

HPISD Curriculum: Geometry								
Title		Estimated Duration	6 Weeks					
Unit 13: Properties of Circles		2 weeks	1	2	3	4	5	6
Unit Overview								
Analyze geometric relationships in order to make and verify conjectures about circles								
Enduring Understandings								
<b>The student will understand that:</b>		<ul style="list-style-type: none"> <li>• Tangent lines are perpendicular to the radius of the circle at the point of tangency.</li> <li>• The measure of a central angle is equal to the measure of its intercepted arc.</li> <li>• The measure of an inscribed angle is half the measure of its intercepted arc.</li> <li>• When two segments intersect in a circle, the measure of the angle of intersection is half the sum of the measures of the included arcs; and when two segments intersect outside a circle, the measure of the angle of intersection is either half the sum of the difference of the included arcs.</li> <li>• The lengths of chords and secants are proportional based upon properties of similar triangles.</li> </ul>						
Concepts		Guiding/Essential Questions						
<ul style="list-style-type: none"> <li>• Relationships</li> <li>• Proportionality</li> </ul>		<ul style="list-style-type: none"> <li>• What are at least two ways to show that chords are congruent?</li> <li>• What is the difference between an inscribed angle and a central angle?</li> <li>• How can it be explained that the theorem that describes how to find the measure of an inscribed angle and the theorem that describes how to find the measure of an angle formed by two secants are related?</li> <li>• Why is the theorem about the lengths of two tangents from the same exterior point of a circle a special case of the theorem about the lengths of a secant and a tangent from the same exterior point?</li> </ul>						
Learning Targets								
<ul style="list-style-type: none"> <li>• The student will identify types of arcs and angles in a circle.</li> <li>• The student will identify relationships among arcs and chords of circles.</li> <li>• The student will find arc and angle measures when segments intersect circles.</li> <li>• The student will find lengths of segments formed by chords, tangents, and secants.</li> </ul>								
Formative Assessments					Summative Assessments			
homework, quizzes					test			

TEKS: Readiness Standards		TEKS: Related Supporting Standards	
<p><b>G.2B</b> Make conjectures about angles, lines, polygons, circles, and three-dimensional figures and determine the validity of the conjectures, choosing from a variety of approaches such as coordinate, transformational, or axiomatic.</p> <p><b>G.5A</b> Use numeric and geometric patterns to develop algebraic expressions representing geometric properties.</p>		<p><b>G.5B</b> Use numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons, ratios in similar figures and solids, and angle relationships in polygons and circles.</p> <p><b>G.9C</b> Formulate and test conjectures about the properties and attributes of circles and the lines that intersect them based on explorations and concrete models.</p>	
Processes and Skills: What students should be able to DO		Facts: What students should KNOW	
need verb lead-in		critical factual knowledge, no verb lead-ins	
Topics			
Circles and Circumference Arcs and Chords		Inscribed Angles Tangents	Segments, Tangents and Angle Measures Special Segments
Language of Instruction			
Arcs	Inscribed		Minor Arc
Central Angle	Inscribed Angle		Point of Tangency
Chords	Inscribed Angle Theorem		Probability
Circumscribed	Intercepted Arc		Secant
Concentric Circles	Interior Angle		Tangent
Exterior Angle	Major Arc		Tangent Properties
State Assessment Connections		National Assessment Connections	
Resources			
<p><u>Glencoe: Geometry</u> 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7</p>			