**DOMAIN: Geometry**

**CLUSTER: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.s/a**

**Big Idea:** Two-dimensional objects can be described, classified, and analyzed by their attributes.

**Enduring Understandings:** Point, line, and plane are the core attributes of space objects, and real-world situations can be used to think about these attributes. Line segments and rays are sets of points that describe parts of lines, shapes and solids. Angles are formed by two intersecting lines or by rays with a common endpoint and are classified by size. Two-dimensional or plane shapes have many properties that make them different from one another. Polygons can be described and classified by their sides and angles. Some shapes can be reflected across one or more lines passing through the shape so the shape folds onto itself exactly.

<table>
<thead>
<tr>
<th>STANDARDS FOR MATHEMATICAL CONTENT</th>
<th>STANDARDS FOR MATHEMATICAL PRACTICE</th>
<th>RESOURCES</th>
<th>FORMATIVE ASSESSMENT</th>
</tr>
</thead>
</table>
| **4.G.1** | Draw points, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. | **MP1** Make sense of problems and persevere in solving them. | **50 Problem Solving Lessons** (Burns, 1996)  
- The Largest Square Problem, p. 105 | My Math Assessment Masters  
- Ch. 14, pp. 339-360 |
| **MP2** Reason abstractly and quantitatively. | | **About Teaching Mathematics, 2nd Ed.** (Burns, 2000)  
- Explorations Using the Geoboard, p. 95 (#1-6) | My Math Think Smart for the SBAC  
- Ch. 14 Test, p. 131  
- Ch. 14 Performance Task, p. 163 |
| **MP3** Construct viable arguments and critique the reasoning of others. | | **Common Core Georgia Performance Standards**  
- Angle Sort (Unit 6)  
- [http://ccgpsmathematics.k-5.wikispaces.com/K-5+Formative+Assessment+Lessons+%28FALs%29](http://ccgpsmathematics.k-5.wikispaces.com/K-5+Formative+Assessment+Lessons+%28FALs%29) | My Math eAssessment  
- [http://connectED.mcgraw-hill.com](http://connectED.mcgraw-hill.com) |
| **MP4** Model with mathematics. | | **EngageNY**  
- Module 4: Angle Measure and Plane Figures  
- [https://www.engageny.org/ccis-math/4g1](https://www.engageny.org/ccis-math/4g1) | |
| **MP5** Use appropriate tools strategically. | | **Illustrative Mathematics**  
- The Geometry of Letters  
- [http://www.illustrativemathematics.org/illustrations/1263](http://www.illustrativemathematics.org/illustrations/1263) | |
| **MP6** Attend to precision. | | **Math Matters K-6: Understanding the Math You Teach** (Chapin & Johnson, 2000)  
- Points of Intersection, pp.149-151 | |
| **MP7** Look for and make use of structure. | | **My Math**  
- 14-1 Draw Points, Lines, and Rays  
- 14-2 Draw Parallel and Perpendicular Lines  
- 14-11 Problem-Solving Investigation: Make a Model | |
| **MP8** Look for and express regularity in repeated reasoning. | | | |

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Grade 4 Curriculum Map  
6.26.15  
Geometry
# Grade 4 Curriculum Map 6.26.15

## Geometry

### Standards for Mathematical Content

4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. (Two dimensional shapes should include special triangles, e.g., equilateral, isosceles, scalene, and special quadrilaterals, e.g., rhombus, square, rectangle, parallelogram, trapezoid.) CA

### Standards for Mathematical Practice

- **MP1** Make sense of problems and persevere in solving them.
- **MP2** Reason abstractly and quantitatively.
- **MP3** Construct viable arguments and critique the reasoning of others.
- **MP4** Model with mathematics.
- **MP5** Use appropriate tools strategically.
- **MP6** Attend to precision.
- **MP7** Look for and make use of structure.
- **MP8** Look for and express regularity in repeated reasoning.

### Resources

- **About Teaching Mathematics, 2nd Ed.** (Burns, 2000)
  - Explorations Using the Geoboard, p. 95

- **Common Core Georgia Performance Standards**
  - Angle Sort (Unit 6)
  - [http://ccgpsmathematicsk-5.wikispaces.com/K-5+Formative+Assessment+Lessons+%28FALs%29](http://ccgpsmathematicsk-5.wikispaces.com/K-5+Formative+Assessment+Lessons+%28FALs%29)

- **engageNY**
  - Module 4: Angle Measure and Plane Figures
    - [https://www.engageny.org/ccis-math/4g2](https://www.engageny.org/ccis-math/4g2)

- **Illustrative Mathematics**
  - Are These Right?
    - [http://www.illustrativemathematics.org/illustrations/1273](http://www.illustrativemathematics.org/illustrations/1273)

- **Math Matters K-6: Understanding the Math You Teach** (Chapin & Johnson, 2000)
  - Properties of Quadrilaterals, p. 156-159

- **My Math**
  - Assessment Masters
    - Ch. 14, pp. 339-360

  - Think Smart for the SBAC
    - Ch. 14 Test, p. 131
    - Ch. 14 Performance Task, p. 163

  - eAssessment
    - [http://connectED.mcgraw-hill.com](http://connectED.mcgraw-hill.com)
### Standards for Mathematical Content

- **4.G.3** Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

### Standards for Mathematical Practice

- **MP1** Make sense of problems and persevere in solving them.
- **MP2** Reason abstractly and quantitatively.
- **MP3** Construct viable arguments and critique the reasoning of others.
- **MP4** Model with mathematics.
- **MP5** Use appropriate tools strategically.
- **MP6** Attend to precision.
- **MP7** Look for and make use of structure.
- **MP8** Look for and express regularity in repeated reasoning.

