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| **Prerequisite Skills**  **(Grade 1)** | **Unit Five Standards**  **Grade 2** | **Looking Ahead**  **(Grade 3)** |
| Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. | Geometry 1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.   * I can identify that any closed 3 sided shape is a triangle. * I can identify that any closed 4 sided shape is a quadrilateral. * I can identify a pentagon. * I can determine a 2-D and 3-D shape when given a set of attributes. (angles, sides and faces). * I can draw a 2-D and 3-D shape when given a set of attributes (angles, sides and faces). | Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). |
| Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*.  Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. | Geometry 2: Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.   * I can divide a rectangle into rows and columns of same size squares (area). * I can count the number of squares in a rectangle to determine area. | Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.  *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*  Develop understanding of fractions as numbers.  Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*. |
| Geometry 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.   * I can write a fraction to represent parts of a whole. * I can divide a circle and rectangle into halves. * I can describe a circle and rectangle using the words halves and half of. * I can divide a circle and rectangle into thirds. * I can describe a circle and rectangle using the words thirds and third of. * I can divide a circle and rectangle into fourths. * I can describe a circle and rectangle using the words fourths and fourth of. * I can recognize that equal shares of the same whole have a different size and shape. |

\*In standards that are repeated in several units, the I Can Statements represent a progression of skills to scaffold learning.

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| |  |  | | --- | --- | | **Standard** | **Learner Objectives** | | Geometry 1:  Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. | * I can identify that any closed 3 sided shape is a triangle. * I can identify that any closed 4 sided shape is a quadrilateral. * I can identify a pentagon and hexagon. * I can determine a 2-D and 3-D shape when given a set of attributes. (angles, sides and faces). * I can draw a 2-D and 3-D shape when given a set of attributes (angles, sides and faces). |  |  |  | | --- | --- | | **What does this standard mean the students will know and be able to do?** | | | Second Grade students identify (recognize and name) shapes and draw shapes based on a given set of attributes. These include triangles, quadrilaterals (squares, rectangles, and trapezoids), pentagons, hexagons and cubes.  Students use the vocabulary word ―angle‖ in place of ―corner‖ but they do not need to name angle types. Shapes should be presented in a variety of orientations and configurations. | | | **Example A** | **Example B** | | **Teacher**: Draw a closed shape that has five sides. What is the name of the shape?  **Student**: I drew a shape with 5 sides. It is called a pentagon. | **Teacher:** I have 3 sides and 3 angles. What am I?  **Student:** A triangle. See, 3 sides, 3 angles. |  |  |  |  |  | | --- | --- | --- | --- | | **Lessons and Resources for Geometry 1** | | | | | [Shape Searches 1 – 6](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/shapesearches16%20(1).docx) | Unit 2 Inv 2 | [Mystery Bag Sorting](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Mystery%20Bag%20Sorting.pdf) | [Shape Sorts](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/shapesorts.docx) | | [Sorting Shape Cards](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/sortingshapecards.docx) | [What’s My Shape](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/whatmyshape.docx) | [Shape Detectives](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Shape%20Detectives.pdf) | [Identity Figures](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Identity%20Figures.pdf) |  |  |  |  |  | | --- | --- | --- | --- | | **Emphasized Standards for Mathematical Practice** | | | | | [2. Reason abstractly and quantitatively.](http://elementarymath.dmschools.org/2-reason-abstractly-and-quantitatively2.html) | [4. Model with mathematics.](http://elementarymath.dmschools.org/4-model-with-mathematics1.html) | [5. Use appropriate tools strategically](http://elementarymath.dmschools.org/5-use-appropriate-tools-strategically2.html) | [7. Look for and make use of structure.](http://elementarymath.dmschools.org/7-look-for-and-make-use-of-structure2.html) | |

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| |  |  | | --- | --- | | **Standard** | **Learner Objectives** | | Geometry 2:  Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. | * I can divide a rectangle into rows and columns of same size squares (area). * I can count the number of squares in a rectangle to determine area. |  |  | | --- | | **What does this standard mean the students will know and be able to do?** | | Second graders partition a rectangle into squares and then determine the total number of squares. This work connects to the standard Operations and Algebraic Thinking 4, where students are arranging objects in an array of rows and columns.  This standard is a precursor to learning about the area of a rectangle and using arrays for multiplication.  Remember: Rows are horizontal and Columns are vertical. | | **Example** | | **Teacher**: Partition the rectangle into 2 rows and 4 columns. How many small squares did you make?  **Student**: There are 8 squares in this rectangle. See- 2, 4, 6, 8. I folded the paper to make sure that they were all the same size.   |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | |  |  |  |  |  | | --- | --- | --- | --- | | **Lessons and Resources for Geometry 2** | | | | | Unit 2 Inv 2 | [How Many Rectangles](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/howmanyrectangles.docx) | [Building Rectangles](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/buildingrectangles.docx) | [An Array of Fact Families](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/An%20Array%20of%20Fact%20Families.pdf)  (focus on repeated addition only) |  |  |  |  | | --- | --- | --- | | **Emphasized Standards for Mathematical Practice** | | | | [2. Reason abstractly and quantitatively.](http://elementarymath.dmschools.org/2-reason-abstractly-and-quantitatively2.html) | [6. Attend to precision.](http://elementarymath.dmschools.org/6-attend-to-precision2.html) | [8. Look for and express regularity in repeated reasoning.](http://elementarymath.dmschools.org/8-look-for-and-express-regularity-in-repeated-reasoning3.html) | |

