



CORE Assessment Module Module Overview

Content Area	Mathematics
Title	Improving Our School
Grade Level	Grade 5
Problem Type	Performance Task
Standards for Mathematical Practice	<p>Mathematical Practice 3 (MP3): Construct viable arguments and critique the reasoning of others.</p> <p>Mathematically proficient students:</p> <ul style="list-style-type: none"> • Understand and use stated assumptions, definitions, and previously established results in constructing arguments. • Make conjectures and build a logical progression of statements to explore the truth of their conjectures. • Analyze situations by breaking them into cases, and can recognize and use counterexamples. • Justify their conclusions, communicate them to others, and respond to the arguments of others. • Reason inductively about data, making plausible arguments that take into account the context from which the data arose. • Compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. • Construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. • Can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
Common Core State Standards	<p>5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p>5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p>5.NF.7b Interpret division of a whole number by a unit fraction, and compute such quotients</p>
SBAC Assessment Claims	Claim 3: Communicating Reasoning —Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.
Task Overview	Students will be asked to solve some constructed response questions involving multiplication and division of whole numbers and/or fractions in part one of the task. In part two, students will critique a student work sample and explain why the problem was solved incorrectly.
Module Components	<p>1) Scoring Guide</p> <p>2) Task</p>

Improving Our School Scoring Guide

Part	Description	Points	Total Points
Credit for specific aspects of performance should be given as follows:			
1	1. Student draws a picture showing $\frac{1}{2}$ divided into 3 parts. Student writes an equation: either $\frac{1}{2} \div 3 = \frac{1}{6}$ or $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$ Student gives correct answer: $\frac{1}{6}$ of the large planter	1 1 1	3
	2. Student gives correct answer: $\frac{1}{9}$ of the large planter Student shows work either as a drawing or as $\frac{2}{3} \times \frac{1}{6} = \frac{1}{9}$	1 1	2
	3. Student gives correct answer: 12 rose bushes Student shows work either as a drawing or as $3 \div \frac{1}{4} = 12$	1 1	2
	4. Student gives correct answer: each break was 10 minutes Student shows a drawing dividing up the 30 minutes into 3 areas Student writes an explanation that should include: 15 minutes multiplied by 6 is 90 minutes, subtracted from 120 minutes leaves 30 minutes (or any other reasonable explanation).	1 1 1	3
	5. Response should include two correct scenarios, and a solution, drawing and equation for each. (1 pt. for each) Examples include for $5 \div \frac{1}{3}$: <i>Each group has 5 gallons of water. The flowers take $\frac{1}{3}$ of a gallon of water with plant food to feed each one. How many flowers can they feed? 15 flowers</i> For $\frac{1}{4} \div 3$: <i>There are 3 different kinds of flowers they would like to plant. They will all be planted in $\frac{1}{4}$ of the garden section that the group has been given. How much of the garden will each flower take up? $\frac{1}{12}$ of the garden</i>	0-4 0-4	8
			18
TOTAL POINTS: (possible points = points)			

Improving Our School

A class of fifth graders wanted to improve the look of their school. They cleaned up garden planters and planted rose bushes, working in 3 smaller groups.



Part 1

1. The class was given $\frac{1}{2}$ of the large planter at the school to clean up and plant flowers, so each group had to share the $\frac{1}{2}$ equally. Draw a picture and write an equation to show how much of the $\frac{1}{2}$ each group would be working on, then solve.

2. One group cleaned up $\frac{2}{3}$ of their section before lunch. How much of the large planter did they get clean? Use drawings or an equation to show how you solved this.

3. Each group had a 3 lb. bag of gardening soil. If each rose bush takes $\frac{1}{4}$ lb. of soil to plant, how many rose bushes can each group plant?

Use drawings or an equation to show how you solved this.

Student Name _____

4. Another group of students planted 6 rose bushes. It took them 2 hours because they took 3 breaks. If the amount of time to plant a rose bush was a quarter hour, how long was each break if the breaks were of equal amounts of time?

Show how you solved this, include a drawing, and explain how you solved it.

Part 2

5. Using the groups in the problems above, create two story situations where they are cleaning and planting. One for $5 \div \frac{1}{3}$ and one for $\frac{1}{4} \div 6$. Write the situations and then solve using drawings and equations.

