

1  
Data Integration

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### **Data Integration**

Using data is a little bit intimidating to me. I have always been a primary grade teacher and while I am now realizing I have been teaching several topics “wrong” in many ways for most of my teaching years, I have not found many places to include data within my lessons and units in the past. The more I am learning, including data in my unit lessons seems easier. Thinking about including more data to enhance lessons makes me excited and provides an opportunity to include more technology in a meaningful way rather than using it for “fun” or as a “time filler”. Personally, I think including data truly does enhance lessons, engages kids, and allows for the possibility to extend lessons in ways a teacher cannot without data. Including a data source also allows for more interdisciplinary lessons. In addition, data often provides a source to make lessons more relevant to students’ real lives and makes the application piece more realistic and natural.

For this specific assignment, I am going to focus on how including a data source could improve a second-grade weather unit. One of the second grade Colorado State Science Standards includes analyzing weather data:

Second Grade Science Standard 3:

1. Analyze and interpret data such as temperatures in different locations at different times and seasons as evidence of how organisms and the environment are influenced by the weather and changing seasons (DOK 1-3).

Students will use three data sources to compare and record current and past temperature highs and lows around the United States, as well as the similarities and differences in weather from

## Data Integration

different locations around the United States. Weather WizKids will be the main website used (<http://www.weatherwizkids.com/weather-links.htm>). This website has an abundance of information on many aspects of weather- tornados, hurricanes, volcanos, temperature, rain, clouds, storms, wind, wildfires, climate, different experiments, different games, etc. We can use this website for our entire weather unit, not just for temperature. However, when we do get to the temperature piece, Weather WizKids provides links for the other two sites students will be using, which makes them very accessible and easy to locate for younger students. One of these sites is the National Weather Service, <https://www.weather.gov>, which allows students to look up daily forecasts and current weather conditions in any location. They can then use Wunder Ground, <https://www.wunderground.com/history/daily/KDEN/date/2013-06-18>, to look up any past temperature highs and lows from any time, day, and location. Students can then chart and analyze this data (past and present) and search for weather trends. Letting students explore and play with the three websites and data sources before we actually collect any data, allows for students to learn using technology in a student-based learning format rather than a teacher-led format. This is a shift in teaching that I know I need to focus on. Using this data source, or any data source, helps direct my teaching to a more student-driven format. After students explore, they will be directed on how to use the data sources to track weather in a graph. Towards the end of the unit, students will write a future weather prediction report using high and low temperature information from previous years. After writing their weather report, they will choose an appropriate background and use the green screen to record themselves presenting a weather forecast. Once finished, students will have the opportunity to view one another's weather reports, ask questions, make positive and reflective comments, and think of new ideas that they had not thought of before viewing their peers' work. Using data for this specific lesson enhances

## Data Integration

it far beyond the way I once taught weather, and as a bonus, includes a much larger degree of technology use, which integrates the “T” in STEM.

This specific data allows for this unit to become interdisciplinary in more than one area (science, math, technology, literacy). Students will be using math skills to analyze the data. They will be charting and graphing different temperatures throughout the unit and they will also have to use two-digit subtraction (another second grade Colorado State Standard) to find the difference between record high and low temperatures on different days and in different locations. Students will also be using literacy standards when they write their own weather report using complete sentences and paragraphs. Including this data allows this unit to reach new objectives in writing and math. Math and writing lessons could be created specifically with this weather unit in mind. Planning for and thinking about using data for this one unit, makes me look forward to adding more data sources and technology use in future lessons and units. This will not only engage kids but will help them retain more knowledge in the long run.

### References

Colorado Department of Education. (2015). Retrieved from

<https://www.cde.state.co.us/standardsandinstruction/coloradostandards>

National Weather Service. (n.d.). Retrieved from <https://www.weather.gov>

Weather Underground. (2019). Retrieved from

<https://www.wunderground.com/history/daily/KDEN/date/2013-06-18>

Weather WizKids. (2015). Retrieved from

<http://www.weatherwizkids.com/weather-links.htm>