

“Fluency in each grade involves a mixture of just knowing some answers, knowing some answers from patterns (e.g., “adding 0 yields the same number”), and knowing some answers from the use of strategies. It is important to push sensitively and encouragingly toward fluency of the designated numbers at each grade level, recognizing that fluency will be a mixture of these kinds of thinking which may differ across students” ([CC/OA Progression, p. 18](#)).

Resources for Developing Grade-Level Math Fluencies—Grade 3

How to Use These Resources

This document provides a set of short activities extracted from EngageNY, an open educational resource, to supplement fluency practice. Teachers are encouraged to use the activities in their textbooks that align to grade-level standards and supplement with the resources in this document.

The activities are designed to support students’ progress toward grade-level fluencies. They are intentionally short, providing educators the flexibility to use them before or after a lesson or anytime during the school day. The resources are organized by standard.

Grade 3 Fluency Activities

Key — “T” denotes “teacher” and “S” denotes “student”

<p>Activity: SUBTRACT MENTALLY (4 minutes) Materials: None Notes: This activity anticipates the role of place value in the subtraction algorithm. Standard: 3.NBT.A.2 EngageNY, Module 2, Lesson 18</p>	<p>Directions: T: (Write $10 - 3 = _$.) Say the number sentence in units of one. S: 10 ones - 3 ones = 7 ones. Continue with the following sequence: $10-3 = 7/ 11-3 = 8/ 61-3 = 58/ 100-30 = 70/ 110-30 = 80/ 610-30 = 580$. T: (Write $100 - 30 = _$.) Now say the number sentences in units of ten. T: 10 tens - 3 tens = 7 tens. Continue with the following sequence: 110 - 30 and 610 - 30. Repeat with the following possible sequences: 10 - 5, 12 - 5, and 73 - 5 100 - 50, 120 - 50, and 730 - 50</p> <p>This activity can be repeated using the same routine with the following sequence of problems: 10 ones - 5 ones/ 12 ones - 5 ones/ 42 ones - 5 ones/ 10 tens - 5 tens/ 12 tens - 5 tens/ 42 tens - 5 tens.</p>
<p>Activity: ESTIMATE AND ADD (4 minutes) Materials: (S) Personal white board Standard: 3.NBT.A.2 EngageNY, Module 2, Lesson 18</p>	<p>Directions: T: (Write $38 + 23 \approx _$.) Say the addition problem. S: $38 + 23$. T: Give me the new addition problem if we round each number to the nearest ten. S: $40 + 20$. T: (Write $38 + 23 \approx 40 + 20$.) What's $40 + 20$? S: 60. T: So, $38 + 23$ should be close to ...? S: 60. T: On your personal white board, solve $38 + 23$. S: (Solve.) Continue with the following possible sequence: $24 + 59/ 173 + 49/ 519 + 185$.</p>
<p>Activity: USE SUBTRACTION ALGORITHM WITH MEASUREMENTS (4 minutes) Materials: (S) Personal white board Standard: 3.NBT.A.2 EngageNY, Module 2, Lesson 19</p>	<p>Directions: This activity reviews the role of place value in the subtraction algorithm from Lesson 18. T: (Write $80 \text{ L} - 26 \text{ L} = _$.) On your personal white board, solve using the standard algorithm. Continue with the following possible sequence: $380 \text{ L} - 26 \text{ L}/ 380 \text{ L} - 126 \text{ L}/ 908 \text{ g} - 25 \text{ g}/ 908 \text{ g} - 425 \text{ g}$.</p> <p>This activity can be repeated using the same routine with the following sequence of problems: $50 \text{ L} - 28 \text{ L}/ 450 \text{ L} - 28 \text{ L}/ 450 \text{ L} - 228 \text{ L}/ 604 \text{ g} - 32 \text{ g}/ 604 \text{ g} - 132 \text{ g}$.</p>

