



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.

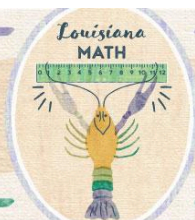
Scoring and Next Steps

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 3 Assessment Teacher Answer Key

Item 1

Mr. Raymond wrote the following equation on the board:

$$684 = \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$

Eddie said, "The number is 684 because you just write the digits in order."

Lilly said, "The number is 684 because 68 tens equals 680 and 4 ones equals 4. So, $680 + 4 = 684$."

Do you agree with Eddie or Lilly?

Explain your reasoning with models and words.

Standard: 2.NBT.A.3

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

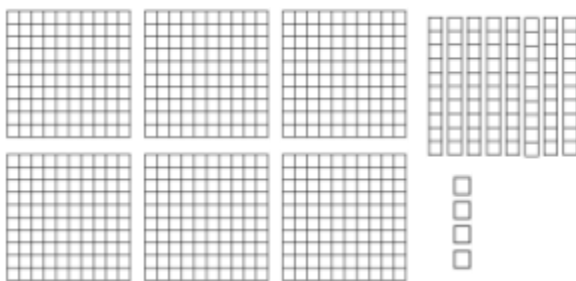
Sample Correct Drawings

Sample 1

$$68 \text{ tens} = 680$$

$$4 \text{ ones} = 4$$

$$680 + 4 = 684$$



I think Lilly is right because 1 hundred equals 10 tens. If there are 6 hundreds, that equals 60 tens. There are also 8 tens. So, 60 tens plus 8 tens equals 68 tens. And there are 4 ones.

Sample 2

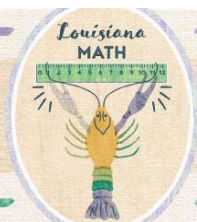
$$684 = 600 + 80 + 4$$

$$684 = 6 \text{ hundreds} + 8 \text{ tens} + 4 \text{ ones}$$

$$684 = 60 \text{ tens} + 8 \text{ tens} + 4 \text{ ones}$$

$$684 = 68 \text{ tens} + 4 \text{ ones}$$

***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:
 - Constructs argument to support Lilly's justification using concrete referents
 - AND**
 - represents 684 using base-ten blocks, pictorial representations, or other concrete materials
 - OR**
 - writes 684 using base-ten numerals, number names, or expanded form
 - AND**
 - connects place value understanding to a written explanation.

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

- The student accurately:
 - Constructs argument to support Lilly's justification using concrete referents
 - AND**
 - represents 684 using base-ten blocks, pictorial representations, or other concrete materials
 - OR**
 - writes 684 using base-ten numerals, number names, or expanded form
 - 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:
 - Does not construct an argument to support Lilly's justification
 - BUT**
 - represents 684 using base-ten blocks, pictorial representations, or other concrete materials.
 - OR**
 - Writes 684 using base-ten numerals, number names, or expanded form
 - BUT**
 - is unable to connect place value understanding to a written explanation.

Item 2

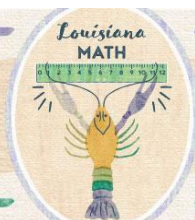
Sam asked how to solve the following equation.

$$93 - 29 = \underline{\quad}$$

Use a model and words to explain to Sam how to solve this equation.

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

$$29 + \underline{1} = 30$$

$$30 + \underline{60} = 90$$

$$90 + \underline{3} = 93$$

$$1 + 61 + 3 = 64,$$

So, $93 - 29 = 64$

I counted up from 29. I added 1 to get 30. Then, I added 6 tens to get to 90. Then I added 3 ones to get 93. $1 + 60 + 3 = 64$.

Sample 2

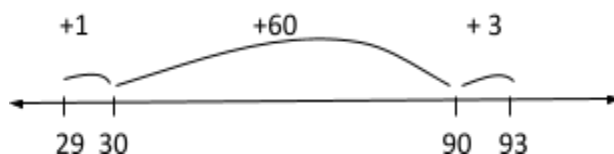
$$93 - \underline{10} = 83$$

$$83 - \underline{10} = 73$$

$$73 - \underline{10} = 63$$

$$63 + \underline{1} = 64$$

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:
 - Uses models to connect subtraction strategies to place value, properties of operations, and/or the relationship between addition and subtraction

AND

 - writes 64 as the missing value
- AND**
- makes connections between their chosen strategies and written explanation.

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

- The student accurately:
 - Uses models to connect subtraction strategies to place value, properties of operations, and/or the relationship between addition and subtraction

AND

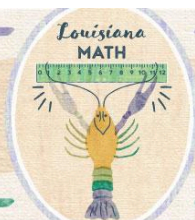
 - writes 64 as the missing value
- BUT**
- is unable to make connections between their chosen strategies and written explanation.

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

- The student:
 - **ONLY** writes 64 as the missing value (*there is no written evidence*)

AND

- uses models to connect subtraction strategies to place value, properties of operations, and/or the relationship between addition and subtraction.



