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 3 Unit 3 Assessment
Teacher Answer Key

Item 1

Kiya has some beads. She lines up the beads to show the product of 6 x 4.

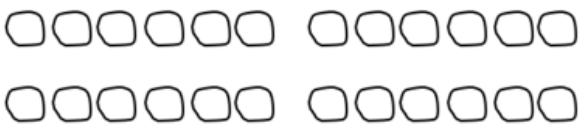
How many beads does Kiya have?

Draw a model to show Kiya's product another way. Explain your reasoning.

Standard: 3.OA.B.5
Apply properties of operations as strategies to multiply and divide.

Sample Correct Drawings

Sample 1



Sample 2

$$6 \times 4 = (3 + 3) \times 4$$
$$= (3 \times 4) + (3 \times 4)$$
$$= 12 + 12$$
$$= 24$$

Sample 3: Kiya has 24 beads. I made 24 by making 4 groups with 6 beads in each group, showing that 4 x 6 equals 24.

Sample 4: Kiya has 24 beads. I made 24 a different way by making two groups of 3 and multiplying them by 4. 3x4= 12, and 12 + 12 equals 24.

Sample 5: Kiya has 24 beads. I modeled her beads by creating 2 groups of 12 beads in each.

These <u>are not</u> the only acceptable drawings and/or explanations.*

Rubric

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

- The student accurately:
  - Gives product of 24 beads

    AND
  - represents a model showing 6 x 4 using the commutative property

    OR
  - represents a model showing 6 x 4 using the distributive property

    AND
  - explains the model used and reasoning shows understanding of property used.

    Note: Students do not need to use the formal terms for these properties, student must understand that properties are rules about how numbers work, and they need to be flexibly and fluently applying each of them in various situations

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

- The student accurately:
  - Gives product of 24 beads

    AND
  - models to show another way to solve 6 x 4

    BUT
  - explanation does not expand on knowledge of additional factor pairs of 24 besides restatement of the present equation.

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

- The student:
  - Gives correct product of 24 beads

    BUT
  - cannot explain the model with correct reasoning.

Item 2

Write a multiplication equation that has the same value as 48 ÷ 4?

Justify your equation with a model and explanation.

Standard: 3.OA.C.7

Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations.

Sample Correct Drawings

Sample 1

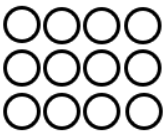
1 x 12

Sample 2

2 x 6

Sample 3

3 x 4



Sample Explanation: 48 divided by 4 is 12. My multiplication problem of *a* x *b* also equals 12 because *a* groups of *b* creates 12. (Student can use any factor pair for *a* and *b* that correctly multiplies to equal 12)
****These <u>are not</u> the only acceptable drawings/explanation.***

Rubric

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

- The student accurately:
  - creates an equivalent multiplication equation

    AND
  - provides a model to correspond with the multiplication equation used

    AND
  - does so fluently (quickly and accurately) with using strategies such as the relationship between multiplication and division or properties of operations.

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

- The student accurately:
  - creates an equivalent multiplication equation

    AND
  - provides an accurate model representing multiplication equation

    BUT
  - does not perform math fluently (quickly and accurately) with using strategies such as the relationship between multiplication and division or properties of operations.

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

- The student:
  - creates an equivalent multiplication equation

    BUT
  - cannot justify using a model

    OR
  - cannot create an equivalent multiplication problem.

Name _____

FLAME Grade 3 Unit 3 Assessment

Item 1

Kiya has some beads. She lines up the beads to show the product of 6 x 4.

How many beads does Kiya have?

Draw a model to show Kiya's product another way. Explain your reasoning.

Item 2

Write a multiplication equation that has the same value as 48 ÷ 4?

Justify your equation with a model and explanation.