Inspect
CCR Performance Tasks

Math Grade 2: Divide Shapes

Inspect offers the following assessment products:
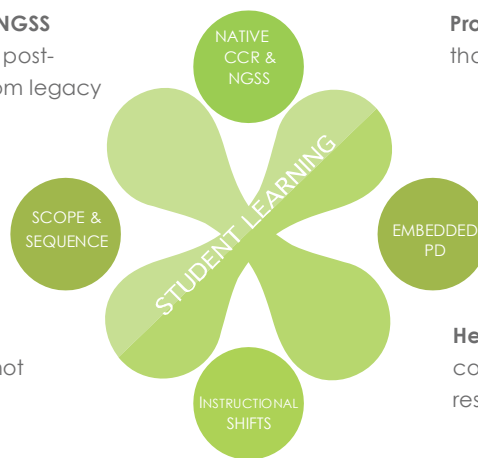
Content Bank for English/Language Arts and Math Grades 2 – High School	▪ More than 36,000 items ▪ More 1500 complex texts, including authentic permissioned texts ▪ Includes Literacy in History, Social Science, Science, and Technical Subjects
Quick Checks for English/Language Arts and Math Grades 2 – High School	▪ Fixed-form assessments with five to seven items including constructed response ▪ Key instructional concepts embedded in standards (clusters for Math, staircase of text complexity for ELA)
Focused Interim Assessments for English/Language Arts and Math Grades 3 – High School	▪ Prebuilt assessments with up to 15 items that focus on groups of related standards within a Claim or domain ▪ More focused than summative assessments ▪ Flexible and customizable ▪ Mirrors SBAC IAB blueprints
NGSS Formative Assessments Grades 5 – High School	▪ Prebuilt assessments with items linked to experimental contexts that assess the three dimensions of science learning ▪ Flexible and customizable ▪ Addresses the California Course Models and NGSS Bundles
Observational Tasks for English/Language Arts and Math Grades K - 1	▪ Developmentally appropriate for individual students and small groups

Inspect Assessment Content is available through a variety of assessment administration and data analysis platforms.

Inspect assessment content offers these benefits:

Native college- and career-ready and NGSS content prepares students to meet their post-secondary goals. Content re-aligned from legacy standards cannot do this.

Professional development embedded within content that

- ▪ shows the relationship between specific skills and higher-order thinking
- ▪ includes authentic, permissioned texts of appropriate complexity
- ▪ and documents student progress using DOK and learning progressions

Content that addresses your scope and sequence so that your assessments do not waste valuable instruction time

Help for teachers addressing the instructional shifts with content that elicits evidence of learning from each response

NATIVE CCR & NGSS

SCOPE & SEQUENCE

STUDENT LEARNING

EMBEDDED PD

INSTRUCTIONAL SHIFTS

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CCR Performance Tasks

Math Grade 2: Divide Shapes

Student Test Booklet

Name:

Student Rubric

This problem tests if you can:
• Divide shapes into parts that are the same size;
• Describe the parts of a whole using fraction words like "halves," "thirds," and "fourths."

Your teacher will give your answer a 4, 3, 2, 1, or 0.

This is how you get a 4:
Your answer is correct and complete.
• You correctly divide a rectangle into parts of the same size in two different ways;
• You correctly divide a rectangle into parts that are the same size but different shapes;
• You correctly use fraction words to describe the parts.

This is how you get a 3:
Your answer is mostly correct but you make some minor mistakes.
• You correctly divide a rectangle into parts that are the same size in two different ways;
• You are not able to divide a rectangle into parts that are the same size but different shapes;
• You correctly use fraction words to describe the parts.

This is how you get a 2:
You do not answer one part, or you make some mistakes in several parts.
• You correctly divide a rectangle into parts that are the same size in only one way;
• You are not able to divide a rectangle into parts that are the same size but different shapes;
• You make some mistakes using fraction words to describe the parts.

This is how you get a 1:
You do not answer two parts or you make mistakes in all the parts.
• You are not able to correctly divide a rectangle into parts that are the same size;
• You are not able to divide a rectangle into parts that are the same size but different shapes;
• You do not correctly use fraction words to name the parts.