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| |  |  | | --- | --- | | **Standard** | **Learner Objectives** | | Geometry 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. | * I can write a fraction to represent parts of a whole. * I can divide a circle and rectangle into halves. * I can describe a circle and rectangle using the words halves and half of. * I can divide a circle and rectangle into thirds. * I can describe a circle and rectangle using the words thirds and third of. * I can divide a circle and rectangle into fourths. * I can describe a circle and rectangle using the words fourths and fourth of. * I can recognize that equal shares of the same whole have a different size and shape. |  |  |  |  | | --- | --- | --- | | **What does this standard mean the students will know and be able to do?** | | | | Second Grade students partition circles and rectangles into 2, 3 or 4 equal shares (regions).  Students should also work with the vocabulary terms halves, thirds, half of, third of, and fourth (or quarter) of. While students are working on this standard, teachers should help them to make the connection that a “whole” is composed of two halves, three thirds, or four fourths.  This standard also addresses the idea that equal shares of identical wholes may not have the same shape.  This standard introduces fractions in an area model. Students need experiences with different sizes, circles, and rectangles. For example, students should recognize that when they cut a circle into three equal pieces, each piece will equal one third of its original whole. In this case, students should describe the whole as three thirds. | | | | **Divide each rectangle into fourths a different way** | **Three thirds equals one whole** | **Parts of the whole** |  |  |  |  |  | | --- | --- | --- | --- | | **Lessons and Resources for Measurement and Data 3** | | | | | Unit 7 Inv 1,2 | [Fractional Parts Counting](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Fractional%20Parts%20Counting%20(3).docx) | [Linda and Ebony Sandwich](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/lindaebonysand%20(4).docx) | [Correct Shares](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Correct%20Shares.docx) | | [Missing Numbers](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Missing%20Numbers.doc) | [More, Less or Equal One](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/morelessonewhole%20(2).docx) | [Fraction Flags](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/fractionflags%20(2).docx) | [Folding and Folding Again](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/foldingfoldingagain%20(2).docx) | | [Sandwich Fractions](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/Sandwich%20fractions.pdf) | [Paper Pizzas](https://sharepoint.dmps.k12.ia.us/sites/divisions/curr/Public%20Curriculum%20Documents/Mathematics/Elementary%20Math%202013%20-%202014/2nd%20Grade/Unit%205/paper%20pizzas.pdf) |  |  |  |  |  |  |  | | --- | --- | --- | --- | | **Emphasized Standards for Mathematical Practice** | | | | | [2. Reason abstractly and quantitatively.](http://elementarymath.dmschools.org/2-reason-abstractly-and-quantitatively2.html) | [5. Use appropriate tools strategically.](http://elementarymath.dmschools.org/5-use-appropriate-tools-strategically2.html) | [6. Attend to precision.](http://elementarymath.dmschools.org/6-attend-to-precision2.html) | [8. Look for and express regularity in repeated reasoning.](http://elementarymath.dmschools.org/8-look-for-and-express-regularity-in-repeated-reasoning3.html) | |

**Optional Whole Group Lesson Progression**

Unit Pacing: 4 weeks

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| **Resource** | **Location** | **Primary Focus** | **Standard** |
| Investigations | Unit 2   * Inv 2 | * I can identify that any closed 3 sided shape is a triangle. * I can identify that any closed 4 sided shape is a quadrilateral. * I can identify a pentagon and hexagon. * I can determine a 2-D and 3-D shape when given a set of attributes. (angles, sides and faces). * I can draw a 2-D and 3-D shape when given a set of attributes (angles, sides and faces). * I can divide a rectangle into rows and columns of same size squares (area). * I can count the number of squares in a rectangle to determine area. | 2.G.1  2.G.2 |
| Investigations | Unit 7   * Inv 1, 2 (include 2.3A) | * I can write a fraction to represent parts of a whole. * I can divide a circle and rectangle into halves. * I can describe a circle and rectangle using the words halves and half of. * I can divide a circle and rectangle into thirds. * I can describe a circle and rectangle using the words thirds and third of. * I can divide a circle and rectangle into fourths. * I can describe a circle and rectangle using the words fourths and fourth of. * I can recognize that equal shares of the same whole have a different size and shape. | 2.G.3 |

**\*Units pacing is approximate. Some lessons may take more than one day. Use teacher discretion based on student need when planning unit length.**