

TOUCHMATH[®]

THE ALPHABET OF MATHEMATICS

Since 1975



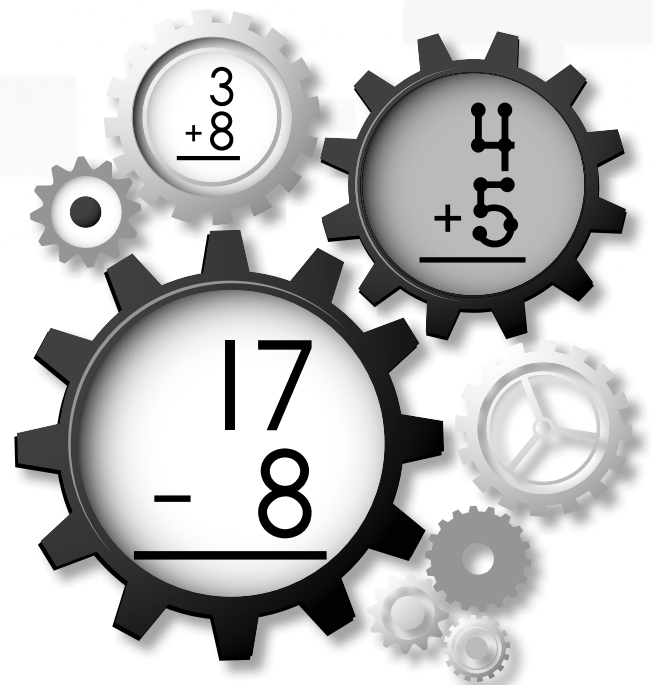
UNIT
1

CLASSIC UPPER GRADES

ADDITION & SUBTRACTION 1

MODULE TITLES

- 1: Forward Counting
- 2: Addition
- 3: Backward Counting
- 4: Subtraction
- 5: Fact Families
- 6: Place Value
- 7: Strategies
- 8: Mixed Addition and Subtraction



	Module Guide	Activity Sheets
Upper Grades Program Introduction	2	
Unit Overview		
• Overview of Content • Objectives • Vocabulary	5	
• Common Core State Standards	6	
• Parent/Guardian Communication Letter.	8	
Progress Monitoring Records		
• Unit Pretest	9	
• Unit Review and Posttest.	10	
Unit Pretest Directions	11	
• Addition & Subtraction 1 Pretest		1–2
Module 1: Forward Counting	12	
Module 2: Addition	32	
Module 3: Backward Counting.	54	
Module 4: Subtraction	68	
Module 5: Fact Families.	92	
Module 6: Place Value	106	
Module 7: Strategies	124	
Module 8: Mixed Addition and Subtraction	146	
Unit Review Directions	157	
• Addition & Subtraction 1 Review		195–198
Unit Posttest Directions	160	
• Addition & Subtraction 1 Posttest		199–200
Answer Key	A1	

The goal of the TouchMath Upper Grades Addition and Subtraction 1 Unit is to build the concepts of and fluency with addition and subtraction within 20. This goal includes applying various strategies to operations, manipulating whole number relationships and place value, and understanding the base-ten system. The TouchMath approach focuses on the use of TouchPoints to associate numerals and quantities, which strengthens the understanding of number. The Application to Students with Disabilities in the Common Core State Standards reflects this approach: "Instructional supports for learning ... foster student engagement by presenting information in multiple ways and allowing for diverse avenues of action and expression."

Engaging activities are presented in an intentional sequence with attention to learning style, scaffolding of vocabulary, and pacing. The skills progress from counting and using TouchPoints to constructing the concepts of addition and subtraction by putting together and taking apart sets of objects. Computation is introduced naturally with a gradual presentation of multiple strategies. Properties of operations, place value, comparisons, unknowns, and word problems integrate into the activities to ensure application of the skills.

When students finish this unit, they should be able to add and subtract within 20 and demonstrate a firm foundation for work with more complex problems.

