Teacher Guide

girls4tech

Concept

In order to be useful, data must be collected, organized, cleaned up and analyzed. Effective analysis of big data can help us not only explain the past, but also plan for the future.

Help students understand that:

- Data is all around us.
- Data is any information used for a practical purpose.
- To use data, it must be collected, organized, cleaned up and analyzed.
- Data analysis can help us explain the past and plan for the future.

Step-By-Step Instructions

Page 1

Direct students to the question at the top of the page.

Teacher: *What is the weather like today?*

Have students share responses.

Teacher: *Next question: Do I need a coat or an umbrella? Thank you for that valuable information. Thank you for that **data.***

Have one student read the definition of data aloud.

Teacher: *Data is all around us and it can help us to make sense of the world. In fact, there is a school that needs the help of some Data Scientists like you!*

Have students read the message from Main Street Middle School aloud.

Teacher: *But do we understand enough to help them? Let's use **Big Data.***

Page 2

Read the key words at the top of the page.

Teacher: *There are four steps to the process. But we need to tackle them in the right order. Which of these actions should come first, second and so on?*

Guide students to order the terms: COLLECT, ORGANIZE, CLEAN UP, ANALYZE.

Then direct students to the collected data below.

Teacher: *Let's look at all of the data that has been collected.*

Have students take turns reading through the data cards.

Page 3

Teacher: *What should our next step be? **Organize!***

Have students write their ideas about how to organize the data. Then share.

Teacher: *We can organize our data by color or topic. For example, we can put all of the weather data together.*

Discuss the other categories of data.

Teacher: *Now we need to clean it up!*

Have students read through the explanation of what it means to **clean up** data. Then have them return to page 2 to cross out the data cards that are not relevant to the problem at hand.

Teacher: *Let's look now at our organized and cleaned up data.*

Direct students to the cards at the bottom of the page.

Page 4

Teacher: *Our final step is to **analyze.***

Direct students to read through the data cards on page 3 once more. Then give them the opportunity to answer the questions on page 4. When all are complete, have them share and discuss their responses.

Teacher: *Let's see how we did! We just got another message from the school.*

Have students read the new message from Main Street Middle School aloud.

Teacher: *Congratulations! You are now a G4T Data Scientist!*