

Learning Goal	Common Core Standard	Bloom's Taxonomy
<p>LG1: Students will understand the essential vocabulary</p>	<p>Content: Mathematics Grade: Eighth Grade Domain: Geometry Cluster: Understand and apply theorems about circles Standard: CCSS.MATH.CONTENT.HSG.C.A4 Construct a tangent line from a point outside a given circle to the circle. <i>and</i> CCSS.MATH.CONTENT.HSG.C.A2 Identify and describe relationships among inscribed angles, radii, and chords</p>	<p>Remember/ Understand</p>
<p>LG2: Students will understand the properties of inscribed quadrilaterals</p>	<p>Content: Mathematics Grade: Eighth Grade Domain: Geometry Cluster: Understand and apply theorems about circles Standard: CCSS.MATH.CONTENT.HSG.C.A3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle</p>	<p>Evaluate</p>
<p>LG3: Students will understand the relationships possible between intersecting chords, tangent lines, and secant lines. Students will understand relationships possible between inscribed and central angles and their corresponding arcs.</p>	<p>Content: Mathematics Grade: Eighth Grade Domain: Geometry Cluster: Understand and apply theorems about circles Standard: CCSS.MATH.CONTENT.HSG.C.A2 Identify and describe relationships among inscribed angles, radii, and chords</p>	<p>Analyze/ Apply</p>
<p>LG4: Students will be able to use the essential vocabulary and theorems to justify mathematical decisions.</p>	<p>Content: Mathematics Grade: Eighth Grade Domain: Geometry Cluster: Understand and apply theorems about circles Standard: CCSS.MATH.CONTENT.HSG.C.A2 Identify and describe relationships among inscribed angles, radii, and chords</p>	<p>Evaluate</p>

Learning Goal 1: Students will understand the essential vocabulary.

I felt this was the most important place to start for my students since understanding the vocabulary would open the door to understanding the theorems. On the pre-assessment I gave the class after the chapter 8 test, I saw that most of the student knew the words that I anticipated with a few exceptional students knowing the majority of the initial words to start with. We started class by drawing diagrams and illustrating the words on circles. This gave them a clear visual and auditory description of what the words meant. They went home and did homework related to problems we solved in class and the new theorems that were introduced. When they came to class again, we were introduced to a lot more new vocabulary words including inscribed angles, arcs, and central angles. I wanted to be sure that they were able to understand the words they were using in the problems so we made vocabulary foldables where they wrote definitions in their own words as well as drew diagrams of each of their new vocabulary words. These were peer assessed to make sure they were accurate. I also reviewed their homework to be sure they were applying the new properties and theorems they were learning appropriately. As the unit progressed, I was sure to be using their vocabulary words in conversation, while talking about problems we were solving, and illustrating what we were discussing as often as possible. Students demonstrated their understanding through their foldables, the 10.1-10.3 quiz, on their homework practice problems, on their written homework, and on their tests.

Bloom's Taxonomy: Remember/Understand

This applies to the lower two levels of the Bloom's Taxonomy because at this point they are being expected to simply be able to define, identify, and illustrate each of their new vocabulary words.

Learning Goal 2: Students will understand the properties of inscribed quadrilaterals.

Students will be introduced to inscribed polygons. They will learn that an inscribed polygon is a polygon with each of its vertices on a circle. More specifically they will learn that a quadrilateral has the special property of having the opposite angles always being supplementary. They will be asked to find a way to prove this in class, they will work independently and after a little time, they will work together either collaborating to solve the problem or sharing their answer with each other. Most students were able to prove this independently, but those who weren't asked for help along the way from either myself or a classmate. They were all ultimately able to do this proof as an exit ticket. They did the proof by discussing the fact that each pair of opposite angles creates arcs that make a whole circle, they were then able to use properties of inscribed angles to prove that if both inscribed angles created arcs that added to 360° , the sum of the inscribed angles must be 180° . They then were able to continue to use this property to solve problems involving inscribed quadrilaterals. They were able to demonstrate their knowledge in their booklets, homework practice problems, and on the end of chapter test.

Bloom's Taxonomy: Evaluate

This learning goal is at the evaluate level of Bloom's Taxonomy because students are being asked to reflect on their knowledge of other properties and apply that to this new property. By doing this they will be able to justify the validity of the theorem telling them that opposite angles of an inscribed quadrilateral are always supplementary.

Learning Goal 3: Students will understand the relationships possible between intersecting chords, tangent lines, and secant lines. Students will understand relationships possible between inscribed and central angles and their corresponding arcs

Throughout this chapter, there are a lot of theorems given. Students will be expected to reflect on the information given to them and choose which theorem will help them to solve the problem at hand. They will be introduced to the new theorems a few at a time, clustered in a way that makes sense. For example, theorems relating to lengths of chords, secant, and tangent lines will all be studied together on one day. Students will learn to apply these theorems to different types of problems by discussing them with classmates, diagramming the theorems, and solving problems independently and in small groups. They will demonstrate their knowledge through their homework practice problems, the 10.1-10.3 quiz, their written homework, their booklets, and the end of chapter test.

Bloom's Taxonomy: Analyze/Apply

This learning goal is at the Analyze/Apply level because students will be expected to go further than just understand what a theorem is telling them. Students will have to recognize when they should use a particular and know how to apply it.

Learning Goal 4: Students will be able to use the essential vocabulary and theorems to justify mathematical decisions.

This is the final learning goal because they will need to have met the first three in order to achieve this one. Students will be expected on their written homework and in class discussion to explain what their reasoning is for choosing the theorems they are in order to solve a problem. Up until this point, they have been able to simply understand and apply the theorems. At this point, they have to be able to construct a mathematical argument explaining why their problem solving method is valid. This will be demonstrated on their written homework and their booklets.

Bloom's Taxonomy: Evaluate

This learning goal is at the evaluate level of Bloom's Taxonomy because students will be having to construct mathematical arguments justifying their methods. They will have to synthesize what they have learned in a way such that they can use their essential vocabulary and theorems they've learned throughout the chapter to explain their reasoning for solving a problem the way they chose.