Objectives

1. To count forward and backward within 20 from any number
2. To master the TouchMath Touching/Counting Patterns for each of the numerals
3. To understand the concepts of addition and subtraction
4. To use strategies to solve equations
5. To solve for unknowns in all positions
6. To apply understanding of place value
7. To compose and decompose numbers 11–19
8. To use properties of operations
9. To apply the relationship between addition and subtraction
10. To compare sums and differences
11. To solve word problems
12. To demonstrate fluency with addition and subtraction facts within 20

Vocabulary

addends • after • altogether • associate • backward • base ten blocks • beads • before
between • bubble • bundle • choice • column • compare • comparison • connecting cubes
count on • cue • decrease • difference • doubles • equal to • equals • equation • expression
fact family • fewer • greater than • in all • increases • jumps • left (remaining) • less than
lesser • minus • number bond • number names 0–20 • ones • order • parentheses • parts
pass • pattern • Pictorial TouchPoints • place value chart • plus • regroup • related
relationship • removed • represent • representation • reverse • rods • row • sequence
solution • solve • steps • strategy • subtraction • sum • taken apart • taken away
Ten Frames • tens • timer • total • TouchPoints • units • unknown • whole

Cluster 1 Introduction

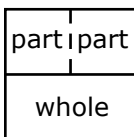
The skills introduced in Module 1 transfer to building the concept of addition—counting on from any number and using TouchPoints. The students will select the level of cues they need as they are developmentally ready for increased abstraction in computation with whole numbers. Patterns, including the commutative property, provide additional support in applying computational skills.

Instruction: activity sheet 30

- ◆ Demonstrate addition by putting together sets of counters or other readily available objects. Provide opportunities for students to manipulate the objects to experience addition at the kinesthetic level. Point out that the addition sign (plus sign) is the visual indication that sets are being put together, just as the two lines that make the sign are put together. Introduce the plus sign and the equal sign. Identify addends and sum.¹

Distribute page 30 to the students.

- ◆ Demonstrate moving the objects to Pictorial TouchPoints on the addends.
 - Trace the arrow moving the object to a **Pictorial TouchPoint**, and say 1. I have one apple. Trace the second arrow moving the object to a **Pictorial TouchPoint**, and say 1. I have one apple. Count the **total** number of apples. Say, “One apple **plus** one apple **equals** two apples.” Trace the 2 under the objects and under the **Pictorial TouchPoints**. Say the problem again: one apple **plus** one apple **equals** two apples. The **sum** of one apple and one apple is two apples. Notice that there are no **TouchPoints** on the **sum**. We use **TouchPoints** as a strategy for adding, but we do not use them on the **sums**.
- ◆ Model the equation using different objects (e.g., pencils, markers, counters, or students). Say the equation each time: one pencil plus one pencil equals two pencils. Point out that the kind of object can change, but the equation is the same. Define *equation* using sets of objects and the equal sign. Present a part/part/whole visual to reinforce that parts are being put together to make a whole. Draw an example on the whiteboard.



Differentiated Directions

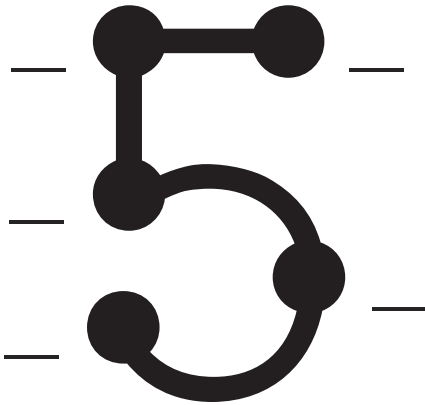
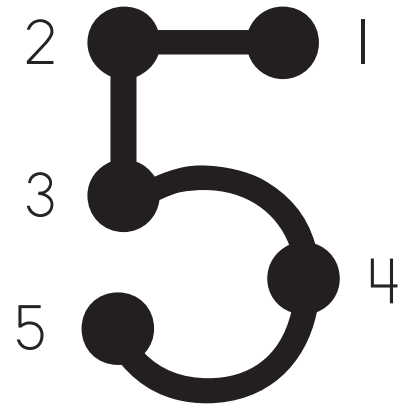
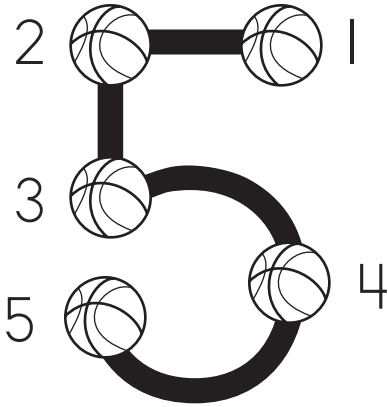
¹If students do not demonstrate thorough understanding, remediate.

