GEOMETRY
CURRICULUM GUIDE

Loudoun County Public Schools
2010-2011
Complete scope, sequence, pacing and resources are available on the CD and will be available on the LCPS Intranet.

INTRODUCTION TO LOUDOUN COUNTY'S MATHEMATICS CURRICULUM GUIDE

This CURRICULUM GUIDE is a merger of the Virginia Standards of Learning (SOL) and the Mathematics Achievement Standards for Loudoun County Public Schools. The CURRICULUM GUIDE includes excerpts from documents published by the Virginia Department of Education. Other statements, such as suggestions on the incorporation of technology and essential questions, represent the professional consensus of Loudoun's teachers concerning the implementation of these standards. In many instances the local expectations for achievement exceed state requirements. The GUIDE is the lead document for planning, assessment and curriculum work. It is a summarized reference to the entire program that remains relatively unchanged over several student generations. Other documents, called RESOURCES, are updated more frequently. These are published separately but teachers can combine them with the GUIDE for ease in lesson planning.

Mathematics Internet Safety Procedures

1. Teachers should review all Internet sites and links prior to using it in the classroom. During this review, teachers need to ensure the appropriateness of the content on the site, checking for broken links, and paying attention to any inappropriate pop-ups or solicitation of information.
2. Teachers should circulate throughout the classroom while students are on the internet checking to make sure the students are on the appropriate site and are not minimizing other inappropriate sites. Teachers should periodically check and update any web addresses that they have on their LCPS web pages.
3. Teachers should assure that the use of websites correlate with the objectives of lesson and provide students with the appropriate challenge.
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Geometry Nine Weeks Overview

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
G.1	G.8	G.8	G.12
G.3 a, b	G.6	G.10	G.13
G.3 (2001 SOL)	G.7	G.9	G.14 a, b, c, d
G.4 a, b, e, f		G.3 c, d	A.9
G.2	**47 days**	G.11 a, b, c	A.10
G.4 c, d, g		G.12	
G.5			**44 days**
		47 days	
38 days			

Number of Days	Topic and Essential Questions	Standard(s) of Learning Essential Knowledge and Skills Essential Understandings	Additional Instructional Resources/Comments
Quarter 1:	**Logic** • Why are conditional statements necessary in Geometry? • What is the difference between postulates and theorems? • Identify the hypothesis and conclusion of a given conditional statement • Determine the negation of the hypothesis; the conclusion • What is the relationship between the inverse, converse and contrapositive? • Construct the inverse, converse, and contrapositive given a conditional statement • Evaluate the truth value of a given statement and create a counterexample if it is false • How can the laws of logic and deductive reasoning be applied in real life? • Interpret and translate between verbal statements and symbolic notation • What is the relationship between a conditional statement and its contrapositive; between the inverse and converse? • Illustrate a conditional statement in the form of a Venn diagram • Translate a Venn diagram into a conditional statement	TSWBAT: • Evaluate the truth value of a given statement • Provide a counterexample for a false statement • Construct the inverse, converse, and contrapositive of a given conditional statement • Understand that a biconditional statement is a single statement consisting of a conditional statement and its converse • Understand that a conditional statement and its contrapositive are equivalent, as are the inverse and converse • Apply the Law of Detachment and the Law of Syllogism to evaluate the validity of a real life situation. • Translate between verbal statements and symbolic form	This topic needs to be covered throughout the whole year. This includes Law of Syllogism, Detachment, Conditional, Converse, Inverse, Contrapositive when talking about *all* theorems. Venn Diagram Link http://nlvm.usu.edu/en/nav/frames_asid_153_g_4_t_1.html?open=instructions&from=category_g_4_t_1.html