Grade 3 Fluency Activities

<p>Activity: ESTIMATE AND SUBTRACT (4 minutes) Materials: (S) Personal white board Standard: 3.NBT.A.2 EngageNY, Module 2, Lesson 21</p>	<p>Directions: T: (Write $71 - 23 \approx \underline{\quad}$.) Say the subtraction sentence. S: $71 - 23$. T: Say the subtraction sentence, rounding each number to the nearest ten. S: $70 - 20$. T: (Write $71 - 23 \approx 70 - 20$.) What's $70 - 20$? S: 50. T: So, $71 - 23$ should be close to...? S: 50. T: On your boards, answer $71 - 23$. S: (Solve.) Continue with the following suggested sequence: $47 - 18$/ $574 - 182$/ $704 - 187$.</p>
<p>Computation Practice Standard: 3.NBT.A.2</p>	<ul style="list-style-type: none"> · Add a three-digit and two-digit number so that the total is within 1000 · Add two three-digit numbers so that the total is within 1000 · Subtract two-digit from three-digit number · Subtract two-digit from three-digit number with regrouping · Subtract three-digit from three-digit number · Complete the three-digit addition equation · Complete the three-digit subtraction equation · Balance the three-digit addition or subtraction equation
<p>Activity: GROUP COUNTING (5 minutes) Materials: None Notes: Basic skip-counting skills from Grade 2 shift focus in this Grade 3 activity. Group counting lays a foundation for interpreting multiplication as repeated addition. When students count groups in this activity, they add and subtract groups of 2 when counting up and down. Standard: 3.OA.C.7 EngageNY, Module 1, Lesson 1</p>	<p>Directions: T: Let's count to 20 forward and backward. Watch my fingers to know whether to count up or down. A closed hand means stop. (Show signals during the explanation.) T: (Rhythmically point up until a change is desired. Show a closed hand; then point down.) S: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0. T: Let's count to 20 forward and backward again. This time whisper every other number. Say the other numbers in a regular voice. S: (Whisper) 1, (speak) 2, (whisper) 3, (speak) 4, (whisper) 5, (speak) 6, etc. T: Let's count to 20 forward and backward again. This time, hum every other number instead of whispering. As you hum, think of the number. S: (Hum), 2, (hum), 4, (hum), 6, etc. T: Let's count to 20 forward and backward again. This time, think every other number instead of humming. S: (Think), 2, (think), 4, (think), 6, etc. T: What did we just count by? Turn and talk to your partner. S: Twos. T: Let's count by twos. (Direct students to count forward to and backward from 20, changing directions at times.)</p>