### Resources

- **Common Core Georgia Performance Standards**
  - Angle Sort (Unit 6)
  - [http://ccgpsmathematics-k-5.wikispaces.com/K-5+Formative+Assessment+Lessons+%28FALs%29](http://ccgpsmathematics-k-5.wikispaces.com/K-5+Formative+Assessment+Lessons+%28FALs%29)

- **Illustrative Mathematics**
  - Lines of Symmetry for Triangles
    - [http://www.illustrativemathematics.org/illustrations/1058](http://www.illustrativemathematics.org/illustrations/1058)
  - Lines of Symmetry for Quadrilaterals
  - Lines of Symmetry for Circles
    - [http://www.illustrativemathematics.org/illustrations/1060](http://www.illustrativemathematics.org/illustrations/1060)
  - Finding Lines of Symmetry
    - [http://www.illustrativemathematics.org/illustrations/676](http://www.illustrativemathematics.org/illustrations/676)

- **engageNY**
  - Module 4: Angle Measure and Plane Figures
    - [https://www.engageny.org/ccls-math/4g3](https://www.engageny.org/ccls-math/4g3)

- **Inside Mathematics**
  - Symmetrical Patterns
  - Problem of the Month: The Shape of Things (Level B)

- **Math Matters K-6: Understanding the Math You Teach** (Chapin & Johnson, 2000)
  - Alphabet Symmetry, p.166

- **My Math**
  - 14-10 Draw Lines of Symmetry

### Formative Assessment

- **My Math** Assessment Masters
  - Ch. 14, pp. 339-360

- **My Math** Think Smart for the SBAC
  - Ch. 14 Test, p. 131
  - Ch. 14 Performance Task, p. 163

- **My Math eAssessment**
  - [http://connectED.mcgraw-hill.com](http://connectED.mcgraw-hill.com)
## ADDITIONAL SUPPORT

<table>
<thead>
<tr>
<th>ESSENTIAL QUESTIONS</th>
<th>LANGUAGE SUPPORTS AND OBJECTIVES</th>
<th>KEY VOCABULARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How can lines, angles, and shapes be described, analyzed, and classified?</td>
<td>Students will orally explain using transitional phrases and domain specific vocabulary the steps in describing, analyzing and classifying lines, angles and shapes. <em>(Teacher may provide sentence stems to support explanation.)</em></td>
<td>Acute angle</td>
</tr>
<tr>
<td>2. How can I draw an angle?</td>
<td>Students will explain how to draw an angle by using subordinate conjunctions <em>(when you change, whenever...)</em>. <em>(Teacher provides manipulatives and tools to support the exploration.)</em></td>
<td>Angle</td>
</tr>
<tr>
<td>3. How can I classify triangles?</td>
<td>Students will orally explain how they classified triangles by using conjunctions <em>(because)</em> and auxiliary verbs <em>(may, might, should, could, would).</em> <em>(Teacher encourages multiple representations.)</em></td>
<td>Degree</td>
</tr>
<tr>
<td>4. What is a line of symmetry?</td>
<td>Students will define lines of symmetry by using complex sentences, comparatives, and superlatives. <em>(Teacher provides manipulatives and time for exploration.)</em></td>
<td>Intersecting</td>
</tr>
<tr>
<td>5. How can I create symmetrical figures?</td>
<td>Students will restate a partner’s response to how they created a symmetrical figure by using paraphrasing expressions. <em>(Teachers may employ the talk moves during student discussions, allowing for wait time, restating, and recasting.)</em></td>
<td>Isosceles</td>
</tr>
</tbody>
</table>

CA: California Additions to the content standards appear in **bold.**
## DAILY/WEEKLY ROUTINES

- Many new vocabulary words are introduced in this topic. Give students repeated oral language practice to ensure that the terms are understood, such as card games. “I have, Who has?” Geometry Card Activity.  
- Spatial sense is the recognition and interpretation of two- and three-dimensional figures in space, and has two components, special visualization and spatial orientation. Looking at artwork is one way to improve this sense. The artist M.C. Escher is known for tessellations, repeating a single pattern. Consider using artwork in the classroom as an opportunity for discussion of the geometric figures and how they are related. *Math Matters K-6: Understanding the Math You Teach* (Chapin & Johnson, 2000), pp. 161-3

## LITERATURE CONNECTIONS

- Grandfather Tang’s Story by Ann Tompert
- The Greedy Triangle by Marilyn Burns

## DIFFERENTIATION

### FRONT LOADING

**My Math**  
Each chapter includes: (at beginning of chapter)  
- My Math Words  
- My Vocabulary Cards  
- My Foldables

Each lesson includes: (at beginning of lesson)  
- ELL Instructional Strategy

### ENRICHMENT

**My Math**  
Each lesson includes:  
- Beyond Level Hands-On Activity (found after Practice & Apply)

### INTERVENTION

**My Math**  
Each lesson includes:  
- Approaching Level Hands-On Activity (found after Practice & Apply)  
- Tier 2 Strategic Intervention, Ch. 14, p. 918A

Each formative assessment includes:

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**Key:**

1. Front Loading refers to materials that can be used before the lesson begins to prepare students for success, which may be helpful for English learners, standard English learners, students with disabilities or low achieving students.

2. Enrichment refers to materials that can be used with students who are ready to have their thinking extended, which may be helpful for gifted and talented and high achieving students, or any students who are ready for more depth and complexity.

3. Intervention refers to materials that can be used after the lessons with students who are needing additional positive experiences with the mathematics, low achieving students who would benefit from another approach, or students who have gaps in their knowledge.

For more information on Differentiation, please refer to: The California Framework, Universal Access section: