



Foundational Lessons for Accelerating Math Education (FLAME) Unit Assessments

Purpose

Foundational Lessons for Accelerating Math Education (FLAME) provides teachers with tools to build, track, and support the development of grade-level math fluency for students in grades K-5. Materials are organized into three units per grade level. Each unit provides teachers with various activities designed to support the development of the expected [fluency skills](#) at each grade level. Units also include guidance to help teachers identify students whose skills are fluent, progressing, or emerging. Each unit provides parent reports explaining how families can support their child's learning.

FLAME unit assessments provide opportunities for students to apply skills and fluency built throughout the use of FLAME lessons. These assessments also provide opportunities for students to explain their thinking and processes to give teachers a deeper understanding of the student's knowledge and more information to make informed decisions about next steps for the student. FLAME unit assessment items along with the formative assessments included in each unit, can be used to track students' progress toward fluency.

Teachers should anticipate that some of their students will need additional practice with the skills beyond what is provided through the activities. By using the data collected through daily formative assessments and unit assessments and growing understanding of fluency development, teachers have the power to ensure that their students will build grade-appropriate [fluency skills](#).

Manipulatives

All students in kindergarten through Grade 1 should be allowed to use manipulatives on all FLAME unit assessments. Additionally, any student at any grade who has documented accommodations to use manipulatives should be allowed to use them on FLAME unit assessments. Beyond Grade 1, please see the rubric for the assigned question for guidance on manipulatives.

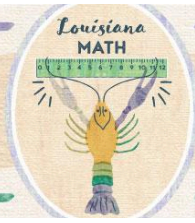
Scoring and Next Steps

If students score in the beginning range on any standard on the FLAME unit assessment please review FLAME activities for that standard with the students and readminister the FLAME unit assessment at the appropriate time for the student.

If you have additional questions or feedback on these assessments, please do not hesitate to contact the Louisiana Math team at STEM@la.gov.

Louisiana's Math Pillars





FLAME Grade 2 Unit 2 Assessment Teacher Answer Key

Item 1

Conner's teacher wrote the following equation on the board:

$$5 \text{ ones} + 3 \text{ hundreds} = \underline{\hspace{2cm}}$$

Conner said, "I can write this number in different ways!"

Write the number in written, standard, and expanded forms, and draw a model to represent the number.

Explain how you know your model is correct.

Standard: 2.NBT.A.3

Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

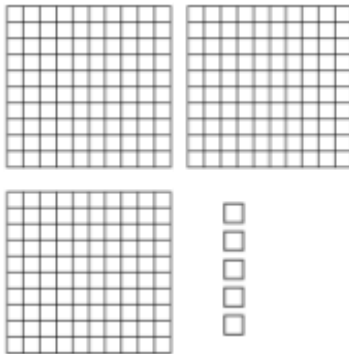
Sample Correct Drawings

Sample 1

305 (standard)

three hundred five (word)

$300 + 5$ (expanded)

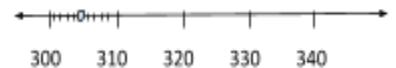


Sample 2

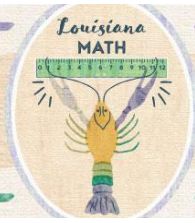
305 (standard)

three hundred five (word)

$300 + 5$ (expanded)



****These are not the only acceptable drawings. Any drawing that makes a connection to the base-ten units is acceptable.***



Rubric

Consistent - Student's performance demonstrates they are showing **consistent** understanding of the standard.

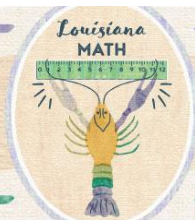
- The student accurately:
 - Writes 305 in number form or standard form, word form, and expanded form
 - AND**
 - represents 305 using base-ten blocks, pictorial representations, or other concrete materials
 - AND**
 - connects place value understanding to a written explanation.
Students may use representations other than base-ten blocks including box, line, dot drawing of base-ten blocks, place value cards, place value mats, and number lines.

Progressing - Student's performance demonstrates they are **progressing** toward understanding the standard.

- The student accurately:
 - Writes 305 in number form or standard form, word form, and expanded form
 - AND**
 - represents 305 using base-ten blocks, pictorial representations, or other concrete materials
 - BUT**
 - is unable to connect place value understanding to a written explanation.

