Engaging Context Data

For my engaging data I am going to use the CDC's Interactive Atlas of Heart Disease and Stroke https://www.cdc.gov/dhdsp/maps/atlas/index.htm. I have used this website in the past, specifically in February, for Heart month. This map and other CDC interactive maps have so many data options and are very user friendly. It's one of my few data resources that can keep my middle schoolers engaged and busy. Other data that is not interactive seems to lose the attention of this age group. They are not great with getting data, really breaking it down independently, and actively using the information they gather. Maps that do that for them help prepare them to break down data on their own. I enjoy using data in my classroom as long as it is the right data for my students at the time. That being said, I enjoy using data for engaging and elaboration in my lessons. If I pick data that pertains to the lesson but doesn't light the students interest up then it is counter productive. For data to be used students must be primed ahead of time so they know what they are looking for, thus having a want to do the activity. For example, before we look at heart disease data I let them know scary heart disease statistics like " Heart disease is the leading cause of death in the United States, Every 40 seconds someone will suffer a myocardial infarction as well as a stroke, 6.2 million Americans had heart failure 2013-16, most heart surgeries will cost close to $80,000, and a heart transplant can cost almost 1 million dollars!" Then I will ask them if anyone in there family has or has had heart issues, and what they know about it. By taking this approach the students make a connection, sometimes personal, with the material. I then move to talk about the different types of heart diseases that exist so when they are looking on the map the words do not appear foreign to them. I also love how the CDC organizes their data maps. They explain how to use the maps, what to look for on the maps, provide samples of preconfigured map's, and provide tons of resources about heart disease. Data enhances our lesson with engagement and self direction. I like using these interactive maps because I can take a step back from making my lesson so teacher centered. This is important because it allows students to gain confidence in themselves and their ability to research and learn on their own. Data, in this case, will enhance the students heart/medical terminology by

making them apply those terms. It also creates inferences about certain geological areas, genders, and age of heart disease victims. Data also incorporates statistical knowledge and application. This data also creates a great way to connect back to nature of science and research methods and application. This would create additional learning objectives beyond just body systems/cardiovascular systems function. Students would be learning about heart disease, heart disease risk, and factors that lead to such. They would also be reading geo maps and data charts while exploring statistical analysis. As I said before the main factor data changes about my teaching style is it allows for more student directed learning which I find to make more organic connections and gain educational confidence. Data such as the heart disease map can be integrated into other content area by incorporating math with all the statistics and data interpreting. Same goes for language arts with all the new terminology and possible connected reading assignments that may come along with the content. As well as science is used to identify how the circulatory system should work. This data can be further integrated into a stem lesson by creating a model of the human heart and pinching or blocking what would be an artery to see its effect. A hands on example can be shown by pinching a water hose and comparing it to an artery. In the past I used this website to elaborate in a lesson. I primed the students with my statistics and questions on who has experienced heart disease in their family. We then covered the key vocal terms for heart disease together. Finally, I let them loose on the interactive maps on their own with only the expectation that they will stay on task. Their task is to use the rest of the time to discover any trends they noticed and what inferences they made about the data they explored.

References:

1. Heart Disease and Stroke Statistics-2019 Update. (n.d.). Retrieved from https://professional.heart.org/professional/ScienceNews/UCM_503383_Heart-Disease-and-Stroke-Statistics---2019-Update.jsp