Grade 3 Fluency Activities

<p>Activity: GROUP COUNTING (3 minutes) Materials: None Notes: Basic skip-counting skills from Grade 2 shift focus in this Grade 3 activity. Standard: 3.OA.C.7 EngageNY, Module 1, Lesson 2</p>	<p>Directions: T: Let's count by twos. (Direct students to count forward and backward to 20, periodically changing directions.) T: Let's count by threes. (Direct students to count forward and backward to 21, periodically changing directions. Emphasize the 9 to 12 and 18 to 21 transitions.)</p>
<p>Activity: MULTIPLY WITH TWOS (5 minutes) Materials: (S) Personal white board, twos array (Fluency Template), blank paper Notes: Students unit count objects in an array and write multiplication sentences that match the count-by. Standard: 3.OA.C.7 EngageNY, Module 1, Lesson 7</p>	<p>Directions: T: Slip your template into your personal white board. T: Turn your board so that it's vertical. Use your blank paper to cover all but the first row of dots. T: How many twos show? S: 1 two. T: Say the multiplication sentence to represent the array that's shown and solve. S: $1 \times 2 = 2$. T: Uncover another row. Continue this sequence having students uncover twos for $2 \times 2/ 3 \times 2/ 10 \times 2/ 4 \times 2/ 5 \times 2/ 6 \times 2/ 7 \times 2/ 9 \times 2/ 8 \times 2$.</p>
<p>Activity: MULTIPLY BY 2 PATTERN SHEET 1-5 (8 minutes) Materials: (S) Multiply by 2 (1-5) (Pattern Sheet) Notes: This activity builds fluency with multiplication facts using units of 2. It works toward students knowing from memory all products of two one-digit numbers. Standard: 3.OA.C.7 EngageNY, Module 1, Lesson 9</p>	<p>Directions: T: (Write $5 \times 2 = _$.) Let's skip-count by twos to find the answer. (Count with fingers to 5 as students count. Record skip-count on the board.) S: 2, 4, 6, 8, 10. T: (Circle 10 and write $5 \times 2 = 10$ above it. Write $3 \times 2 = _$.) Let's skip-count up by twos again. (Count with fingers to 3 as students count.) S: 2, 4, 6. T: Let's see how we can skip-count down to find the answer, too. Start at 10 with 5 fingers, 1 for each two. (Count down with your fingers as students say numbers.) S: 10 (5 fingers), 8 (4 fingers), 6 (3 fingers). Repeat the process for 4×2. T: Let's practice multiplying by 2.</p> <p><i>Directions for Administration of Multiply-By Pattern Sheet:</i></p> <ul style="list-style-type: none"> • Distribute Multiply-By Pattern Sheet. • Allow a maximum of 2 minutes for students to complete as many problems as possible. • Direct students to work left to right across the page. • Encourage skip-counting strategies to solve unknown facts.

Grade 3 Fluency Activities

<p>Activity: MULTIPLY BY 2 PATTERN SHEET 6-10 (8 minutes)</p> <p>Materials: (S) Multiply by 2 (6-10) (Pattern Sheet)</p> <p>Notes: This activity builds fluency with multiplication facts using units of 2. It works toward students knowing from memory all products of two one-digit numbers.</p> <p>Standard: 3.OA.C.7</p> <p>EngageNY, Module 1, Lesson 10</p>	<p>Directions:</p> <p>T: (Write $7 \times 2 = _$.) Let's skip-count up by twos. (Count with fingers to 7 as students count.)</p> <p>S: 2, 4, 6, 8, 10, 12, 14.</p> <p>T: This time, let's start from 10 to find our answer more quickly. Show 5 fingers all at once to show 10.</p> <p>S: (Show 5 fingers.)</p> <p>T: Now, count by twos from 10. Raise another finger for each two you count. (Model as students count.)</p> <p>S: 10, 12, 14. (Raise a sixth finger at 12, and a seventh finger at 14.)</p> <p>T: Let's see how we can skip-count down to find the answer, too. Start at 20. (Show 10 fingers to represent 20. Hide one finger at a time as students say numbers.)</p> <p>S: 20, 18, 16, 14.</p> <p>Repeat the process for 9×2 and 8×2.</p> <p>T: (Distribute Multiply by 2 Pattern Sheet.) Let's get some practice multiplying by 2. Be sure to work left to right across the page.</p>
<p>SPRINT: MULTIPLY OR DIVIDE BY 2 (9 minutes)</p> <p>Materials: (S) Multiply or Divide by 2 Sprint</p> <p>Notes: This activity builds fluency with multiplication and division using units of 2. It works toward students' ability to multiply and divide fluently within 100.</p> <p>Standard: 3.OA.C.7</p> <p>EngageNY, Module 1, Lesson 13</p>	<p>Directions:</p> <p>To view directions for administering the Sprints, please see Appendix.</p>

Grade 3 Fluency Activities

Activity: GROUP COUNTING (6 minutes)

Materials: (S) Personal white board

Note: This group counting activity reviews units of 6 and the relationship between multiplication and division.

Standard: 3.OA.C.7

Directions:

T: Count by sixes to 60. (Write on the board as students count.)

S: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60.

6	12	18	24	30	36	42	48	54	60
1 six	2 sixes	3 sixes	4 sixes	5 sixes	6 sixes	7 sixes	8 sixes	9 sixes	10 sixes
$6 \div 6$	$12 \div 6$	$18 \div 6$	$24 \div 6$	$30 \div 6$	$36 \div 6$	$42 \div 6$	$48 \div 6$	$54 \div 6$	$60 \div 6$

T: (Beneath 6, write 1 six. Point to the 12.) 12 is the same as how many sixes?

S: 2 sixes.

T: (Write 2 sixes beneath 12. Point to the 18.) 18 is the same as how many sixes?

S: 3 sixes.

T: (Write 3 sixes beneath 18. Point to 1 six.) Let's count units of 6. (Write as students count.)

S: 1 six, 2 sixes, 3 sixes, 4 sixes, 5 sixes, 6 sixes, 7 sixes, 8 sixes, 9 sixes, 10 sixes.

T: (Point to 60.) How many sixes are in 60?

S: 10 sixes.

T: (Beneath 10 sixes, write $60 \div 6 =$.) What's $60 \div 6$?

S: 10.

T: (Write $60 \div 6 = 10$. Beneath 1 six, write $6 \div 6 =$.) On your personal white board, write the number sentence.

S: ($6 \div 6 = 1$.)

Repeat the process for the rest of the chart.

[EngageNY, Module 6, Lesson 5](#)

Grade 3 Fluency Activities

<p>Activity: MULTIPLY BY 6 (7 minutes)</p> <p>Materials: (S) Multiply by 6 (1– 5) (Pattern Sheet)</p> <p>Note: This activity builds fluency with multiplication facts using units of 6. It works toward students knowing from memory all products of two one-digit numbers.</p> <p>Standard: 3.OA.C.7</p> <p>EngageNY, Module 6, Lesson 6</p>	<p>Directions:</p> <p>T: (Write $5 \times 6 = _$.) Let's skip-count up by sixes to find the answer. (Raise a finger for each number to track the count. Record the skip-count answers on the board.)</p> <p>S: 6, 12, 18, 24, 30.</p> <p>T: (Circle 30, and write $5 \times 6 = 30$ above it. Write $3 \times 6 = _$.) Let's skip-count up by sixes again. (Track with fingers as students count.)</p> <p>S: 6, 12, 18.</p> <p>T: Let's see how we can skip-count down to find the answer, too. Start at 30 with 5 fingers, 1 for each six.</p> <p>(Count down with your fingers as students say numbers.)</p> <p>S: 30 (5 fingers), 24 (4 fingers), 18 (3 fingers).</p> <p>Repeat the process for 4×6.</p> <p>T: (Distribute Multiply by 6 Pattern Sheet.) Let's practice multiplying by 6. Be sure to work left to right across the page.</p>
<p>Activity: MULTIPLY BY 6 (8 minutes)</p> <p>Materials: (S) Multiply by 6 (6–10) (Pattern Sheet)</p> <p>Note: This activity builds fluency with multiplication facts using units of 6. It works toward students knowing from memory all products of two one-digit numbers. See Lesson 6 for the directions for administration of a Multiply-By Pattern Sheet.</p> <p>Standard: 3.OA.C.7</p> <p>EngageNY, Module 6, Lesson 7</p>	<p>Directions:</p> <p>T: (Write $7 \times 6 = _$.) Let's skip-count up by sixes. I'll raise a finger for each six. (Raise a finger for each number to track the count. Record the skip-count answers on the board.)</p> <p>S: 6, 12, 18, 24, 30, 36, 42.</p> <p>T: Let's see how we can skip-count down to find the answer, too. Start at 60 with 10 fingers, 1 for each six.</p> <p>(Count down with fingers as students say numbers.)</p> <p>S: 60 (10 fingers), 54 (9 fingers), 48 (8 fingers), 42 (7 fingers).</p> <p>Continue with the following suggested sequence: 9×6, 6×6, and 8×6.</p> <p>T: (Distribute Multiply by 6 Pattern Sheet.) Let's practice multiplying by 6. Be sure to work left to right across the page.</p>

Grade 3 Fluency Activities

Activity: GROUP COUNTING (3 minutes)

Materials: (S) Personal white board

Note: This group counting activity reviews the relationship between counting by a unit and multiplying and dividing with that unit.