Beginning - Student's performance demonstrates that they are **beginning** to understand the standard.

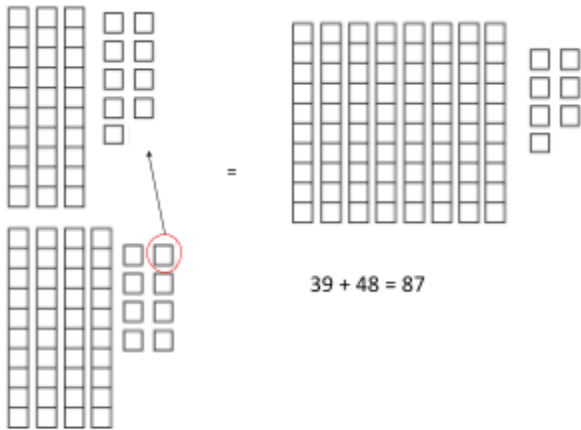
- The student:
 - **ONLY** writes 305 in number form or standard form, word form, **OR** expanded form.
 - OR**
 - Is unable to represent 305 using base-ten blocks, pictorial representations, or other concrete materials.
 - OR**
 - Is unable to connect place value understanding to a written explanation.
 - OR**
 - Is unable to link the values of the parts with the order of the digits (*student writes 53 or does not recognize that there are no tens in the number*).



Item 2

Jenna and Riley solved the following problem using different strategies.

$$39 + 48$$



Jenna's Way

$$\begin{aligned} 30 + 40 &= 70 \\ 9 + 8 &= 17 \\ 70 + 17 &= 87 \end{aligned}$$

Riley's Way

$$39 + 48 = 87$$

How did Jenna solve the problem? How did Riley solve the problem?

How are their strategies similar? How are they different?

Use a strategy different from Jenna and Riley to solve the problem and justify your reasoning.

Standard: 2.NBT.B.5

Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Sample Correct Drawings

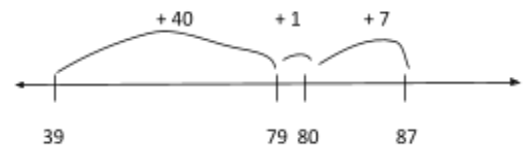
Sample 1

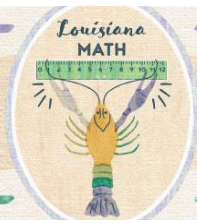
$$\begin{aligned} 39 + 10 &= 49 \\ 49 + 10 &= 59 \\ 59 + 10 &= 69 \\ 69 + 10 &= 79 \\ 79 + 8 &= 87 \end{aligned}$$

Sample 2

$$\begin{aligned} 39 + 1 &= 40 & 48 - 1 &= 47 \\ 40 + 47 &= 87 \end{aligned}$$

Sample 3





***These are not the only acceptable drawings. Any drawing that shows pictorial representations or strategies to find the solution are acceptable.**

Rubric

Consistent - Student's performance demonstrates they are showing **consistent** understanding of the standard.

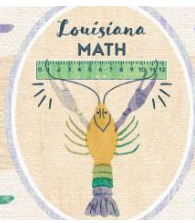
- The student accurately:
 - Explains that Jenna used base-ten blocks to combine ones to make a ten, then combined like units to get 87
 - AND**
 - explains that Riley added by place value, combining tens and ones
 - AND**
 - explains that their strategies are similar because they both used place value to find the sum, and their strategies are different because they decomposed and recomposed values in different ways
 - AND**
 - finds the sum using a strategy different from the two given
 - AND**
 - makes connections between their chosen strategies and written explanation. *Students engage with mathematical practice 3, construct viable arguments and critique the reasoning of others, when analyzing Jenna and Riley's strategies, make sense of their strategies, and evaluate their validity.*

Progressing - Student's performance demonstrates they are **progressing** toward understanding the standard.

- The student accurately:
 - Explains that Jenna used base-ten blocks to combine ones to make a ten, then combined like units to get 87
 - AND**
 - explains that Riley added by place value combining tens and ones
 - AND**
 - explains that their strategies are similar because they both used place value to find the sum
 - OR**
 - their strategies are different because they decomposed and recomposed values in different ways
 - AND**
 - finds the sum using strategy different from the one given
 - BUT**
 - is unable to accurately or clearly make connections between their chosen strategies and written explanation (*the model provides evidence that the student understands how to add two two-digit numbers within 100. However, the student does not provide reasoning*).

