GRADE 4:
Resources for Developing Grade-Level Fluencies

RELEVANT STANDARD:
4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

HOW TO USE THESE RESOURCES:
This document provides a set of short activities extracted from Engage NY, an Open Education Resource, to supplement the fluency practice in *GO Math!*. Although many *GO Math!* lessons include "Fluency Builders," they don't always align to grade-level expectations. Teachers are encouraged to use the activities that do align to the above standard and supplement with the resources in this document.

These activities are designed to support students' progress toward the grade level fluency articulated in 4.NBT.B.4. They are intentionally short, providing educators the flexibility to use them before or after a lesson or anytime during the school day. Some of the fluency activities review prerequisite skills and can be used starting very early in the school year. Many of the activities can be repeated as needed throughout the year using different numbers.

GRADE-SPECIFIC NOTES:
The last resource (Core Fluency Differentiated Problem Sets) is intended to be used repeatedly towards the end of the school year as formative assessment on students' proficiency with adding and subtracting multi-digit numbers.

USE ACTIVITIES BELOW BEFORE LESSON 1.6

1. **RENAME THE UNITS** (5 minutes)
   Materials: (S) Personal white board
   Directions:
   T: (Write 54,783.) Say the number.
   S: 54,783.
   T: How many thousands are in 54,783?
   S: 54 thousands.
   T: (Write 54,783 = _____ thousands ____ ones.) On your personal white board, fill in the equation.
   S: (Write 54,783 = 54 thousands 783 ones.)
   T: How many ten thousands are in 54,783?
   S: 5 ten thousands.
   T: (Write 54,783 = _____ ten thousands ____ hundreds ____ ones.) On your board, fill in the equation.
   S: (Write 54,783 = 5 ten thousands 47 hundreds 83 ones.)
   Follow the same process and sequence for 234,673.
   EngageNY, Module 1, Lesson 6

2. **ADD COMMON UNITS** (3 minutes)
   Materials: (S) Personal white board
   Note: This mental math fluency activity prepares students for understanding the importance of the algorithm.
   Directions:
   T: (Project 303.) Say the number in unit form.
   S: 3 hundreds 3 ones.
   T: (Write 303 + 202 = ____.) Say the addition sentence, and answer in unit form.
   S: 3 hundreds 3 ones + 2 hundreds 2 ones = 5 hundreds 5 ones.
   T: Write the addition sentence on your personal white boards.
   S: (Write 303 + 202 = 505.)
   Repeat the process and sequence for 505 + 404; 5,005 + 5,004; 7,007 + 4,004; and 8,008 + 5,005.
   EngageNY, Module 1, Lesson 11

3. **SUBTRACT COMMON UNITS** (6 minutes)
   Materials: (S) Personal white board
   Note: This mental math fluency activity prepares students for understanding the importance of the subtraction algorithm.
   Directions:
   T: (Project 707.) Say the number in unit form.
   S: 7 hundreds 7 ones.
   T: (Write 707 – 202 =____.) Say the subtraction sentence and answer in unit form.
   S: 7 hundreds 7 ones – 2 hundreds 2 ones = 5 hundreds 5 ones.
   T: Write the subtraction sentence on your personal white boards.
   S: (Write 707 – 202 = 505.)
   Repeat the process and sequence for 909 – 404; 9,009 – 5,005; 11,011 – 4,004; and 13,013 – 8,008.
   Engage NY, Module 1, Lesson 13

4. **ADD UP TO THE NEXT UNIT** (3 minutes)
   Directions:
   T: (Write 8.) How many more to make 10?
   S: 2.
   T: (Write 80.) How many more to make 100?
   S: 20.

T: (Write 84.) How many more to make 100?
S: 16.
Repeat with the following numbers to make 1000: 200, 250, 450, 475, 600, 680, 700, 720, 800, 805, 855, and 945.
EngageNY, Module 1, Lesson 19

5. **FIND THE SUM/DIFFERENCE** (6 minutes)
Materials: (S) Personal white board
Note: This fluency activity prepares students for understanding the importance of the algorithm.
Directions:
T: (Write 417 + 232 =____.) Solve by writing horizontally or vertically.
S: (Write 417 + 232 = 649.)
Repeat the process and sequence for 7,073 + 2,312; 13,705 + 4,412; 3,949 + 451; 538 + 385 + 853; and 23,944 + 6,056 + 159,368.
EngageNY, Module 1, Lesson 12

This activity can be repeated using the same routine with the following sequences of problems:

- 6,065 + 3,731
- 13,806 + 4,393
- 5,928 + 124
- 629 + 296 + 962.
- 7,045 – 4,003
- 845 – 18
- 5,725 – 915
- 34,736 – 2,806.
- 8,056 – 5,004
- 935 – 17
- 4,625 – 815
- 45,836 – 2,906.

