CORE Assessment Module
Module Overview

Content Area	Mathematics
Title	Theater Field Trip
Grade Level	Grade 3
Problem Type	Performance Task

Standards for Mathematical Practices	**Mathematical Practice 2 (MP2):** Reason abstractly and quantitatively.
	 Mathematically proficient students:
	 • Make sense of quantities and their relationships in problem situations.
	 • Bring two complementary abilities to bear on problems involving quantitative relationships:
	    o Decontextualize—to abstract a given situation and represent it symbolically; and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents) and
	    o Contextualize— to pause as needed during the manipulation process in order to probe into the referents for the symbols involved).
	 • Use quantitative reasoning that entails creating a coherent representation of the problem at hand, considering the units involved, attending to the meaning of quantities (not just how to compute them) and knowing and flexibly using different properties of operations and objects.

Common Core State Standards	**3.OA.1** Interpret products of whole numbers. **3.OA.3** Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **3.OA.5** Apply properties of operations as strategies to multiply and divide.[2] *Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)*
SBAC Assessment Claims	**Claim 2**: **Problem Solving**—Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.
Task Overview	Students will be asked to solve multiplication problems involving two classrooms visiting the theater and discuss the properties used. They will also be asked to design a seating chart for the theater manager using their knowledge of multiplication.
Module Components	1) Scoring Guide 2) Performance Task

[2]Students need not use formal terms for these properties.

Theater Field Trip
Scoring Guide

Description Credit for specific aspects of performance should be given as follows:	Points	Total Points
1. Student gives correct answer: 24 elementary students	1	2
Response should include some of these "look-for" phrases: • I drew 3 groups of 8. • I drew 3 rows of 8. • I multiplied 3 x 8. • I added 8 three times. (Credit can be given for incorrect arithmetic, but correct process)	1	
2. Student gives correct answer: 4 elementary students should sit in each row.	1	2
Student shows work. (This may include a correct process, but incorrect arithmetic.)	1	
3. Student gives correct answer: 48 high school students are going to the show.	1	2
Response should include some of these "look-for" phrases: (Credit can be given for incorrect arithmetic but correct process) • I broke 24 into 6 x 4 and multiplied the 4 times 2 to get 6 x 8. • I multiplied 24 x 2. • I added 24 + 24. • I broke 24 into 20 + 4 and multiplied 20 x 2 and 4 x 2, and then added them together.	1	
4. Student gives correct answer: 8 high school students should sit in each row.	1	2
Student shows work. (This may include a correct process, but incorrect arithmetic.)	1	
5. Student gives correct answer: 72 students are in the theater	1	3
Student diagram should include:		
• 6 rows of 4 elementary students	1	
• 8 high school students in each row	1	
TOTAL POINTS: (possible points = 11 points)		

Theater Field Trip

One elementary drama class and one high school drama class have earned a field trip to the local theater to watch a performance today.

1. Mr. Guzman's elementary drama class is going to the theater for the show. They are traveling in three vans. Each van holds eight students. How many students are going to the show? Show how you figured this out.

2. There are six rows in the theater. Mr. Guzman wants an equal number of students to sit in each row. How many students should sit in each row? Show how you figured it out.

3. Mrs. Stewart's high school class is also going to the show. She has two times as many students as Mr. Guzman. How many high school students are in the theater for the show? Show how you figured this out?

4. Mrs. Stewart wants her students to sit with an equal number of students in each of the six rows. How many high school students should sit in each row? Show how you figured this out.

5. The theater manager needs to make a seating chart to make sure all the students will have a seat for the performance. Show the total number of students seated in theater and how they will be seated by drawing a diagram of the theater. Label the students as either "G" for Mr. Guzman or "S" for Mrs. Stewart.