Beginning - Student's performance demonstrates that they are **beginning** to understand the standard.

- The student:
 - Finds the sum of 39 and 48 without concrete or pictorial representation (*there is no written evidence*)
 - AND**



- recognizes that Jenna and Riley use place value strategies to find the sum of 39 and 48
BUT
- is unable to find similarities and differences in their strategies.

Item 3

Find the sum.

$$35 + 43 + 17 + 38$$

Explain your answer using models and words.

Standard: 2.NBT.B.6

Add up to four two-digit numbers using strategies based on place value and properties of operations.

Sample Correct Drawings

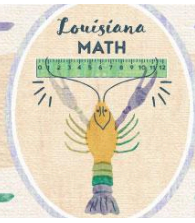
Sample 1	Sample 2		Sample 3
$30 + 40 + 10 + 30 = 110$	$(35 + 43) + (17 + 38)$	I added the first two numbers of the problem together to get 78. Then I added the next two numbers to get 53. This made it easier to add. 78 plus 53 equals 133	$(43 + 17) + (35 + 38)$
$5 + 3 + 7 + 8 = 23$	$78 + 53$		$60 + 73$
$110 + 23 = 133$	133		133

**These are not the only acceptable models. Any model that demonstrates strategies based on place value and properties of operations is acceptable.*

Rubric

Consistent - Student's performance demonstrates they are showing **consistent** understanding of the standard.

- The student accurately:
 - Draws a model to show how 133 is the sum of the four numbers
AND
 - makes clear written connections between model and explanation of chosen strategy.
OR
 - demonstrates knowledge of procedures and strategies that demonstrate fluency
AND
 - knowledge of when and how to use strategies appropriately and skill in performing them flexibly, accurately, and efficiently.



Grade 2 students may demonstrate the informal use of commutative and associative property.

Progressing - Student's performance demonstrates they are **progressing** toward understanding the standard.

- The student accurately:
 - Draws a model to show how 133 is the sum of the four numbers
- BUT**
- does not connect the model to an explanation.

Beginning - Student's performance demonstrates that they are **beginning** to understand the standard.

- The student:
 - **ONLY** writes 133 as the sum of the four numbers (*there is no written evidence*).
- OR**
- Is unable to provide an appropriate strategy to support the solution.

Item 4

Teal has 287 beads in her craft jar. Her sister gives her 554 beads.

How many beads does Teal have in all?

Explain your answer using models and words.

Standard: 2.NBT.B.7

Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Sample Correct Drawings

Sample 1

$$287 + 554 = \underline{\quad}$$

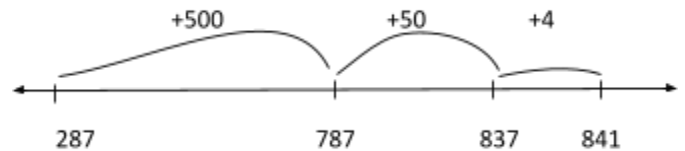
$$200 + 500 = 700$$

$$80 + 50 = 130$$

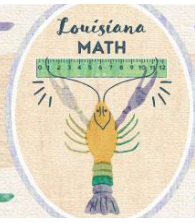
$$7 + 4 = 11$$

$$700 + 130 + 11 = 841$$

Sample 2



I used a number line to show how to add 554 to 287. First, I added hundreds, then the tens, and the ones.



***These are not the only acceptable models. The standard algorithm of carrying or borrowing is not an expectation in second grade. Students are not expected to add or subtract whole numbers using a standard algorithm until fourth grade.**

Rubric

Consistent - Student's performance demonstrates they are showing **consistent** understanding of the standard.

- The student accurately:
 - Uses a concrete model or drawing to support the solution of 841

AND

 - justifies the reasoning used with a written explanation.

Progressing - Student's performance demonstrates they are **progressing** toward understanding the standard.

- The student accurately:
 - Uses a concrete model or drawing to support the solution 841

BUT

 - does not justify the reasoning with a written explanation.

Beginning - Student's performance demonstrates that they are **beginning** to understand the standard.

- The student:
 - **ONLY** writes 841 as the solution (*there is no written evidence*)

OR

 - is unable to provide reasoning that supports the answer.

Item 5

Will has \$453. He earns \$10 a week for completing his chores.