Item 3

Gracie wants to read a 480-page book. She is on page 186.

How many more pages does she need to read to finish the book?

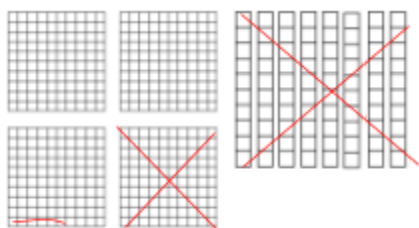
Explain your answer using models and words.

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



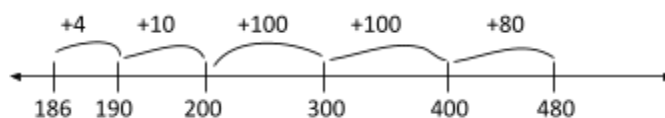
$$480 - 100 = 380$$

$$380 - 80 = 300$$

$$300 - 6 = 294$$

I drew 480 using flats and rods. To subtract 100, I crossed out a flat. To subtract 80, I crossed out 8 tens. Then I crossed out 6 ones. That left 2 hundreds and 94 ones which equals 294.

Sample 2



$$480 - 186 = 200 + 90 + 4$$

$$480 - 186 = 294$$

Sample 3

$$480 - 186 = \underline{\quad}$$

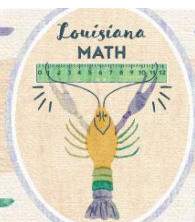
$$480 - 100 = 380$$

$$380 - 80 = 300$$

$$300 - 5 = 295$$

$$295 - 1 = 294$$

***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 294

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 294

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 294 as the solution (*there is no written evidence*)

OR

 - is unable to provide reasoning that supports the answer.

Item 4

Miss Banks wrote the following question on the board:

What is 1 hundred less than 973?

Miss Banks recorded the responses of three students

Nina: 971

Lucy: 963

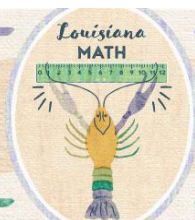
Jade: 873

Which student's response is correct?

Use models and words to explain your choice.

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

$$973 - 100 = 873$$

Jade is correct because if you subtract 100 from 973, you have 1 less hundred and that is 873.

Sample 2

$$\begin{array}{r} 973 = 9 \text{ hundreds } 7 \text{ tens } 3 \text{ ones} \\ - 1 \text{ hundred } 0 \text{ tens } 0 \text{ ones} \end{array}$$

$$8 \text{ hundred } 7 \text{ tens } 3 \text{ ones}$$

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

Rubric

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

- The student accurately:
 - Constructs argument to explain that Jade's response is correct

AND

 - draws a model to explain counting back by 100

AND

 - connects the model to a written explanation.

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

- The student accurately:
 - Constructs argument to explain that Jade's response is correct

AND

 - draws a model to explain counting back by 100

BUT

 - does not connect the model to a written explanation.

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

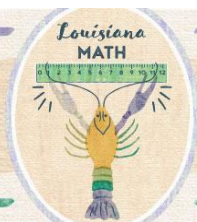
- The student:
 - **ONLY** writes Jade is correct (there is no written evidence)

OR

 - **ONLY** writes 873 (there is no model to represent counting back by 100)

OR

 - is unable to provide an appropriate strategy to support the solution.



Name _____

FLAME Grade 2 Unit 3 Assessment

Item 1

Mr. Raymond wrote the following equation on the board:

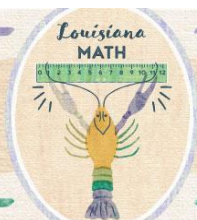
$$684 = \underline{\quad} \text{ tens} + \underline{\quad} \text{ ones}$$

Eddie said, "The number is 684 because you just write the digits in order."

Lilly said, "The number is 684 because 68 tens equals 680 and 4 ones equals 4. So, $680 + 4 = 684$."

Do you agree with Eddie or Lilly?

Explain your reasoning with models and words.

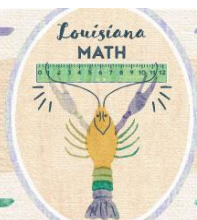


Item 2

Sam asked how to solve the following equation.

$$93 - 29 = \underline{\hspace{2cm}}$$

Use a model and words to explain to Sam how to solve this equation.

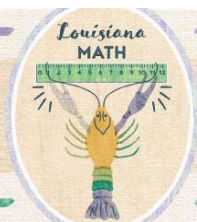


Item 3

Gracie wants to read a 480-page book. She is on page 186.

How many more pages does she need to read to finish the book?

Explain your answer using models and words.



Item 4

Miss Banks wrote the following question on the board:

What is 1 hundred less than 973?

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Nina: 971

Lucy: 963

Jade: 873

Which student response is correct?

Use models and words to explain your choice.