		• Construct a Venn Diagram given a conditional statement	

	Basic Definitions
	
	 • What are the undefined terms and phrases of Geometry?
	 • Compare and Contrast Supplementary Angles and Linear Pairs
	 • Illustrate the angle pairs:
	  Complementary
	  Supplementary
	  Vertical
	  Adjacent
	  Linear Pair
	 • Evaluate an angle measurement (or solve for a variable) using the relationship of a given pair of angles
	 • Apply the formulas for distance, midpoint, and slope
	 • Constructions of lines and angles
		• Understand that point, line, and plane are the three undefined terms in Geometry & '…lies on…" and "…lies between…" are the two undefined phrases in Geometry
		 • Use proper nomenclature when naming points, lines, segments, angles, etc.
		 • Sketch and label points, lines, segments, rays, and angles
		 • Construct :
		  o A line segment congruent to a given line segment
		  o The perpendicular bisector of a line segment
		  o The bisector of a given angle
		  o An angle congruent to a given angle
			Reinforce the notion of nomenclature.
			 When using distance formula, add Pythagorean Theorem if appropriate.
			 http://www.purplemath.com/modules/distform.htm
			 When using midpoint formula, be able to find the other endpoint when given one endpoint and the midpoint.
			 http://www.purplemath.com/modules/midpoint.htm
			 When using the slope formula, be able to find a value for a missing x or y value when given the slope.
			 http://www.purplemath.com/modules/slope.htm
			 Construction links:
			 Copy an Angle:
			 http://www.mathopenref.com/constcopyangle.html
			 Bisect an Angle:
			 http://www.mathopenref.com/constbisectangle.html
			 Copy a Segment:
			 http://www.mathopenref.com/constcopysegment.html
			 Bisect a Segment:
			 http://www.mathopenref.com/constbisectline.html

Parallel Lines

- What are the relationships between pairs of angles formed by two lines and a transversal?
- Evaluate an angle measurement (or solve for a variable) given that two parallel lines are cut by a transversal
- Use properties, postulates, and theorems to determine whether two lines are parallel.*
- How can you demonstrate that two lines are parallel?
- Using slope and constructions, how can you determine whether two lines are perpendicular?

- Identify angle pairs when two lines are cut by a transversal including corresponding angles, alternate interior angles, same-side (consecutive) interior angles, and alternate exterior angles.

- Apply angle properties when two parallel lines are cut by a transversal:
  - Corresponding Angles are congruent
  - Alternate Interior Angles are congruent
  - Alternate Exterior Angles are congruent
  - Consecutive Interior Angles are supplementary
  - Prove that the two lines cut by a transversal are parallel
- Apply algebraic, coordinate, and deductive methods, including slope to determine whether two lines are parallel.
- Analyze slope and constructions to determine whether two lines are perpendicular.

- Construct:

*This is a great place to use Logic statement, especially inverses

*Also use this place to reinforce Constructions

Solve practical problems by using the relationships between pairs of angles such as corresponding angles, alternate interior angles, same-side (consecutive) interior angles

Review equations of lines, parallel and perpendicular

Solve practical problems involving intersecting and parallel lines in a plane

Illustration of Alternate Interior Angles link
http://www.mathopenref.com/angles alternateinterior.html

Alternate Exterior Angles link
http://www.mathopenref.com/angles alternateexterior.html

Construction links:

Perpendicular to a given line from a point on the line:
http://www.mathopenref.com/constp

		o a perpendicular to a given line from a point not on the line; o a perpendicular to a given line at a given point on the line; o a line parallel to a given line through a point not on the given line.	erplinepoint.html Perpendicular to a given line from a point not on the line: http://www.mathopenref.com/constperpextpoint.html Line parallel to a given line through a point not on the given line: http://www.mathopenref.com/constparallel.html