Name _____ Date _____

 + 2	 + 2	 + 3	 + 3	 + 4	 + 4
 + 5	 + 5	 + 6	 + 6	 + 7	 + 7
 + 8	 + 8	 + 9	 + 9	 + 10	 + 10

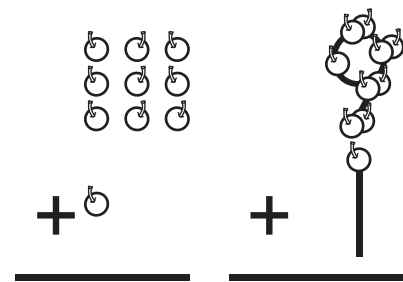
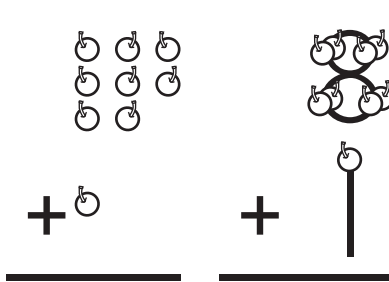
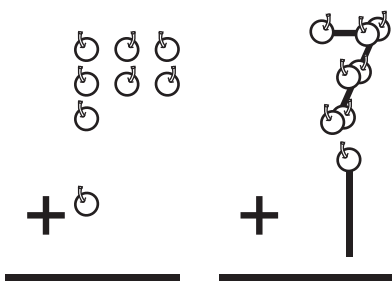
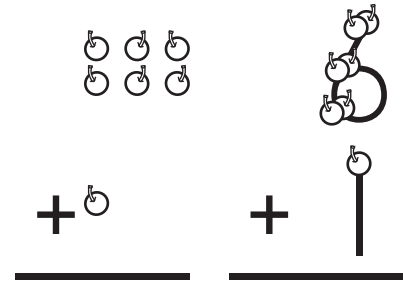
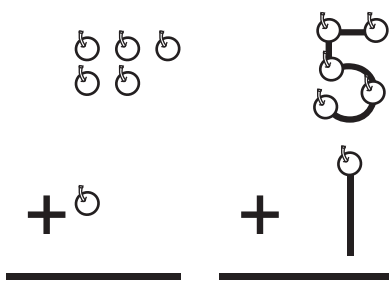
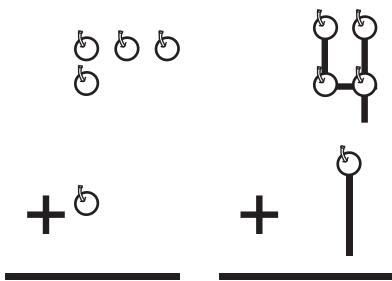
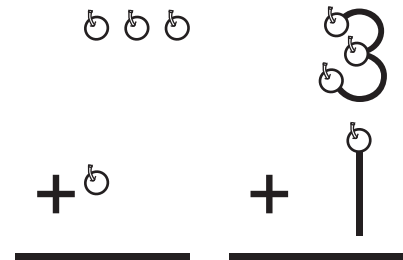
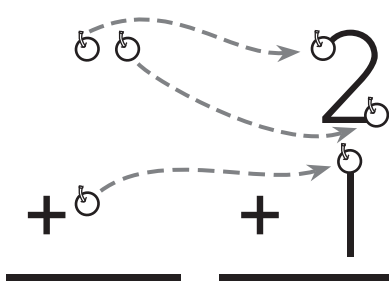
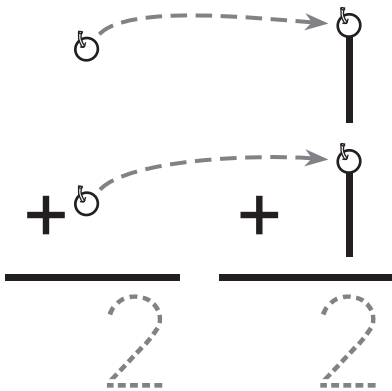
+ 1 = $\frac{5}{+1}$ = $\frac{5}{+1}$ = 6

© 2013 TOUCHMATH UGU1M2 AGE 1 30



five





3	3	5
1	2	4
9	0	3
0	4	2
2	1	1
8	8	0
6	9	9
7	7	8
2	4	7
4	5	6
5	3	5
	2	4
3	6	3



$$\begin{array}{r} 1 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{ccc} \text{O} & & \\ \text{O} & & \\ \text{O} & & \\ \text{O} & & \\ \text{O} & & \\ \text{O} & & \\ \text{O} & & \\ \text{O} & & \\ \text{O} & & \end{array} = \begin{array}{r} 9 \\ - 1 \\ \hline \end{array} = \square$$

