Name_____Date_____

Angle Relationships in Circles
Lesson Plan

Lesson Overview: In this lesson, students investigate angle relationships found in circles, including central angles, inscribed angles, and angles that are created by the intersections of chords, secants, and tangents. Students will also develop the idea of arc measure and relate angle measures to intercepted arc measures. TEKS: G.5A, G.12A

	Procedures	Facilitation Questions	Advance Preparation
Engage	• Arrange students in pairs. • Distribute one **Engage Activity Sheet** to each student. • Play the video for the class. • Facilitate as students complete the activity. • Have students share their definitions and their reasoning.	• Does the term involve lines or lines segments? How can you tell? • Where are the endpoints of each line segment? • How many times does the given line intersect the circle?	• Make one copy of the **Engage Activity Sheet** for every student.
Explore	• Distribute the **Explore Activity Sheet** to each student. • Play the video. • Facilitate as students complete the activity. • Discuss the debriefing questions. • Display the **Explore Activity Answers** if desired.	• What is the difference between a central angle and an inscribed angle? • What number patterns do you notice in the table? • What patterns do you notice in the figures?	• Make one copy of the **Explore Activity Sheet** for each student. • Optional: calculators to assist with computation and number pattern recognition
Explain	• Distribute blank paper, scissors, glue, tape, or paste, and colored pencils or markers to each student group. • Play the video. • Follow the directions in the video to create the foldable graphic organizer. • Affix completed organizers in **Math Journals**. • Use the video to guide a discussion about the journal entry. • Answer the **Trajectory Check** questions.	• What do you know about the relationship between a central angle and its intercepted arc? • What do you know about the relationship between an inscribed angle and its intercepted arc? • How does the Arc Addition Postulate compare to the Angle Addition Postulate or the Segment Addition Postulate?	• Access to **Math Journals** • blank paper (one sheet per student, plus a few extras) • colored pencils or markers, scissors, and glue, tape, or paste for each student
Elaborate	• Distribute one **Elaborate Activity Sheet** to each student. • Play the video. • Facilitate as students complete the activity. • Discuss the debriefing questions. • Display the **Elaborate Activity Answers** if desired. • Answer the **Trajectory Check** questions.	• What patterns do you notice in the tables? • When you subtract the arc measures to determine the angle measure, where is the point of intersection located? • When you add the arc measures to determine the angle measure, where is the point of intersection located?	• Make one copy of the **Elaborate Activity Sheet** for each student. • Optional: calculators to assist with computation and number pattern recognition
Evaluate	• Display the questions or provide a printed copy of the **Evaluation Questions** for each student. • Have students solve the problems in their **Math Journals**. • Use the **Independent Practice** and **Lesson Quiz** for additional practice and assessment.		• Access to **Math Journals** • If desired, make a copy of the **Evaluation Questions** for each student. • If desired, make one copy of the **Independent Practice** and **Lesson Quiz** for each student.