2	**Triangle Basics**
	▪ Given a triangle and using proper notation:
	   o Name the triangle
	   o Name all interior angles
	   o State the sum of the interior angles
	   o Classify the triangle by side lengths
	   o Classify the triangle by angle measure
	▪ What is an exterior angle?
	▪ Evaluate angle measures (or solve for a given variable) given two angles or algebraic expressions
	▪ Explain the relationship between an exterior angle of a triangle and its two remote interior angles
	▪ What is the meaning of symmetry? What different forms of symmetry exist?
	▪ Describe the difference between a rigid and non-rigid transformation
	▪ Given a figure or an ordered pair:
	   o Translate using a vector
	   o Rotate around a given point
	   o Reflect across a given line
	▪ What is a dilation? Where would a dilation occur in real life?
		▪ Understand that the sum of the interior angles of a triangle is 180 degrees.
		▪ Classify triangles as acute, equiangular, right, and obtuse
		▪ Classify triangles as scalene, isosceles, and equilateral
		▪ Understand that an exterior angle is equal to the sum of its remote interior angles
		▪ A rigid transformation is an isometry (pre-image is congruent to image)
		▪ Determine any symmetry (line symmetry, rotational symmetry, point symmetry) of a given figure
		▪ A dilation is an enlargement if k>1 and a reduction if k<1
			Centers of Triangles, Mid-segments
			
			Points of Concurrency link http://www.mathopenref.com/trianglecircumcenter.html
			
			Incenter Link http://illuminations.nctm.org/ActivityDetail.aspx?ID=157
			
			These concepts will be considered in the context of real-world situations.
			
			Classify Triangles Game Link http://www.uff.br/cdme/jct/jct-html/jct-en.html
			
			Symmetry Link: http://www.purplemath.com/modules/symmetry.htm
			
			Transformations: scroll towards the

			bottom of the page and select (compostions, dilations, reflections, rotations, translations) http://nlvm.usu.edu/en/nav/category_g_4_t_3.html
	▪ Explain what we can conclude based on the value of the scale factor in a dilation		
	Assessment, Enrichment, and Remediation		

Number of Days	Topic and Essential Questions	Standard(s) of Learning Essential Knowledge and Skills Essential Understandings	Additional Instructional Resources/Comments
Quarter 2:	**Triangle inequality** ▪ What is the relationship between the side lengths of a triangle and the angles opposite them? ▪ Given two sides of a triangle, what are the possible lengths for the missing side? ▪ Given algebraic expressions for one to three sides of a triangle, determine all possible values which will produce a triangle ▪ How does the length of the side affect the angle opposite the side? ▪ Arrange the angles of a triangle in order from smallest to largest when given the lengths of the sides.[1] ▪ Given that two sides of one triangle are congruent to two sides of a second triangle, what is the relationship between the third side of the first triangle and the third side of a second triangle given the relationship between their respective opposite angles (the included angle of the given side lengths) ▪ Develop a real world situation in which the Triangle Inequality Theorem or the Hinge Theorem can be applied	▪ Examine the relationship between the side lengths of a triangle and the angles opposite them ▪ Determine if it is possible to form a triangle given three values for the side lengths ▪ Given two sides of a triangle, determine all possible values for the missing third side. ▪ Apply the Hinge Theorem to compare sides of triangles. ▪ Arrange sides of triangles from shortest to longest when given the angles opposite the sides. ▪ Arrange angles of triangles from smallest to largest when given the sides opposite the angle. ▪ Develop a real world situation in which the Triangle Inequality Theorem or the Hinge Theorem can be applied.	[1] Good time to review inverses and converses

Right Triangles	■ Determine the length of the third side of a right triangle using the Pythagorean Theorem.
	■ Apply the Pythagorean Theorem to real world situations: $c^2 = a^2+b^2$
	■ Classify triangles using the Converse of the Pythagorean Theorem:
	  Acute: $c^2 < a^2+b^2$
	  Right: $c^2 = a^2+b^2$
	  Obtuse: $c^2 > a^2+b^2$
		Simplify radicals before doing right triangles.
		http://www.district87.org/bhs/math/practice/radicals/radicalpractice.htm
		
		Link for Solving Right Triangles by various methods … good for Trig as well
		http://nlvm.usu.edu/en/nav/frames_asid_335_g_4_t_3.html?from=category_g_4_t_3.html
		
