



Data Exploration & Collection

2 Weeks

Lesson Overview

This lesson introduces data exploration and collection using the data science process. Through this process you will enhance your skills in data analysis, visualization, critical thinking, and communication.

In the assignment, you will create a Dear Data postcard to explore the concept of data storytelling and learn how to effectively communicate insights through data visuals and narratives. You will also design a survey to collect data for your computing innovations project.

Learning Objectives

- Understand the data science process and its iterative nature.
- Analyze data visualizations to identify patterns and draw conclusions.
- Use creativity and innovation to explore ways of representing variability in data.
- Gather and organize data to tell a story.
- Create a visual representation of original data to explore patterns.
- Communicate the outcomes of a data story using the data science process.
- Design a survey for data collection.
- Understand the importance of diverse perspectives in data analysis.

RI CS Education Standards

- 3-CT-CD-1: Systematically design and implement computational artifacts for targeted audiences by incorporating feedback from users.
- 3-DA-CVT-1: Select appropriate data-collection tools and presentation techniques for different types of data.
- 3-DA-IM-1: Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.
- 3-DA-IM-3: Evaluate the ability of models and simulations to test and support the refinement of hypotheses.
- 3-DL-CU-1: Select appropriate software tools or resources to create a significant artifact or solve a problem.
- 3-RC-SI-1: Use tools and methods for collaboration on a project to increase connectivity between people in different cultures and career fields.

Lesson Material

The following course material will help you learn the skills and concepts necessary to complete the Data Exploration & Collection assignment.



Watch: [What is Data?](#) [2:45]



Watch: [Dear Data](#) [3:18]



Watch: [Google Forms](#) [1:59]



Read: [Google Forms - Choose Where to Save Forms Responses](#)

Student Activity Guide



[Data Exploration & Collection Assignment](#)

Optional Discussion



[Data Talk: Survey Data](#)

Teacher Resources



[Data Exploration & Collection Slides](#)



Dear Data Project adapted from
Youcubed Explorations in Data
Science course: [Unit 1 - Data Tells a Story](#) (sections 1, 2, 3, 5, 7)



[Data Exploration & Collection Grading Rubric](#)



[Data Exploration & Collection Answer Key](#)



[MLL Resources](#)