K.DA.2 Data and Analysis

> The student will create representations of data to make predictions and draw conclusions. (a) Create tables, object graphs, picture graphs, and/or models. (b) Describe the information from a given data visualization. (c) Use data to answer questions, make predictions, and draw conclusions.

Understanding the Standard

As they work with this standard, students should gather and organize data in charts or graphs to answer questions, with or without the aid of a computing device. They use their senses to observe and collect information about the world around them, recording data in tables and representing it through charts and graphs. By organizing data into charts or graphs, we can understand information more clearly, noticing patterns that might be difficult to see in a simple list. Studying data visualizations like these help students learn how to describe information, understand the patterns and relationships within the data, answer questions, make predictions, and draw conclusions based on data. Using data visualizations helps us make informed decisions and better understand the world around us.

Term	Definition
Data	Individual facts and information
Table	Information (such as numbers and descriptions) arranged in rows and columns.
Object graph	A visual representation where objects are categorized and organized based on their characteristics or attributes.
Picture graph	A visual representation of data that utilizes symbols, icons, and pictures to depict various quantities.

Prerequisite Knowledge

Students should have basic counting skills from 1 to 10 or beyond, observation skills (i.e. using their senses), and experience using simple charts/graphs.

Integration Opportunities

Physical Education K.5b Create a picture or object graph to identify and sort various fruits and vegetables. Have students use the data to describe their similarities and differences and determine what makes each a fruit or vegetable.

Science K.1c,d Students demonstrate an understanding of scientific and engineering practices by interpreting, analyzing and evaluating data, and constructing, critiquing, and evaluating data.

History K.4c Use graphs to show change over time with computing devices. Students can use the graphs to draw conclusions, answer questions, and make predictions.

Math K.PS.1 Students will collect data from classmates about their favorite lunches, represent it with a picture graph, and analyze patterns (e.g., which lunch is most/least popular) while discussing how gathering such data helps in decision-making.

Summary of a Lesson

Guide students the opportunity to collect and organize data using objects or pictures. Introduce and define “data” and investigate different types of charts and graphs created from a given data set. Give each student a set of objects or pictures to represent data points, and have them count and record the numbers on sticky notes or index cards. Together, the class should create a simple graph using the collected information. Guide students in interpreting the graph by asking questions about the data, such as identifying the object/picture with the highest count.