Chapter 10: Represent Data

Content Area: **Mathematics**
Course(s): **Math 1**
Time Period: **May**
Length: **10 Days**
Status: **Published**

Unit Summary

In unit 10, children extend the classification and counting of objects in arrangements to organize, represent, and interpret data in up to three categories (1.MD.C.4). Children read and create picture graphs, bar graphs, and tally charts. Children learn that a picture graph uses pictures to represent data and each symbol may stand for a "set number of things." Children use a bar graph to determine the number of data points, by looking at the length of bars. They also learn how to use tally charts to record the results of a survey. Continuously throughout the chapter, children ask and answer questions about the total number of data points, how many in each category, and how many more or less in one category than another. Academic vocabulary within this unit includes the following terms: data, symbol, tally, tally chart, picture graph, bar graph, more, fewer, most, fewest.

Standards

MA.1.MD.C.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.6	Attend to precision.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
TECH.8.1.2.A.CS1	Understand and use technology systems.
TECH.8.1.2.A.CS2	Select and use applications effectively and productively.
	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can

make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Student Learning Objectives

Students will learn to...

- Analyze and compare data shown in a picture graph where each symbol represents one
- Make a picture graph
- Analyze and compare data shown in a bar graph or a tally chart
- Make a bar graph or a tally chart
- Solve problem situations using the strategy make a graph

Essential Questions

- In what ways do we organize information?
- Why is it important to organize and interpret information?

Enduring Understandings

Students will understand that...

- Data can be organized and collected in many different ways.
- Organizing data can help us make comparisons and identify values such as the most and the least.

Application

Students will be able to independently use their learning to...

- collect, organize and interpret data.

Skills

Students will be skilled at...

- Analyze and compare data shown in a picture graph where each symbol represents one
- Make a picture graph where each symbol represents one and interpret the information
- Analyze and compare data shown in a bar graph
- Make a bar graph and interpret the information

- Analyze and compare data shown in a tally chart
- Make a tally chart and interpret the information
- Solve problem situations using the strategy "Make a Graph"