

Unit 7: Addition

Content Area: **Mathematics**
Course(s): **Math K**
Time Period: **January**
Length: **4 weeks**
Status: **Published**

Unit Summary

This unit introduces students to solving addition word problems and adding within 10 by using objects or drawings. Phrases such as put together, and add to are used throughout the unit to help students fully grasp the concept of addition. Modeling sums with concrete objects is an important part of learning to add. Students will rely less on models as they build an understanding of addition. Students will explore addition through situations that require a joining action. They will make sense of decomposing numbers as they make number pairs.

Standards

MA.K-12.1

Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

MA.K-12.4

Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MA.K.OA.A

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

MA.K.OA.A.1

Represent addition and subtraction up to 10 with objects, fingers, mental images,

	drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
MA.K.OA.A.2	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
MA.K.OA.A.3	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).
MA.K.OA.A.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
MA.K.OA.A.5	Demonstrate fluency for addition and subtraction within 5.
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.

Student Learning Objectives

Students will learn to..

- use expressions to represent addition within 5.
- use objects and drawings to solve addition word problems within 5.
- use a drawing to find 10 from a given number and record the equation.
- solve addition word problems within 5 and record the equation.
- solve addition word problems within 10 and record the equation.
- decompose numbers within 10 into pairs in more than one way and record each decomposition with an equation.
- solve problems by using the strategy act it out.

Essential Questions

- How can you show addition?

Enduring Understandings

Students will understand that...

- the mathematical operation of addition is the joining together of two quantities.

Application

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

- solve simple addition problems.
- model, draw and write an addition sentence to represent the joining together of 2 groups.

Skills

Students will be skilled at...

- making cube trains of two colors to model addition.
- using pictures of two sets to record an addition sentence using both symbols and words.
- creating their own problems and recording the number sentences.
- decomposing numbers as they make number pairs.
- finding the number that makes 10 when added to 3, when given a number such as 3.
- representing a number such as 8 with two different colors of cubes.
- recording their thinking using number sentences.
- acting out stories about joining two groups.
- utilizing the equal sign (=) when finding sums.
- utilizing the symbol of addition (+) to join two numbers in an addition sentence.