		Pythagorean Theorem as ($c^2= a^2+b^2$ instead of $a^2+b^2=c^2$)
		
		Stress common Pythagorean Triples (3, 4, 5)
		(5, 12, 13)

■ What is the Pythagorean Theorem? ■ Given the lengths of two sides of a right triangle, use the Pythagorean Theorem to determine the length of the third side. ■ How can the Pythagorean Theorem be used to classify a given triangle as acute, right, or obtuse? Explain.		
Congruent triangles ■ When given a triangle congruence statement, what are the corresponding parts? ■ When given two congruent triangles, how can a correct congruence statement be translated from a diagram? ■ What does it mean to be congruent and what methods can be used to determine if two triangles are congruent? (Include congruence postulates/theorems as well as coordinate methods.)	■ Understand the relationships among side and angles given a congruence statement. State the pairs of congruent angles and sides. ■ Develop a triangle congruence statement given information in the form of a diagram or a statement	Use the acronym CPCTC= Corresponding Parts of Congruent Triangles are Congruent Links for Congruent Triangles http://nlvm.usu.edu/en/nav/frames_asid_165_g_3_t_3.html?open=instructions&from=category_g_3_t_3.html http://illuminations.nctm.org/ActivityDetail.aspx?ID=4

		▪ Apply the different methods to prove that two triangles are congruent: Side Side Side $\cong$ Postulate Side Angle Side $\cong$ Postulate Angle Side Angle $\cong$ Postulate Angle Angle Side $\cong$ Theorem Hypotenuse Leg $\cong$ Theorem	
	Similar triangles ▪ What is the difference between congruent and similar shapes? ▪ When given a triangle similarity statement, why is a correct similarity statement necessary? ▪ Given two similar triangles, how do you write a similarity statement? ▪ Determine the scale factor between two similar figures ▪ Given two similar figures, determine the relationship of their perimeters; their areas ▪ Using similarity postulates/theorems as well as coordinate methods, how can two triangles be proven similar?	▪ Understand the relationships among side and angles given a similarity statement ▪ Develop a triangle similarity statement given information in the form of a diagram or a statement ▪ State all pairs of congruent angles and write the proportionality statement between the side lengths. ▪ Apply the different methods to prove that two triangles are similar o Angle Angle ~ Postulate o Side Side Side ~ Theorem o Side Angle Side ~ Theorem ▪ Determine if two triangles are similar using algebraic methods, such as properties of proportions, to prove that triangles are similar ▪ Understand the relationship among side lengths, perimeters, and areas of	Solve practical problems involving similar objects Emphasize application problems Good opportunity to review dilations Good opportunity to add on the relationship of volumes of similar solids; $a^3 : b^3$

| | | similar polygons
    Sides $a:b$
    Perimeters $a:b$
    Areas $a^2:b^2$ | |
| | **Assessment, Enrichment, and Remediation** | |

Number of Days	Topic and Essential Questions	Standard(s) of Learning Essential Knowledge and Skills Essential Understandings	Additional Instructional Resources/Comments

Quarter 3:	**Right Triangles**
	
	▪ How can the Pythagorean Theorem be used to find the missing side of a triangle?
	▪ When given two sides of a right triangle, determine if the missing side is a leg or hypotenuse. Defend your answer.
	▪ When given three sides of a triangle, explain how to classify the triangle as right, obtuse or acute.
	▪ What is the relationship between the legs and the hypotenuse of a right isosceles triangle?
	   o Using the Pythagorean Theorem, generate the pattern of 45°-45°-90° triangles.
	▪ What is the relationship between the legs and the hypotenuse of a 30°-60°-90° triangle?
	   o Using the Pythagorean Theorem, generate the pattern of 30°-60°-90° triangles.
	▪ What is the relationship formed between the three triangles when the altitude is drawn to the hypotenuse of a right triangle?
	▪ Explain how trigonometry can be used to find the missing sides of a right triangle.
	▪ Compare and contrast the relationship between the angle of elevation and the angle of depression.
	▪ Sketch a diagram to represent a real-world application and apply trigonometry to solve for the missing length of a triangle.
		TSWBAT:
		
