



## Topic A

## Comparison Word Problems

## 1.OA.1

<b>Focus Standard:</b>	1.OA.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See CCLS Glossary, Table 1.)
<b>Instructional Days:</b>	2	
<b>Coherence -Links from:</b>	G1–M3	Ordering and Comparing Length Units as Numbers
	G1–M4	Place Value, Comparison, Addition and Subtraction to 40
<b>-Links to:</b>	G2–M7	Problem Solving with Length, Money, and Data

Topic A of Module 6 opens with students exploring one of the most challenging problem types for their grade level,<sup>1</sup> comparison word problems (**1.OA.1**). Students were informally introduced to the problem type in Module 3 as they analyzed data and compared measurements. During Module 5, students worked with comparison contexts through Application Problems. It is with this background that teachers can make informed choices during Module 6 to support students in recognizing and solving comparison word problems.

In Lesson 1, students work with *compare with difference unknown* problem types using double tape diagrams. They then carry their understanding of double tape diagrams into Lesson 2 to tackle *compare with bigger or smaller unknown* problem types. Throughout the module, students continue to practice these problem types as they solve Application Problems in the topics that follow.

<sup>1</sup> Found in the Counting and Cardinality and Operations and Algebraic Thinking Progressions Document, p. 9.

Table 2: Addition and subtraction situations by grade level.

	Result Unknown	Change Unknown	Start Unknown
<b>Add To</b>	<p><i>A</i> bunnies sat on the grass. <i>B</i> more bunnies hopped there. How many bunnies are on the grass now?</p> $A + B = \square$	<p><i>A</i> bunnies were sitting on the grass. Some more bunnies hopped there. Then there were <i>C</i> bunnies. How many bunnies hopped over to the first <i>A</i> bunnies?</p> $A + \square = C$	<p>Some bunnies were sitting on the grass. <i>B</i> more bunnies hopped there. Then there were <i>C</i> bunnies. How many bunnies were on the grass before?</p> $\square + B = C$
<b>Take From</b>	<p><i>C</i> apples were on the table. I ate <i>B</i> apples. How many apples are on the table now?</p> $C - B = \square$	<p><i>C</i> apples were on the table. I ate some apples. Then there were <i>A</i> apples. How many apples did I eat?</p> $C - \square = A$	<p>Some apples were on the table. I ate <i>B</i> apples. Then there were <i>A</i> apples. How many apples were on the table before?</p> $\square - B = A$
	Total Unknown	Both Addends Unknown <sup>1</sup>	Addend Unknown <sup>2</sup>
<b>Put Together / Take Apart</b>	<p><i>A</i> red apples and <i>B</i> green apples are on the table. How many apples are on the table?</p> $A + B = \square$	<p>Grandma has <i>C</i> flowers. How many can she put in her red vase and how many in her blue vase?</p> $C = \square + \square$	<p><i>C</i> apples are on the table. <i>A</i> are red and the rest are green. How many apples are green?</p> $A + \square = C$ $C - A = \square$
	Difference Unknown	Bigger Unknown	Smaller Unknown
<b>Compare</b>	<p><i>"How many more?"</i> version. Lucy has <i>A</i> apples. Julie has <i>C</i> apples. How many more apples does Julie have than Lucy?</p> <p><i>"How many fewer?"</i> version. Lucy has <i>A</i> apples. Julie has <i>C</i> apples. How many fewer apples does Lucy have than Julie?</p> $A + \square = C$ $C - A = \square$	<p><i>"More"</i> version suggests operation. Julie has <i>B</i> more apples than Lucy. Lucy has <i>A</i> apples. How many apples does Julie have?</p> <p><i>"Fewer"</i> version suggests wrong operation. Lucy has <i>B</i> fewer apples than Julie. Lucy has <i>A</i> apples. How many apples does Julie have?</p> $A + B = \square$	<p><i>"Fewer"</i> version suggests operation. Lucy has <i>B</i> fewer apples than Julie. Julie has <i>C</i> apples. How many apples does Lucy have?</p> <p><i>"More"</i> version suggests wrong operation. Julie has <i>B</i> more apples than Lucy. Julie has <i>C</i> apples. How many apples does Lucy have?</p> $C - B = \square$ $\square + B = C$

Darker shading indicates the four Kindergarten problem subtypes. Grade 1 and 2 students work with all subtypes and variants. Unshaded (white) problems are the four difficult subtypes or variants that students should work with in Grade 1 but need not master until Grade 2. Adapted from CCSS, p. 88, which is based on *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity*, National Research Council, 2009, pp. 32–33.

**A Teaching Sequence Towards Mastery of Comparison Word Problems**

**Objective 1:** Solve *compare with difference unknown* problem types.  
(Lesson 1)

**Objective 2:** Solve *compare with bigger or smaller unknown* problem types.  
(Lesson 2)