for the ozone AQI color for tomorrow, including a recommendation for whether people need to adjust their behavior or not based on the air quality
- An explanation the process you went through to make your prediction, including specifics about why you made adjustments to the AQI.
- An explanation of what ground-level ozone is, where it comes from, and why we care about it as a pollutant.
- A comparison of tomorrow's predicted AQI with the AQI from the same date during some year in the past (you can choose any year you like). Comparison must include a comment on whether the difference is in line with historical trends or not.

Your report does not need to include this information in this order. You can be creative about how your present your information, and you are encouraged to use visuals as a part of your report.

The audience for your report is a person who does not know much about weather or air quality, so make sure to explain any technical terms you use, such as AQI.

You have _____ days to complete the project.

Available resources:

Student Name_____

Air Quality Report Project Rubric

Project area	Beginning	Needs Improvement	Proficient	Advanced
Description and explanation of predicted weather conditions	Several descriptions of required weather conditions are missing, and/or are inaccurate. Explanations are missing or have significant inaccuracies.	Descriptions of most required weather conditions are included and are mostly accurate. Explanations have minor inaccuracies.	Descriptions of all required weather conditions are included and accurate. Explanations are accurate but not thorough.	Descriptions of all required weather conditions are included and accurate. Explanations are accurate and thorough.
Ozone AQI prediction	Ozone AQI prediction is unreasonable, and color does not math number. Recommendation does not match color rating or number, or is missing.	Ozone AQI prediction is somewhat unreasonable or color does not match number. Recommendation matches color rating or number.	Ozone AQI prediction is reasonable, and color matches number. Recommendation matches color rating, and uses generic language.	Ozone AQI prediction is reasonable, and color matches number. Recommendation matches color rating, and includes original suggestions.
Ozone AQI prediction process	Ozone AQI prediction process is explained incorrectly and/or information may be incorrect. Adjustments likely do not align with accepted scientific reasoning.	Ozone AQI prediction process is explained in very general terms, without specific steps described. Information may be missing. Adjustments may not align with accepted scientific reasoning.	Ozone AQI prediction process explains the steps for adjusting the AQI based on weather conditions, although steps may be lumped together or information may be missing. Adjustments align with accepted scientific reasoning.	Ozone AQI prediction process thoroughly explains each step for adjusting the AQI based on weather conditions, including adjustments for each weather condition. Adjustments align with accepted scientific reasoning.
Explanation of Ground-level ozone	Explanation of ground-level ozone is incomplete, and contains significant inaccuracies.	Explanation of ground-level ozone is missing some required aspects, or contains some inaccuracies.	Explanation of ground-level ozone is complete and accurate, with all required aspects addressed.	Explanation of ground-level ozone is thorough and detailed, with all required aspects addressed accurately

Comparison of predicted AQI with historical AQI	Historical AQI is incorrect.	Historical AQI is correct, but comment about fitting in with historical trend is inaccurate or illogical.	(see proficient)	Historical AQI is correct, and comment about fitting in with historical trend is accurate and logical.
Presentation quality	Presentation is generally unprofessional (ex. mostly ad lib) and strays from the topic. Presenter does not use scientific terms, and may stray from established time limits.	Presentation is led in a slightly unprofessional manner and may stray of topic or presenter gets easily distracted. Presenter occasionally uses scientific terms incorrectly and may stray from established time limits.	Presentation is mostly led in a “professional” manner and generally stays on topic. Presenter uses some scientific terms appropriately, and stays close to established time limits.	Presentation is led in a “professional” manner and stays on topic. Presenter uses scientific terms appropriately and stays within established time limits.
Craftsmanship	Poster/report has significant errors in grammar, spelling and/or formatting that make it difficult to understand. The product uses scientific terms incorrectly or not at all, and may have a sloppy look to it.	Poster/report has a few errors in grammar, spelling, and/or formatting. The product occasionally uses scientific terms incorrectly, and may a somewhat sloppy look to it.	Poster/report is well-made with attention to details such as grammar, spelling, and formatting, although there may be minor errors. The product uses some scientific terms appropriately.	Poster/report is well-made with attention to details such as grammar, spelling, and formatting. The product uses scientific terms appropriately and looks appealing.