		▪ Apply the Pythagorean Theorem to find the missing side of a triangle.
		▪ Complete a Pythagorean Triple when given two sides of a right triangle.
		▪ Classify a triangle as right, obtuse or acute by applying the converse of the Pythagorean Theorem
		▪ Solve a right triangle using a variety of methods.
		▪ Apply the properties of 45°-45°-90° and 30°-60°-90° triangles to find the missing sides.
		▪ Apply similar right triangles to identify the geometric mean and find the missing length.
		▪ Differentiate between the angle of elevation and the angle of depression in a real-world application.
		▪ Interpret a real-world application to sketch a
			▪ Include simplifying radical expressions prior to Pythagorean Theorem
			▪ Include rationalizing denominator prior to Special Right Triangles
			▪ Emphasize Pythagorean Triples that will be used in Adv. Alg
			   3, 4, 5
			   5, 12, 13
			   8, 15, 17
			   7, 24, 25
			
			▪ Use the acronym SOHCAHTOA Sine = Opposite/Hypotenuse, Cosine = Adjacent/Hypotenuse, Tangent = Opposite/Adjacent
			
			Extension: Unit Circle

	▪ Compare and contrast the relationship between trigonometric ratios and inverse trigonometric ratios. ▪ What are the methods that can be used to solve a right triangle and when would you use each method?	diagram and calculate the missing length of a right triangle. ▪ Distinguish the difference between trigonometric ratios and inverse trigonometric ratios and apply both to real-world situations.	

Quadrilaterals	TSWBAT:	Recommendations:

▪ What is the relationship between the number of sides of a polygon and the sum of the interior angles?
▪ Which regular polygons tessellate? Why?
▪ Using properties of parallel lines, develop the properties of parallelograms.
▪ What is the relationship between the angles of a parallelogram? the sides of a parallelogram?
▪ Compare and contrast the properties of the three special parallelograms (rectangle, rhombus and square).
▪ Using congruent triangles, what are the properties of trapezoids? (Incorporate deductive reasoning)
▪ Given four coordinates, how do you determine what the quadrilateral is?
▪ Compare and contrast the transformations: translation, rotation and reflection. Use the polygons to discuss rotations and reflections.
▪ Compare and contrast point symmetry and line symmetry. Use the polygons to discuss symmetry.
▪ What is the relationship between a dilation of a shape and the original shape? (Shapes are similar.)
	▪ Generate the pattern to determine the sum of the interior angles as (n−2)180.
	▪ Generate the Exterior Angle Theorem to determine the sum of the exterior angles is 360°.
	▪ Calculate the sum of the angles, both interior and exterior, of a polygon given the number of sides.
	▪ Determine the measure of each interior or exterior angle given the number of sides.
	▪ Classify the polygon when given the sum of the interior angles.
	▪ Define and describe the properties of a parallelogram based on their knowledge of parallel lines.
	▪ Recognize, describe and classify special parallelograms based on the properties of each. Calculate missing values for angle measurements, lengths of sides, or variables in expressions.
	▪ Define a trapezoid and differentiate the properties of
		Recommendations:
		
		*Make sure to include logic during this part. Incorporate logic to determine the relationship between quadrilaterals and also during the coordinate proofs.
		
		*Include tessellations while introducing shapes. (2001 SOLs)
		
		Incorporate right triangle topics to find the lengths of all sides of all parallelograms. Include special right triangles, Pythagorean theorem and trigonometry applications.
		
		Begin to review factoring using quadratic equations when finding the lengths of the segments.
		
		Find the area of parallelograms.
		
		Extension:
		     Kites
		     Area of Kites

		a trapezoid from the properties of parallelograms. • Classify a quadrilateral using coordinate geometry by incorporating the slope formula and/or distance formula. • Recognize the various transformations using various polygons. Identify the degree of rotation of various polygons. • Recognize shapes with point symmetry and line symmetry. Explain the difference between point and line symmetry.	

)	**Circles**	TSWBAT:	RECOMMENDATIONS:
	▪ What is the relationship between the radius, chord and diameter of a circle? ▪ Compare and contrast a secant and a tangent of a circle. ▪ Differentiate between a common internal and a common external tangent. ▪ Using congruent triangles, determine the properties of a tangent to a circle. ▪ What is the relationship between the central angle and the arc measure? ▪ Using congruent triangles, determine the properties of chords of a circle. ▪ What is the relationship between the central angle and an inscribed angle? ▪ What is the relationship of the angles of an inscribed quadrilateral? ▪ Examine the relationship between chords or lines intersecting inside a circle and their intercepted arcs and the angles created at the point of intersection. ▪ What is the relationship between the segments of the chord, segments of secants, and segments of secants and tangents? ▪ What information is necessary to write the equation of a circle?	▪ Use proper nomenclature when naming vocabulary terms: radius, diameter, chord, secant, tangent, etc. ▪ Apply the Pythagorean Theorem when solving for missing lengths of tangents. ▪ Determine the measure of arcs and classify the arcs according to the measure. Use proper nomenclature when naming arcs of a circle. ▪ Apply congruent triangles to determine the length of chords of a circle. ▪ Determine the measure of inscribed and central angles of a circle. Understand the relationship between inscribed angles and central angles to solve for variables. ▪ Determine the measure of the angles of an inscribed polygon. ▪ Determine the measure of angles created when lines intersect inside, outside or on the circle. ▪ Determine the length of segments of chords, secants and/or tangents.	▪ When applying the Pythagorean Theorem to find the length of a radius, extend problems to find the missing length of a tangent. Incorporate quadratics, squaring binomials and factoring. ▪ Incorporate Special Right Triangles, trigonometry when finding the measure of chords. Excellent opportunity to spiral material into lesson. ▪ When finding the lengths of segments in circles, incorporate quadratics. (factoring and solving) ▪ Solve practical problems associated with circles, using properties of angles and arcs. ▪ Inscribed and Central Angles: http://members.shaw.ca/ron.blond/Circle.Geom1.APPLET/index.html ▪ Tangents and radii: http://members.shaw.ca/ron.blond/Circle.Geom2.APPLET/index.html ▪ Tangents and chords: http://members.shaw.ca/ron.blond/Cir

		▪ Determine the equation of a circle when given the center and a point on the circle or the endpoints of the diameter.	cle.Geom3.APPLET/index.html
	Assessment, Enrichment, and Remediation		

Number of Days	Topic and Essential Questions	Standard(s) of Learning Essential Knowledge and Skills Essential Understandings	Additional Instructional Resources/Comments
Quarter 4	Complete circles from Quarter 3.		
	Area and Perimeter of Two-Dimensional Figures ▪ What is the relationship between the area of a rectangle, parallelogram and triangle? Why are they similar? ▪ Explore methods to calculate the area of a trapezoid or rhombus. ▪ How does the scale factor affect the perimeter or area of similar figures? ▪ How is the arc length related to the circumference of a circle? ▪ How are the area of a circle and the area of a sector related? ▪ Calculate the area of a sector of a circle, using proportions. ▪ How do changes in the dimension of a figure affect	SWBAT: ▪ Calculate the area of a rectangle, parallelogram and triangle. ▪ Calculate the area of trapezoid or rhombus using a variety of methods. ▪ Determine the area or perimeter of similar figures. ▪ Calculate circumference of a circle. Calculate the arc length given a central angle and apply it to real-world problems. ▪ Calculate the area of a sector and apply it to real-world problems. ▪ Investigate the affects of changing the dimension of a figure on the area and/or perimeter.	RECOMMENDATIONS: Include sketches that require the student to apply Pythagorean Theorem, trig, special right triangles, etc. to find the missing length prior to finding the area of two dimensional figures. Extension: Area of Kites

	the area or perimeter?
	