This is how you get a 0:
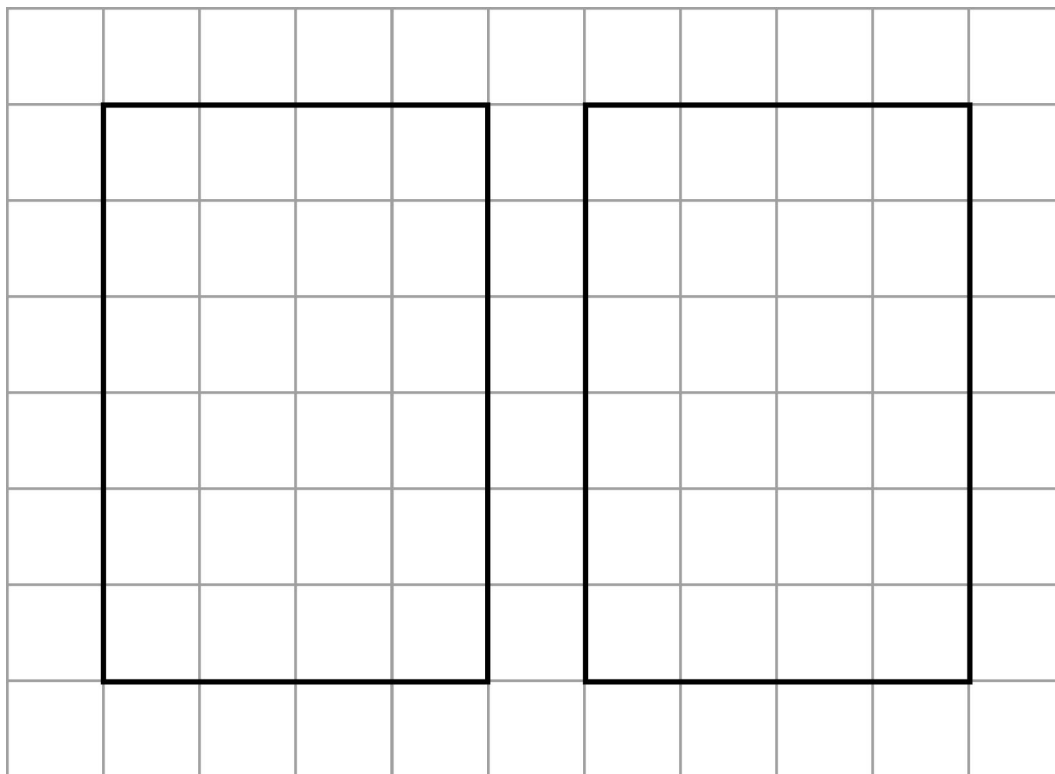You do not answer the question or your teacher cannot understand your answer.

Math Grade 2: Divide Shapes

Complete all the tasks in the test booklet.

1   **A. Two rectangles are shown below. Draw lines in the rectangles to show two different ways of dividing the rectangles into 4 equal parts.**
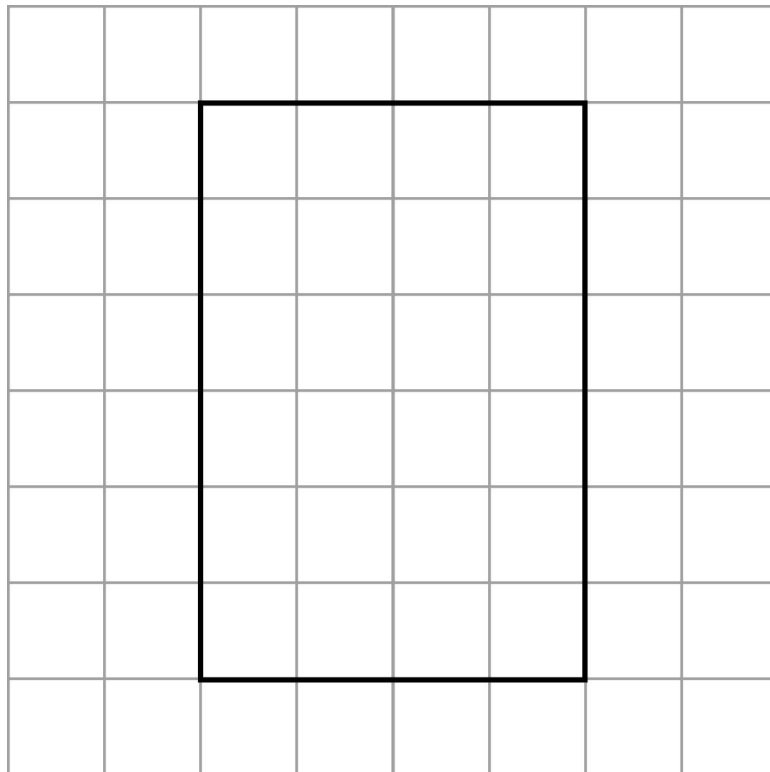
Go On

B. Divide the rectangle below into 4 parts that each cover the same amount of space. Make each part a different shape.

C. What fraction words describe the parts of the rectangle you drew in part A? in part B? Explain how you know.

STOP

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CCR Performance Tasks

Math Grade 2: Divide Shapes

Teacher Guide

About the Teacher Guide

This document contains support materials for "Math Grade 2: Divide Shapes."

