

Fifth Grade  
Trailblazers Unit 6

“Geometry”

**North Carolina Standard Course of Study**

<http://www.ncpublicschools.org/curriculum/mathematics/scos/2003/k-8/27grade5>

**MTB Correlation to NCSCOS**

<http://www.kendallhunt.com/uploads/2/CORR-NC-MTB2.pdf>

**Key Activities**

- Students review benchmark angles (90, 180, 270). They measure and draw angles with protractors.
- Students measure angles in polygons and discover that the sum of the interior angles in a triangle is always 180 degrees.
- Students investigate the sum of the interior angles of various polygons to find patterns.
- Students explore properties of triangles. They investigate the difference between congruence and similarity.
- Students analyze the geometry of quilt patterns and investigate tessellations.
- Students compare classifications in science to classifying polygons.
- Students draw two-dimensional shapes based on information given in the form of an “order” for a slab of stone.

**Unit Vocabulary**

acute angel	ray	angle	right angle	degree
sides	endpoint	straight angle	obtuse angle	vertex
protractor	polygon	quadrilateral	regular polygon	trapezoid
decagon	nonagon	diagonal	octagon	dodecagon
pentagon	equilateral triangle	regular polygon	hexagon	septagon
N-gon	triangulating	congruent	similar	quilt
tessellation	convex	quadrilateral	rectangle	rhombus
parallelogram	square			

Fifth grade glossary link: [http://www.kendallhut.com/uploads/2/MTB\\_Gr5\\_Glossary.pdf](http://www.kendallhut.com/uploads/2/MTB_Gr5_Glossary.pdf)

**Unit Manipulatives/Supplies**

protractor	ruler	scissors	calculator	large art paper
glue	straws and chenille sticks	steel spheres		

### **Unit Assessment Indicators**

- Can students measure angles?
- Can students draw shapes and angles with given measures?
- Can students identify and describe 2-dimensional shapes?
- Can students classify 2-dimensional shapes?
- Can students identify congruent and similar shapes?
- Can students make and test conjectures about geometric properties?
- Can students use geometric concepts and skills to solve problems?
- Can students use numerical variables?
- Do students demonstrate fluency with the last six multiplication and division facts (4 X 6, 4 X 7, 4 X 8, 6 X 7, 6 X 8, 7 X 8)?

### **Unit Literature**

*A Cloak for the Dreamer* by Aileen Friedman

*Sweet Clara and the Freedom Quilt* by Deborah Hopkinson

*The Canada Geese Quilt* by Natalie Kinsey-Warnock

*The Seasons Sewn: A Year in Patchwork* by Ann Whitford Paul

*Eight Hands Round a Patchwork Alphabet* Illustrated by Jeanette Winter

### **Unit Software**

*Building Perspective* develops spatial reasoning and visual thinking in three dimensions.

*The Geometer's Sketchpad* allows students to construct 2-dimensional figures and explore their attributes.

*The Logical Journey of the Zoombinis* develops thinking skills as students find patterns to solve patterns.

*Math Arena* is a collection of math activities that reinforces many math concepts.

*Math Munchers Deluxe* provides practice in basic facts and finding equivalent fractions, decimals, percents, ratios, angles and identifying geometric shapes, factors, and multiples in an arcade-like game.

*Math Mysteries Number Heroes* poses short answer questions about fractions, number operations, polygons, and probability.

*Quadrominoes* provides students the opportunity to develop visual thinking and improve their understanding of geometric concepts by placing domino-like shapes called "quadros" on a board.

*Shape Up!* Provides activities with 5 different sets of shapes.

*Tessellation Exploration* provides opportunities to explore geometric concepts (flips, turns, slides) and to investigate tessellations.

*Tessellation Deluxe* provides opportunities to design tessellations and develop an understanding of the geometry involved in tessellations.

## Websites

Measuring Angles

<http://www.kidport.com/Grade6/Math/MeasureGeo/MeasuringAngles.htm>

Tesselation Activities

<http://www.mathcats.com/explore/tessellations/tesspeople.html>

Discovering Polygons

<http://library.thinkquest.org/J002441F/polygons.htm>

Rainforest Math – Click on Level E or F and choose activities from 2-D Shapes located on the bottom row of the menu.

<http://www.rainforestmaths.com/>

## You Can Help Your Child

- Have your child name geometric objects at home and identify the edges and corners of these shapes.
- Have a polygon scavenger hunt in your house. Whoever can find the most polygon shapes wins!
- Have students estimate angle measures using the hands on the clock.
- Ask your child what it means to triangulate a shape.
- Discuss the geometric shapes you find in quilts you might have at home.
- Continue to review the multiplication and division facts with your child. Use the *Triangle Flash Cards* for the last six facts (4 X 6, 4 X 7, 4 X 8, 6 X 7, 6 X 8, 7 X 8) to help your child practice these multiplication facts and the related division facts.