# Name­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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## Grade 5 Mathematics Extension Menu

**Concept and/or Topic: Geometry**

**Choose** a learning activity from one square to complete. If you choose the square, “Write your idea here,” please see the teacher with your idea first.

**Circle**the number of the learning activity you choose.

**Turn in**this paper with your work.

|  |  |  |
| --- | --- | --- |
| 1. **Design** a booklet to **illustrate** the following geometric terms:   * Intersecting lines * Parallel lines * Perpendicular lines * Acute angle * Right angle * Obtuse angle * Straight angle * Rhombus * Parallelogram * Trapezoid   **Compose** a definition in your own words for each term. | 2. **Arrange** polygons to **construct** a geometric creature using pattern blocks. Trace the blocks and **label** each polygon. **Decompose** at least 2 shapes from your geometric creature by **describing** the polygons that make that shape. (Example: A trapezoid is composed of \_\_\_\_\_\_\_\_\_). | 3. **Locate** boxes/packages or **use** clay to **create** pyramids and prisms. **Label** each geometric solid. **Label** the faces, edges, bases, and vertices on each geometric solid. |
| 4. **Compare** plane (2-D) geometric figures to faces of solid (3-D) geometric figures. **Use** this information to **explain** how the 2-D figures and the 3-D figures are related. (Example: A rectangular prism has a rectangle as its base.)  **Display** your findings on a poster. | 5. **Explain** in writingthe difference between similar and congruent figures. **Locate** at least 6 pairs of similar shapes in your environment. **Explain** how you know that they are similar.  **Locate** at least 6 pairs of congruent shapes in your environment. **Explain** how you know that they are congruent. **Record** your findings in a booklet using pictures and words. | 6. **Create** wrapping paper that displays a tessellation pattern, usingpattern blocks to **develop** your pattern. Trace the shapes onto large, white bulletin board paper. Add color to your design. **Identify** reflection, rotation, and translation in your pattern and explain this to a partner. |
| 7. **Explore** radius and diameter by measuring circular items in the classroom with a compass, ruler and string.  **List** the steps you used and **describe** your findings about the relationship between radius and diameter. | **8. Write** your idea here.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 9. **Research** why triangles are often used in structures such as bridges and architectural features. **Write** a report to **explain** why this is true. **Support** your findings using illustrations and “real life” examples. |

### Teacher Resource Page

Grade 5 Mathematics Extension Menu

**Concept and/or Topic: Geometry**

**Intended Purpose: Extension/Enrichment Activity**

**Standard(s) and Indicators Addressed:**

MA.500.20 KNOWLEDGE OF GEOMETRY

Box 1 .05 Identify, describe and draw intersecting, parallel, and perpendicular lines and relate to objects

in the environment

.10 Identify (include the symbol <ABC), classify, and draw acute, right, obtuse, and straight

angles

.15a Compare or classify quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid) by

sides and angles and relate them to objects in the environment

Box 2 .17 Compose/decompose polygons of no more than 8 sides using shapes

Box 3 .18a Identify and classify triangular pyramids, rectangular pyramids, and rectangular prisms by the number of edges, faces, or vertices

.18b Classify prisms and pyramids as triangular or rectangular by the base

Box 4 .19 Compare (number and arrangement of) plane geometric figures to faces of solid geometric figures (rectangle to rectangular prism)

Box 5: .21 Identify and describe geometric figures as similar

Box 6: .22 Identify and describe the given result of transformations (reflection, rotation, and translation) of geometric figures or pictures

Box 7: .15f Explore/invent radius and diameter

Box 9: MA.500.70.11 Discuss, read, listen, observe, and ask questions to obtain mathematical information

**Organizational Tips:**

Box 2 Provide pattern blocks.

Box 3 Supply various packages/boxes and/or clay.

Box 4 Provide 3-D, 2-D shapes and poster paper.

Box 6 Supply pattern blocks and large, white bulletin board paper.

Box 7 Provide compass, ruler, string, scissors, paper, colored pencils, cans, cups and other round objects.

Box 9 Provide access to the media center and/or Internet.