This includes:

   (a) The task
   (b) The standards and depth of knowledge level of the task
   (c) The scoring rubric
   (d) Discussion questions
   (e) Extension activities

These specifications have been included to help you connect the task to the Common Core content standards and the standards for mathematical practice. The rubric is designed to help you look for the development of mathematical practices in student work. It is also here to help you look for consistencies in student content errors that can help guide intervention and reteach strategies.

Test Definition File

| Item #	Correct Answer	Practice Standard	Content Standards
1	See Scoring Rubric	Mathematical Practice 7	2.G.2, 2.G.3

| SBAC Claims	PARCC Sub-Claims
1 and 2	B and D

Specific Instructions

Students may benefit from having colored pencils or crayons to draw the partitions.

Performance Task

A. Two rectangles are shown below. Draw lines in the rectangles to show two different ways of dividing the rectangles into 4 equal parts.
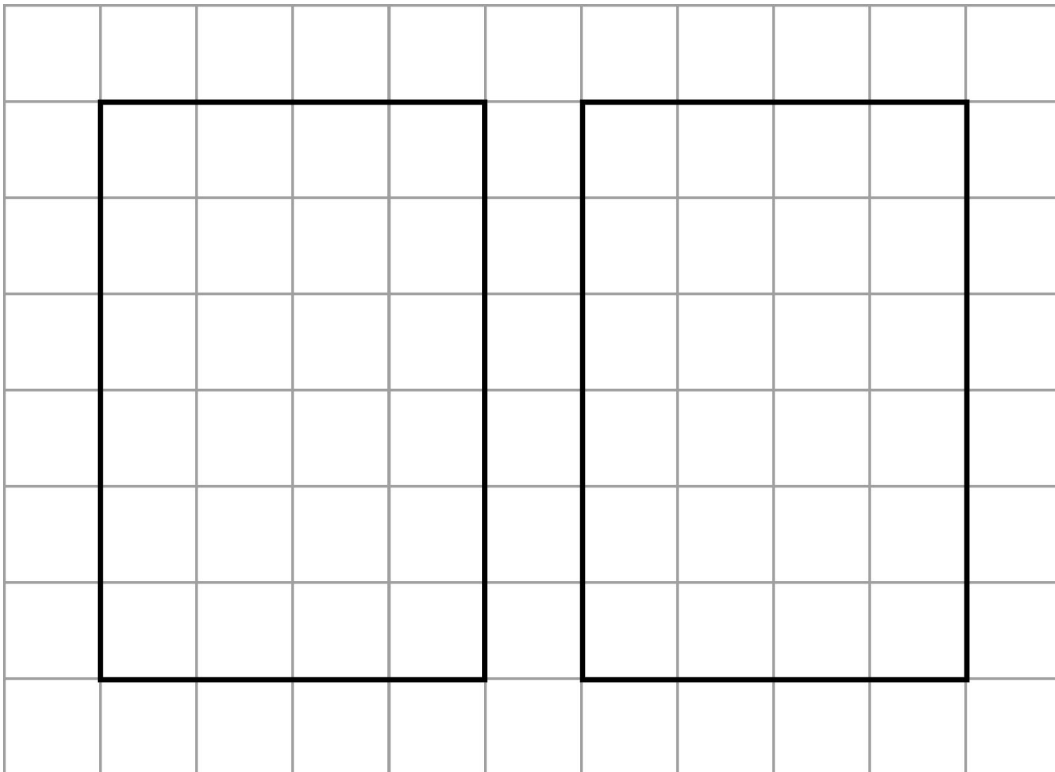
B. Divide the rectangle below into 4 parts that each cover the same amount of space. Make each part a different shape.
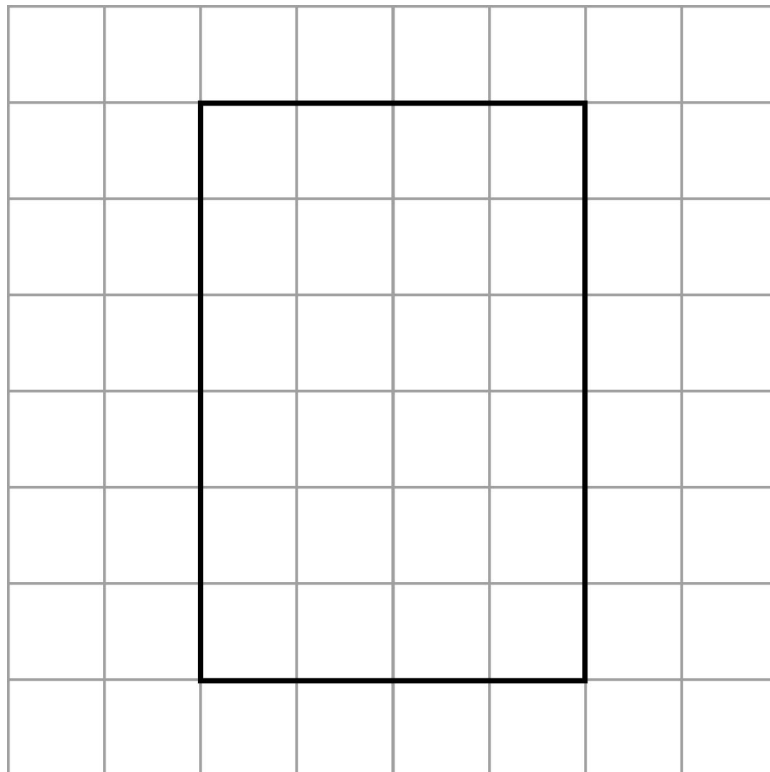
C. What fraction words describe the parts of the rectangle you drew in part A? in part B? Explain how you know.

Standards Alignment

MP7 > DOK 3

Look for and make use of structure. -- Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers *x* and *y*.

Content Standards

2.G.2
Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

2.G.3
Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves, thirds, half of, a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

SBAC Claims

Mathematics Claim #1:
Concepts and Procedures. Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.

Mathematics 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.

PARCC Sub-Claims

Sub-Claim B:
Additional and Supporting Content with Connections to Practices. The student solves problems involving the Additional and Supporting Content for her grade/course with connections to the Standards for Mathematical Practice.

Sub-Claim D:
Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Scoring Rubric

4 Point Response:

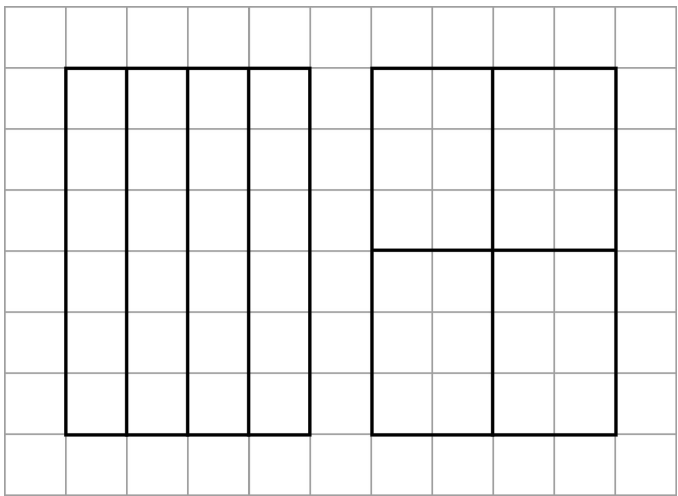The response demonstrates a high level of understanding. A level 4 response is characterized by:
- A strong ability to partition a rectangle into same-sized parts in different ways;
- A solid understanding that equal parts of a whole need not have the same shape;
- A solid understanding of how to name fractional parts.
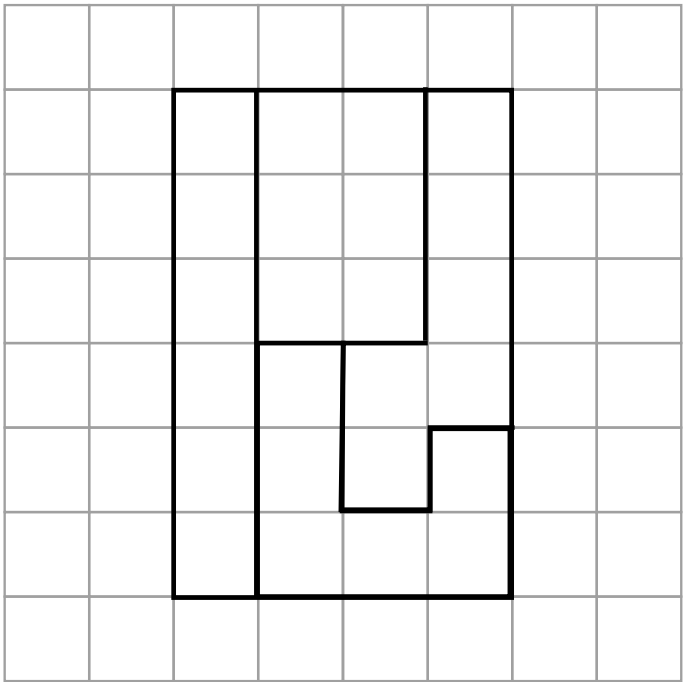
A level 4 response should include:
- A correct answer in part A that shows two distinct partitions of the rectangles;
- A correct decomposition of the rectangle in part B into 4 parts with the same size but different shapes;
- A correct identification of all of the parts as fourths.

A sample level 4 response follows.

Part A:

Part B:

Part C:

"They are all fourths even though they have different shapes. I know they are fourths because it takes four pieces that are all the same size to cover the whole."

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3 Point Response:
The response demonstrates a strong understanding, but the work contains minor errors. A level 3 response is characterized by:
- A strong ability to partition a rectangle into same-sized parts in different ways;
- A weak understanding that equal parts of a whole need not have the same shape. The student may make an error in this part such as making parts the same shape;
- A basic understanding of how to name fractional parts. The student may not know how to name the different-shaped parts in part B.

2 Point Response:
The response demonstrates a basic but incomplete understanding. A level 2 response is characterized by:
- A basic ability to partition a rectangle into same-sized parts. The response includes one correct partition;
- A weak understanding that equal parts of a whole need not have the same shape. The student may leave this part blank or draw different shapes that do not have the same size;
- A basic understanding of how to name fractional parts. The student may be able to name some of the parts of the rectangle in part A but may be confused by the different shapes or errors made in other partitions.

1 Point Response:
The response demonstrates minimal understanding. A level 1 response is characterized by:
- A weak ability to partition a rectangle into same-sized parts. The parts are not the same size in any of the partitions;
- A weak understanding that equal parts of a whole need not have the same shape;
- A weak understanding of how to name fractional parts. The student may not recognize the need for equal-sized parts.
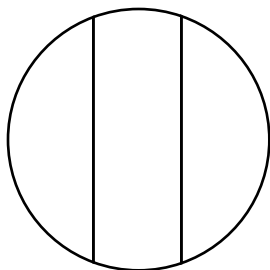
0 Point Response:
There is no response, or the response is off topic.

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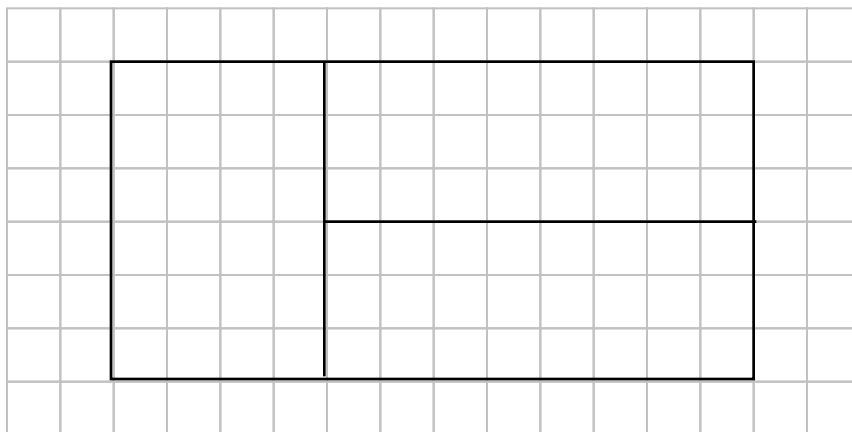education

Discussion Questions

Use the following questions to help students struggling to access the problem:

1. The circle below has been divided into three parts. Are the parts thirds? Why or why not?

Possible response: *The parts are not thirds because they are not the same size.*

2. The rectangle below is cut into three parts. Are the parts thirds? Why or why not?

Possible response: *These parts are thirds because they are all the same size even though they are different shapes. I know they are the same size because each contains 24 squares.*

Extension Activities

1. Practice dividing shapes into parts of the same size in multiple ways.

   A. Find more ways to divide the same rectangle into 4 parts that are the same size.

   B. Find ways to divide a hexagon into parts that are the same size in multiple ways.

2. Connect the idea of fractions and measurement.

   A. Divide a line segment into equal parts. Compare the divided line segment to a ruler.

   B. Have the class form small groups of 2, 3, or 4 students. Give each group a length of string. Ask one group to divide the length of string so that each person in the group gets an equal-length piece. Ask a second group to partition the length of string so that each person in the group gets two pieces of string that add up to an equal length. Have another group give each person three pieces, and so on. Have the groups come together and share their results. The rest of the class can determine if each person in the group has pieces that result in an equal length of string.