7

- 7, 2, 5
- 7, 4, 2
- 7, 3, 4
- 7, 6, 1

8

- 8, 4, 4
- 8, 5, 3
- 8, 3, 4
- 8, 7, 1

9

- 9, 6, 2
- 9, 3, 6
- 9, 4, 5
- 9, 1, 8

10

- 10, 7, 3
- 10, 9, 1
- 10, 2, 7
- 10, 8, 2

11

- 11, 2, 9
- 11, 8, 3
- 11, 4, 7
- 11, 5, 5

12

- 12, 5, 7
- 12, 6, 6
- 12, 3, 8
- 12, 3, 9

13

- 13, 7, 6
- 13, 9, 3
- 13, 5, 8
- 13, 4, 9

14

- 14, 7, 7
- 14, 8, 6
- 14, 5, 9
- 14, 6, 7

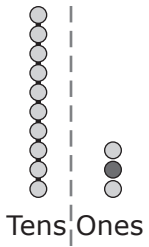
15

- 15, 9, 6
- 15, 8, 7
- 15, 5, 9
- 15, 7, 8

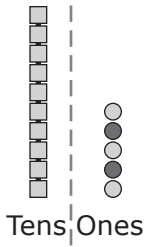
Ring the fact that does not fit with the other facts:

$$6 + 4 = 10 \quad 10 - 4 = 6 \quad 10 - 5 = 5 \quad 7 + 4 = 11$$

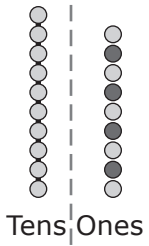
Write another number bond to go with the three facts that represent the same total.



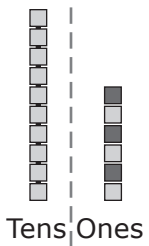
15



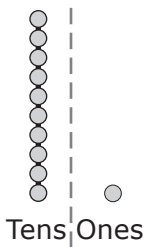
11



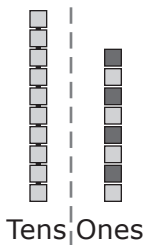
18



13



19



16

$$(3 + 2) + 5 = 10$$

$$\square + \square = \underline{\quad}$$

$$3 + (2 + 5) = 10$$

$$\square + \square = \underline{\quad}$$

$$(3 + 4) + 6 = 13$$

$$\square + \square = \underline{\quad}$$

$$3 + (4 + 6) = 13$$

$$\square + \square = \underline{\quad}$$

$$(4 + 4) + 8 = 16$$

$$\square + \square = \underline{\quad}$$

$$4 + (4 + 8) = 16$$

$$\square + \square = \underline{\quad}$$

$$(5 + 3) + 7 = 15$$

$$\square + \square = \underline{\quad}$$

$$5 + (3 + 7) = 15$$

$$\square + \square = \underline{\quad}$$

$$(6 + 2) + 7$$

$$\square + \square$$



$$6 + (2 + 7)$$

$$\square + \square$$

1.

$$\begin{array}{r} 2 \\ 4 \\ 3 \\ + 5 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 7 \\ 4 \\ 2 \\ + 5 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 3 \\ 8 \\ 0 \\ + 7 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 4 \\ 9 \\ 2 \\ + 2 \\ \hline \end{array}$$

5.

Tens	Ones
1	8
-	5
<hr/>	
1	4

true false

6.

Tens	Ones
	5
+	9
<hr/>	
1	5

true false

7.

Tens	Ones
1	7
-	7
<hr/>	
1	1

true false

8.

Tens	Ones
	8
+	5
<hr/>	
1	3

true false

9.

$$\begin{array}{r} 8 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + \square \\ \hline 15 \end{array}$$

$$\begin{array}{r} 15 \\ - \square \\ \hline 7 \end{array}$$

$$\begin{array}{r} \square \\ - 7 \\ \hline 8 \end{array}$$

8, 9, 15
 true
 false

10.

Track practice at school lasts for 18 minutes. Gino runs for 12 minutes and can watch his friends run for the rest of practice. How much time does Gino have to watch his friends?

8 minutes 6 minutes 7 minutes