Grade 6 Unit 2: Data, Abstraction and Modeling (Google Sheets with a Purpose)

Unit Focus

This unit continues the students' journey into coding by having them collect and analyze data on the animation they created. This will involve placing the data into a spreadsheet, graphing the data in a meaningful way and learning how to analyze data using statistics. In this performance task, students will apply these skills in analyzing the data collected from both of their peers' ratings in evaluating their growth between the "favorite food" and "narrative" animations.

Stage 1: Desired Results - Key Understandings

Standard(s)

Common Core
Mathematics: 6
- Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. *CCSS.MATH.CONTENT.6.SP.B.5C*
- Display numerical data in plots on a number line, including dot plots, histograms, and box plots. *CCSS.MATH.CONTENT.6.SP.B.4*

Connecticut Goals and Standards
Technology Essential Knowledge and Skills: 6
- Construct charts/tables/graphs from functions and data. EKS.03.04
- Analyze data when interpreting operational documents. EKS.03.05
- Critically analyze information to determine value to the problem-solving task. EKS.05.08

CSTA: Computer Science Standards (2017-)
CSTA: 6-8
- Collect data using computational tools and transform the data to make it more useful and reliable. 2-DA-08

Madison Public Schools Profile of a Graduate
- Analyzing: Examining information/data/evidence from multiple sources to identify possible underlying assumptions, patterns, and relationships in order to make inferences. (POG.1.2)
- Self-Awareness: Examining current performance critically to identify steps/strategies to persist. (POG.4.1)

Transfer

Students will be able to independently use their learning to...
T1 Explore and learn techniques, skills, methods, and processes to help improve ones own performance.

Meaning

Understanding(s)	Essential Question(s)
Students will understand that... **U1** Mathematicians select and use appropriate statistical methods and tools to analyze data, show trends, evaluate inference and/or describe or make predictions.	*Students will keep considering...* **Q1** How can statistics help us make decisions? **Q2** What is the best way to describe this data? **Q3** How do visual representations of data help us understand the data?

Acquisition of Knowledge and Skill

Knowledge	Skill(s)
Students will know... **K1** Data in a spreadsheet can be turned into graphs and charts for a visual understanding of data. **K2** Vocabulary: continuous data, discrete data, frequency, bins, range, mean, mode, median, quartiles	*Students will be skilled at...* **S1** Manipulate the data in a spreadsheet to create a graph or chart. **S2** Find the Mean, Median, Mode and Range in a given set of data. **S3** Interpret data from statistics, charts and graphs. **S4** Collecting and sharing data on number lines, bar graphs, pie charts, histograms and boxplots.