

Data Visualization Best Practices Workshop Teacher Report

Name:

Kelly Reese

Area(s) of Teaching:

Biology Grades 9-11

Where You Teach:

East Providence High School

Please describe your activity goal.

The students at East Providence High School tend to struggle in analyzing and drawing conclusions from visualized representations of data as indicated on their PSAT and SAT data. They struggle with determining what information is even being represented in the graphic. The goal is to use SimpleCharts RI as a tool to easily develop graphical representations of data on content that are relevant to Biology to ask students to analyze and draw conclusions from in order to improve their skills.

What is the intended visualization?

Students will be asked to use data in a graphical representation on mandatory recycling rates versus actual recycling rates in local communities near their city in RI and how they relate. Our Biology curriculum includes a unit on human impacts on the environment and biodiversity and this graph shows recycling participation relevant to where they live. For the towns that do not have mandatory recycling, you could offer a cross curriculum co-teaching class with the Civics classes in the Social Studies department to brainstorm ways the students could push for mandatory recycling rules in those communities. Students will dissect the graph's data to conclude that the towns that do not have mandatory recycling have the lowest recycling rates in the state.

Please provide the activity wordings presented to the students:

1. Go to <https://www.simplechartsri.com/>
2. Click on "Create a Chart."
3. Scroll down to "Recycling Rates" and click to create a line chart.
4. Read the information under "View Source."

<https://www.rirrc.org/about/operations/central-landfill-for-trash>

5. Watch the embedded video.
6. Scroll down to Reports and Data. Click on How is My City Doing? Open the data for the year 2020.
<https://www.rirrc.org/sites/default/files/2021-04/2020%20How%20Is%20My%20City%20Or%20Town%20Doing%2020210413.pdf>
7. Use the information to fill in all of the missing components to the line graph with appropriate units of measure. Do not forget your TAILS (Title, Axis, Interval, Labels, Scale)!
8. On the attached Google Doc, indicate what information the graph is depicting. What conclusions can you make regarding the information? Attach line graph to Doc.
9. Discuss conclusions and compare line graphs with a neighbor.
10. Be prepared to share out and “turn in”.

Please describe the nature of the activity (e.g. In class activity? Homework? Something else) and the rationale behind your choice.

This would be an in-class activity. Our school culture does not focus too much on homework for the regular level students as they simply do not do it. Our students work, help provide income to their homes, and take care of younger siblings. We usually allow students to finish any unfinished classwork as their “homework.” We do not assign additional busy work and extend their screen time any longer than it already is.

Were students engaged?

N/A

What is/are the dataset(s) that will be used for the activity? How will students access the dataset(s)?

The dataset is of RI cities and their recycling rates versus mandatory recycling rates in 2020. Students will access this data on SimpleChartsRI and be able to create a line graph, fill in all the appropriate components like axis labels, and analyze the data. They can look for relationships between the lines as well as draw conclusions on the correlation of the lines.

What tool(s) are students going to use? How will students have access to the tool(s)?

Students will use Google Classroom, Google Docs, and SimpleChartsRI. All of these resources will be available on their Chromebook. All directions, website links, and documents will be uploaded to Google Classroom for their access.

How are you going to grade the activity? (e.g. Rubric)

[Rubric Link](#)

Do you think you will keep incorporating data visualization in the future?

Yes, as it is a skill that they are assessed on through standardized testing on the PSAT, SAT, and NGSA. It is also an important scientific skill necessary for making conclusions, testing hypotheses, and analyzing results.