	▪ Compare the area and perimeter of similar geometric figures.
		▪ Understand the relationship of the area and/or perimeter of similar geometric figures and calculate the area and/or perimeter of similar figures using real-world problems.
		
		      Given a:b
		      Perimeter a : b
		      Area $a^2 : b^2$
		      Volume $a^3 : b^3$	

	Three-Dimensional Figures ▪ Differentiate between prisms and pyramids. ▪ Differentiate between surface area, lateral area and volume of a solid. ▪ When calculating capacities (volume, surface area, etc) of real world problems, describe how use various three-dimensional objects to find the total. ▪ Visualize the model of a three-dimensional figure from a two-dimensional drawing. ▪ Sketch a two-dimensional representation of a three-dimensional object. ▪ Analyze a three-dimensional object from different positions. (Top view, side view, front view)	▪ Calculate the surface area, lateral area and volume of a solid. (prisms, pyramids, cones, spheres, cylinders) ▪ Calculate the surface area, lateral area and volume in real-world problems. Understand how objects can be divided into a combination of solids in order to calculate the volume, surface area, etc. ▪ Recognize different perspectives (top view, side view, front view) of a three-dimensional object.	3-D Spatial Modeling: Incorporates Surface Area: http://nlvm.usu.edu/en/nav/frames_asid_195_g_4_t_3.html?open=activities&from=category_g_4_t_3.html Surface area of rectangular and triangular prisms: http://www.shodor.org/interactivate/activities/SurfaceAreaAndVolume/ Viewing an object from different views: http://pbskids.org/cyberchase/games/pointofview/pointofview.html http://www.fi.uu.nl/toepassingen/00247/toepassing_wisweb.en.html http://www.fi.uu.nl/toepassingen/02015/toepassing_wisweb.en.html

			http://www.mathsnet.net/geometry/solid/views1.html
			http://www.mathsnet.net/geometry/solid/views2.html
			http://www.mathsnet.net/geometry/solid/guessview.html
			http://www.mathsnet.net/geometry/solid/rotatingviews.html
			Nets: http://www.mathsnet.net/geometry/solid/nets.html
			http://www.cs.mcgill.ca/~sqrt/unfold/unfolding.html
	Assessment, Enrichment and Remediation		
	Variation (see Algebra I) **This content must be taught before the end of the school year to prepare students for Algebra II or Functions, Algebra, and Data Analysis.** Mean Absolute Deviation Standard Deviation Population z-scores What are the ways to measure the dispersion of data? What is the sum of the deviations of data points from the mean of a data set?	• Analyze descriptive statistics to determine the implications for the real-world situations from which the data derive. • Given data, including data in a real-world context, calculate and interpret the mean absolute deviation of a	Technical assistance document from the VA Dept of Ed Enhanced Scope and Sequence 2004 - Traffic Jam pp. 18-19

	data set.	
How do we express the units for standard deviation? What does a greater value of standard deviation tell us? When may using the mean absolute deviation be better than using the standard deviation or variance? What is a z-score? What does a z-score tell us about a data set?	• Given data, including data in a real-world context, calculate variance and standard deviation of a data set and interpret the standard deviation. • Given data, including data in a real-world context, calculate and interpret z-scores for a data set. • Explain ways in which standard deviation addresses dispersion by examining the formula for standard deviation. • Compare and contrast mean absolute deviation and standard deviation in a real-world context.	

Geometry Nine Weeks Overview

Overall useful links:

Math Tools at Drexel Math Forum: http://mathforum.org/mathtools/index.html

National Library of Virtual Manipulatives: http://nlvm.usu.edu/en/nav/vlibrary.html

NCTM's Illuminations: http://illuminations.nctm.org/ActivitySearch.aspx