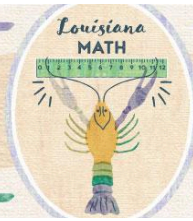
If Will saves all of his money, how much will he have in six weeks?

Will's sister, Emily, has \$100 less than Will. How much money does Emily have?

Explain your answers using models and words.

Standard: 2.NBT.B.8

Mentally add 10 or 100 to a given number 100 - 900, and mentally subtract 10 or 100 from a given number 100 - 900.



Sample Correct Drawings

Sample 1

Will

\$453, \$463, \$473, \$483, \$493, \$503, \$513

Emily

$\$513 - \$100 = \$413$

Sample 2

Will

Start: \$453

Week 1: \$463

Week 2: \$473

Week 3: \$483

Week 4: \$493

Week 5: \$503

Week 6: \$513

Emily

\$100 less than \$513 is \$413

Will had \$453 and adds \$10 each week. So, $\$453 + 10 + 10 + 10 + 10 + 10 + 10$ equals \$513. Emily has \$100 less than Will so I subtracted \$100 from \$513.

**These are not the only acceptable models. Any model that demonstrates adding and subtracting 10 and 100 is acceptable.*

Rubric

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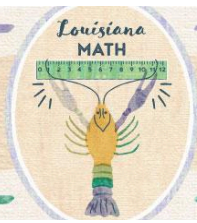
- The student accurately:
 - Finds the solution mentally stating that Will will have \$513 and Emily will have \$413
AND
 - draws a model to explain their calculation strategy
AND
 - connects the model to a written explanation.

Progressing - Student's performance demonstrates they are **progressing** toward understanding the standard.

- The student accurately:
 - Finds the solution mentally stating that Will will have \$513 and Emily will have \$413
AND
 - draws a model to explain their calculation strategy.
BUT
 - does not connect the model to a written explanation.

Beginning - Student's performance demonstrates that they are **beginning** to understand the standard.

- The student:
 - **ONLY** writes \$513 to indicate how much Will has
AND
 - **ONLY** writes \$413 to indicate how much Emily has (there is no written evidence)
OR
 - is unable to provide an appropriate strategy to support the solution.



Name _____

FLAME Grade 2 Unit 2 Assessment

Item 1

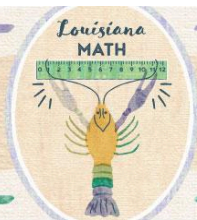
Conner's teacher wrote the following equation on the board:

$$5 \text{ ones} + 3 \text{ hundreds} = \underline{\hspace{2cm}}$$

Conner said, "I can write this number in different ways!"

Write the number in written, standard, and expanded forms, and draw a model to represent the number.

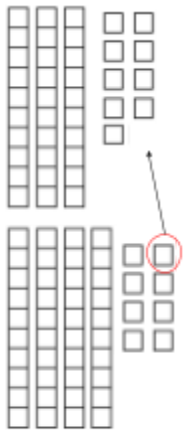
Explain how you know your model is correct.



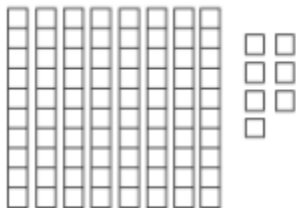
Item 2

Jenna and Riley solved the following problem using different strategies.

$$39 + 48$$



=



$$39 + 48 = 87$$

Jenna's Way

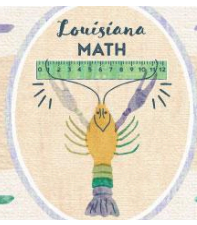
$$\begin{aligned} 30 + 40 &= 70 \\ 9 + 8 &= 17 \\ 70 + 17 &= 87 \end{aligned}$$

Riley's Way

How did Jenna solve the problem? How did Riley solve the problem?

How are their strategies similar? How are they different?

Use a strategy different from Jenna and Riley to solve the problem and justify your reasoning.

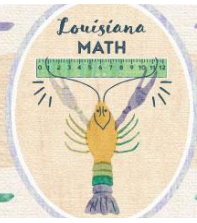


Item 3

Find the sum.

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Explain your answer using models and words.

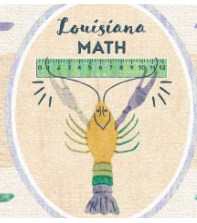


Item 4

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