Standard: 3.OA.C.7

Directions:

T: Count by sixes to 60.

S: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60.

T: (Write 4 sixes = _) Write the number sentence.

S: (Write 4 sixes = 24.)

T: Write 4 sixes as a multiplication sentence.

S: (Write $4 \times 6 = 24$.)

T: (Write $48 \div 6 = _$) Write the number sentence. Count by sixes if you're unsure.

S: (Write $48 \div 6 = 8$.)

T: Count by eights to 80.

S: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80.

T: (Write 3 eights = _) Write the number sentence.

S: (Write 3 eights = 24.)

T: Write 3 eights as a multiplication sentence.

S: (Write $3 \times 8 = 24$.)

T: (Write $56 \div 8 = _$) Write the number sentence. Count by eights if you're unsure.

S: (Write $56 \div 8 = 7$.)

T: Count by nines to 90.

S: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90.

T: (Write 4 nines = _) Write the number sentence.

S: (Write 4 nines = 36.)

T: Write 4 nines as a multiplication sentence.

S: (Write $4 \times 9 = 36$.)

T: (Write $54 \div 9 = _$) Write the number sentence. Count by nines if you're unsure.

S: (Write $54 \div 9 = 6$.)

[EngageNY. Module 6, Lesson 9](#)

Appendix

Directions: A Sprint has two parts, A and B, with closely related problems on each. Each part is organized into four quadrants that move from simple to complex. This builds a challenge into each Sprint for every learner. Before the lesson, print Sprint A and Sprint B on two separate sheets of paper. Students complete the two parts of the Sprint in quick succession with the goal of improving for the second part, even if only by one more. With practice, the following routine takes about 9 minutes.

SPRINT A

Place Sprint A face down on student desks, and instruct students not to look at the problems until a signal is given.

T: You will have 60 seconds to do as many problems as you can. I do not expect you to finish all of them, just as many as you can, trying for your personal best.

T: Take your mark! Get set! THINK!

Students turn papers over and work furiously to finish as many problems as they can in 60 seconds. Time precisely.

T: Stop! Circle the last problem you completed. I will read just the answers. If you got the answer right, call out “Yes!” If you made a mistake, circle it. Ready?

Repeat to the end of Sprint A or until no student has a correct answer.

T: Now, at the top of the page, write the number of problems you got correct. This is your personal goal for Sprint B.

T: How many of you got one right? (All hands should go up.)

T: Keep your hand up until I say a number that is one more than the number you got right. So, if you got 14 right, when I say 15, your hand goes down. Ready?

T: (Continue quickly.) How many got two right? Three? Four? Five? (Continue until all hands are down.)

If the class needs more practice with Sprint A, continue with the optional routine presented below.

T: Take one minute to do more problems on this half of the Sprint.

As students work, the student who scored highest on Sprint A might pass out Sprint B.

T: Stop! I will read just the answers. If you got it right, call out “Yes!” If you made a mistake, circle it. Ready?

Read the answers to the first half again as students stand.

Movement: To keep the energy and fun going, do a stretch or a movement game in between Sprints.

SPRINT B

Place Sprint B face down on student desks, and instruct students not to look at the problems until a signal is given. Repeat the procedure for Sprint A up through the show of hands for how many correct answers.

T: Stand up if you got more correct on the second Sprint than on the first.

S: (Stand.)

T: Keep standing until I say the number that tells how many more you got right on Sprint B. If you got three more right on Sprint B than on Sprint A, when I say three, you sit down. Ready?

Call out numbers, starting with one. Students sit as the number by which they improved is called. Students may take Sprints home.