Unit 9: Data

Content Area: **Mathematics**
Course(s): **Generic Course**
Time Period: **Semester 2**
Length: **3 weeks**
Status: **Published**

Standards

DA	Data & Analysis
	Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.
8.1.12.DA.1	Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
	Choices individuals make about how and where data is organized and stored affects cost, speed, reliability, accessibility, privacy, and integrity.
8.1.12.DA.2	Describe the trade-offs in how and where data is organized and stored.
	Large data sets can be transformed, generalized, simplified, and presented in different ways to influence how individuals interpret and understand the underlying information.
8.1.12.DA.5	Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
	The accuracy of predictions or inferences made from a computer model is affected by the amount, quality, and diversity of data.
8.1.12.DA.6	Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.

Essential Questions

How can computing tools help us extract information from data?

How do we use programs like Microsoft Excel and Google Sheets to store and manipulate data?

Where and how does computing bias exist?

How does crowd sourcing solve problems?

Enduring Understanding

- Programs can be used to process data, which allows users to discover information and create new knowledge.
- While computing innovations are typically designed to achieve a specific purpose, they may have unintended consequences.

Knowledge and Skills

Students explore and visualize datasets from a wide variety of topics as they hunt for patterns and try to learn more about the world around them from the data. Once again, students work with datasets in App Lab, but are now asked to make use of a data visualizer tool that assists students in finding data patterns. They learn how different types of visualizations can be used to better understand the patterns contained in datasets and how to use visualizations when investigating hypotheses. At the conclusion of the unit, students learn about the impacts of data analysis on the world around them and complete a final project in which they must uncover and present a data investigation they've completed independently.

Transfer Goals

Big Data needs to be manipulated by machines because it is too big to manipulate by hand.

Big Data is endless and grows every day.

Big Data can both solve problems and create probelms.

Resources

1. Various YouTube videos that visually explain concepts and ideas.

2. Various widgets found on code.org.

3. Test banks created on Edulastic and code.org

4. Use of Google Classroom, Google Slides, Google Docs and Google Sheets