USE ACTIVITIES BELOW AFTER CHAPTER 1

1. **RENAME UNITS TO SUBTRACT** (5 minutes)
Note: This fluency activity supports further practice of decomposing a larger unit to make smaller units in order to subtract.
Directions:
T: (Write 1 ten – 6 ones.) Am I ready to subtract?
S: No.
T: Rename 1 ten as 10 ones. Say the entire number sentence.
S: 10 ones minus 6 ones is 4 ones.
Repeat with 2 tens – 6 ones, 2 tens – 1 ten 6 ones, 1 hundred – 6 tens, 2 hundreds – 4 tens, 3 hundreds – 1 hundred 4 tens, 5 thousands – 3 hundreds, 5 thousands – 3 thousands 3 hundreds, 2 ten thousands – 3 hundreds.
EngageNY, Module 1, Lesson 19

2. **ADD AND SUBTRACT** (4 minutes)
Materials: (S) Personal white board
Note: This fluency activity reviews the yearlong Grade 4 fluency standard for adding and subtracting using the standard algorithm.
Directions:
T: (Write 654 thousands 289 ones.) On your personal white boards, write this number in standard form.
S: (Write 654,289.)
T: (Write 245 thousands 164 ones.) Add this number to 654,289 using the standard algorithm.
S: (Write 654,289 + 245,164 = 899,453 using the standard algorithm.)
Continue the process for 591,848 + 364,786.
T: (Write 918 thousands 670 ones.) On your board, write this number in standard form.
S: (Write 918,670.)
T: (Write 537 thousands 159 ones.) Subtract this number from 918,670 using the standard algorithm.
S: (Write 918,670 – 537,159 = 381,511 using the standard algorithm.)
Continue the process for 784,182 – 154,919 and 700,000 – 537,632.

EngageNY, Module 4, Lesson 1

This activity can be repeated using the same routine with the following sequences of problems:

- 756,498 + 175,645
- 482,949 + 375,678
- 800,000 – 648,745
- 754,912 – 154,189

- 543,178 + 134,153
- 481,737 + 253,675
- 817,560 – 426,145
- 673,172 – 143,818
- 600,000 – 426,521.

- 765,198 + 156,185
- 681,959 + 175,845
- 716,450 – 325,139
- 451,151 – 122,616
- 500,000 – 315,415.

- 532,367 + 423,142
- 671,526 + 264,756
- 916,450 – 615,137
- 762,162 – 335,616
- 500,000 – 358,219

- 547,686 + 294,453
- 645,838 + 284,567
- 800,000 – 648,745
- 754,912 – 154,189

- 457,393 + 385,142
- 465,758 + 492,458
- 300,000 – 137,623
- 534,803 – 235,257

- 547,936 + 270,654
- 547,239 + 381,798
- 500,000 – 213,724
- 635,704 – 395,615

- 676,696 + 153,884
- 678,717 + 274,867
- 300,000 – 134,759
- 734,902 – 477,479

- 547,869 + 362,712
- 459,623 + 353,683
- 800,000 – 352,951
- 805,813 – 368,265

- 643,857 + 247,728
- 658,437 + 144,487
- 400,000 – 346,286
- 609,428 – 297,639

- 473,379 + 473,379
- 384,917 + 384,917
- 700,010 – 199,856
- 900,080 – 288,099

- 699,999 + 155,755
- 456,789 + 498,765
- 400,001 – 235,165
- 708,050 – 256,089

3. **GRADE 4 CORE FLUENCY DIFFERENTIATED PRACTICE SETS** (5 minutes)

Materials: (S) Core Fluency Practice Sets

Note: In this lesson and throughout G4–Module 7, Fluency Practice includes an opportunity for review and mastery of the addition and subtraction algorithm by means of the Core Fluency Practice Sets. Four options are provided in this lesson:

a) Practice Set A is multi-digit addition.
b) Practice Set B is multi-digit subtraction.
c) Practice Set C is multi-digit subtraction with zeros in the minuend.
d) Practice Set D is multi-digit addition and subtraction.

All Practice Sets have a Part 1 and a Part 2. Note that Part 2 has fewer regroupings and may be used for students working below grade level. The answers to both Practice Sets are the same for ease of correction.

Students complete as many problems as possible in 120 seconds. Collect any Practice Sets that have been completed within the 120 seconds and check the answers. Students who do not finish in 120 seconds can be encouraged to use their Practice Sets for practice at home or for remedial practice in the classroom. The next time the Practice Sets are used, students who have successfully completed their set with 100% accuracy can move to the next level. Others should repeat the same level until mastery. Keep a record of student progress.

For early finishers, assign a counting pattern and start number, e.g., "Finish early? Count by sevens starting at 168 on the back of your Practice Set." Celebrate improvement and advancement. Encourage students to compete with themselves rather than their peers. Notify caring adults of each child's progress.

Engage NY, Module 7, Lesson 2

COMPUTATION PRACTICE:

- Add Two Whole Numbers with Carrying (4-6 Digits)
- Subtract Two Whole Numbers with Regrouping (4-6 Digits)
- Determine the Unknown Number in 4-Digit to 6-Digit Addition Equation
- Determine the Unknown Number in 4-Digit to 6-Digit Subtraction Equation