

Chapter 5 - Addition and Subtraction Relationships

Overview & Support

Standards:

1.OA.1 Represent and solve problems involving addition and subtraction.

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.

1.OA.6 Add and subtract within 20. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on: making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

1.OA.7 Work with addition and subtraction equations.

Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

1.OA.8 Work with addition and subtraction equations .

Determine the whole number in an addition or subtraction equation relating three whole numbers.

Types of Word Problems

Matrix of problem types and grade level mastery

Suggested Routines and Resources:

Number Talks, Counting routines, Calendar, 120 Number Chart, What's my place? What's my Value?

Resources to Support Routines:

<https://tedd.org/mathematics/>

- Quick Images
- Counting Collections
- Choral Countings
- Number Strings

Number Talks by Sherry Parrish (several books available at site)

Three Act Tasks <https://gfletchy.com/3-act-lessons/>

Kinder and 1st are appropriate

For end of chapter 1 consider the 3 Act Task: *Bag-O-Chips*

<https://gfletchy.com/bag-o-chips/>

Think Central: Personal Math Trainer (PMT):

Can be used to reinforce chapter and lesson concepts during math instruction, workshop, for reteaching, homework, assessment, etc.

Engage NY Resources: Introduction to Place Value Through Addition and Subtraction Within 20
<http://www.engageny.org/resource/grade-1-mathematics-module-2/file/113161>

SVMI from the EGUSD Math Gen Blog:
<http://blogs.egusd.net/mathgen/grade-level-resources/first-grade/>

San Francisco Unified School District Math Talks (page 6)
<https://docs.google.com/document/d/16oLPUJOOGNcj0Xfbww8IbMA88maAHNdHG7Ow4Es3Z4U/edit>

San Francisco Unified School District - Core Math Curriculum
<http://www.sfusdmath.org/accessing-core-curriculum-unit-plans.htm>

Manipulatives:

Two-colored Counters, Cubes, Five Frames, Ten Frames (workmat #7), Number Cards

Vocabulary

addition fact sum subtraction fact difference related facts

Strategies for Chapter:

One to one correspondence when counting, perceptual subitizing, counting on methods, conservation of numbers, sketches (linear and pattern), naming Cardinal numbers in a set.

Color Coding:

Green (G) - The lesson accurately reflects the Framework standard(s).

Yellow (Y) - This lesson includes notes to refer to while planning the lesson.

Red (R) - This lesson does not accurately reflect the Framework standard(s). Skip the lesson.

Essential Question:

How can relating and subtraction help you to learn and understand facts within 20?

Lesson-by-Lesson Overview:

While the lessons in this chapter teach and reinforce foundational math facts and strategies, these strategies will not be owned and made use of for many students without extended practice over time through **number talks** and other whole class and small group experiences. Children need to see and discuss

these strategies multiple times to understand the patterns and efficiencies in making use of derived facts.

Lesson #, Standard	Title	Materials	Vocab	Notes
Show What You Know		addition & subtraction flash cards (e-Teacher pg. TR1-TR14 addition & TR38-TR51)	add addition fact, difference, subtract, subtraction fact, sum	
5.0 G 1.OA.1	Addition and Subtraction Relations	2 colored counters, eTeacher resources for related addition and subtraction cards for game, whiteboard, two color connecting cubes.	Add Addition fact, difference, subtract, subtraction, relating facts	
5.1 G 1.OA.1	Problem Solving – Add or Subtract	whiteboard, two color connecting cubes	Tape diagram/ bar model, unknown	Have students write equations Have students use a number line to model addition and subtraction
5.2 G 1.OA.6	Hands on – Record Related Facts	whiteboard, two color connecting cubes, red and blue crayons	Related facts	
5.3 G 1.OA.6	Identify Related Facts	whiteboard, two color connecting cubes, crayons	related facts	
5.4 Mid chapter	Use Addition to Check Subtraction	whiteboard	related facts	Introduces inverse relationships (e.g.; $11 - 4 = 7$; $7 + 4 = 11$)

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5.5 G	Hands on: Algebra-Unk nown Numbers	whiteboard	related fact, unknown number	
5.6 G	Algebra-Use Related Facts	whiteboard, crayons	related facts, unknown number	Number bonds are introduced
5.7 G	Choose an Operation	whiteboard, two colored counters		Suggestion: Create a poster of strategies students can use to solve a given problem.
5.8 G	Hands on: Algebra- Ways to make Numbers to 20	whiteboard, three different colored connecting cubes, crayons		
5.9 G	Algebra-Equal and not Equal	whiteboard, crayons	equal, not equal true, false	
5.10 G	Facts Practice to 20	whiteboard, two-colored counters		Suggested: Poster of strategies students can use to solve a given problem.
Chapter 5 Test				#8,#9 have multiple solutions
Reteach Options	related facts, missing addend, subtrahend, minuend, sums and differences. practice with the bar model.			