



1.DA.1 Data and Analysis

The student will explore how data can be stored and retrieved from various computing devices. (a) Identify data formats used for various purposes, including audio, images, text, and video. (b) Explore and identify computing devices that collect, store, and/or display data.

Integration Opportunities

Understanding the Standard

Data is information stored on computers and other devices. It can come in many different forms, such as sounds, pictures, words, and videos. For example, a song is a type of audio data, a photo is a type of image data, a book is a type of text data, and a movie is a type of video data. Computers, cell phones, digital toys, and cars can contain sensors to collect data from their surroundings. Students should explore and identify various data formats and computing devices that use them, such as computers, tablets, smartphones, and digital cameras, that collect, store and display data.

Term	Definition
Data	Individual facts and information.
Computing device	An electronic device that can store and receive information
Audio	A sound or noise that the human ear can hear; when stored on and played through a computer, this is called an audio file.
Image	A representation of visual information, such as drawings, pictures, graphs, logos, or individual video frames.
Video	A sequence of still images which simulate movement when viewed in order.
Text	A collection of words or letters that are understandable by a reader.

Science 1.1f Have students collect observations and data using simple graphs, pictures, drawings, numbers, speech and/or writing.

English 1.RI.2b Have students sort different types of data such as audio clips, photos, text, and videos into groups. Then have students distinguish between the information provided by each group and explain how a particular format can help deepen their understanding of a topic.

Math 1.PS.1b Have students identify the data formats that various computing devices handle. Sort devices into categories based on their attributes (e.g., storage type or purpose) and label each category with descriptions of the data formats they handle.

Prerequisite Knowledge

Students should have a foundational knowledge of the parts of a computing device. Concepts of print are also helpful for anchoring understanding of what text and images are.

Summary of a Lesson

As a class, brainstorm ways that students can learn. Some possible ideas may include listening to a teacher, watching a video, reading a book, touching or manipulating objects, or looking at something closely. Remind students that their suggestions all involve getting information, or data, and define audio, video, images, and text. In small groups, have students find and list examples of each type of data and share out to the class. As an extension, select a computing device and have students identify what parts of that device would handle each type of data.

