

**Dixie State College of Utah**  
**Secondary Education**  
**UNIT PLAN**

<b>Stage 1 – DESIRED RESULTS</b>			
<p><b>Content Standards &amp; Goals</b></p> <ul style="list-style-type: none"> <li>• Students will be able to understand how parallel lines and their transversals create vertical, corresponding, consecutive, alternate interior/exterior angles and linear pairs.</li> <li>• Students will be able to use congruent, supplementary, and complementary relationships to find the measures of angles.</li> <li>• Students will be able to classify triangles according to their sides and angles.</li> <li>• Students will understand and show that triangles have specific angle measurements which add up to <math>180^\circ</math>.</li> </ul>	<b>Transfer</b>		
	<p><i>Students will be able to independently use their learning to...</i></p> <ul style="list-style-type: none"> <li>• Classify triangles by both their interior/exterior angles and sides.</li> <li>• Differentiate pairs of angles based on their placement on a set of parallel lines with a transversal.</li> <li>• Evaluate angle measurements given a complementary, supplementary, vertical, corresponding, or interior/exterior angles.</li> </ul>		
	<b>Meaning</b>		
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<b>Acquisition</b>			
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## Stage 2 – EVIDENCE

### PERFORMANCE TASK(S):

*Students will show that they really understand by evidence of...*

- Paper triangle angle activity
- Completion of daily worksheets ('homework')
- Improvement compared from the pre-test to the end of unit test
- Group discussion and regular interaction on the SmartBoard
- Instructing each other

### PERFORMANCE TASK(S) CRITERIA:

*The performance task will be evaluated by...*

- Students' ability to match vocabulary terms with specific pictorial references during group discussion
- Students' work on daily homework assignments
- Daily informal checks of in-class work and participation by teacher
- Work shown on end of unit test.

### OTHER EVIDENCE:

*Students will show they have achieved Stage 1 goals by...*

- Participating in classroom discussions.
- Open-ended questions answered by students during group/partner work time.
- Scores of 70% or higher on their Unit 6 Post Test

## Stage 3 – LEARNING PLAN

### *Pre-Assessment*

Pre-test with 5 questions that are identical to ones that will be on the Post-test. Two multiple choice and three open answers. Questions include information based on classifying angles and triangles, and by determining angle measures. I created the pre-test based on a post-test created in a PLC which I participated in of all eighth grade mathematics teachers at the middle school.

### *6.0 - Naming Angles, Complementary, and Supplementary Angles:*

Connect to prior learning by re-examining relationships between two lines. Quick refresher on terminology: line, segment, ray, angle, acute and obtuse angles. Introduce new vocabulary terms (complementary and supplementary angles) to students. Students will categorize real-world angles, deduce the importance of precision when naming angles, and calculate algebraically the measures of both supplementary and complementary angles. Students will work as a class and in small groups to identify, classify, and evaluate such angles. Students will also show individual understanding with the completion of a homework sheet.

### *6.1 – Parallel Lines and Transversals #1*

Connect to prior learning by discussing parallel lines. Introduce new vocabulary: transversal, alternate interior/exterior angles, corresponding angles, consecutive angles, vertical angles, and linear pairs. Students will demonstrate their understanding by assisting in labeling angles on the SmartBoard and by instructing peers how to recognize types of angles. Students will also show individual understanding with the completion of a homework sheet.

### *6.2 – Parallel Lines and Transversals #2*

Connect to prior learning by illustrating the definitions of parallel lines, transversals, alternate interior/exterior angles, corresponding angles, consecutive angles, vertical

angles, and linear pairs. In-depth review of the meaning of congruent and the types of angles that are or are not such. Students will apply their understanding by justifying to the class as a whole and to a neighboring peer why measures of angles are the same or different using shortcuts discussed in class. Students will also show individual understanding with the completion of a homework sheet.

*6.3 – Classifying Triangles and Their Measurements*

Connect to prior learning by comparing the definitions of acute, obtuse, and right angles. Have students explore how angles of triangles relate to each other by having each student cut out their own triangle and use angles to create straight lines. Demonstrate to students how measures of angles and sides of triangles relate to each other. Students will classify various triangles found around the classroom and in everyday life by angles and sides as a class. Students will also show individual understanding with the completion of a homework sheet.

*6.4 – Interior Triangle Sum and Exterior Angles of Triangles*

Connect to prior learning by showing how a triangle can be created using parallel lines and transversals. Review how to set up and solve equations using the fact that the sums of interior angles of triangles is  $180^\circ$ . Review the definition of interior/exterior and supplementary angles. Students will determine the measures of various angles using algebra as a class, in small peer groups, and individually. Students will also show individual understanding with the completion of a homework sheet.

*6R – Unit 6 Review*

<p><b>MAJOR LEARNING EVENTS:</b>  <i>Student success at transfer, meaning, and acquisition depends upon...</i></p> <ul style="list-style-type: none"> <li>• Students' completing worksheet/homework assignments. Students must show their work for full credit.</li> <li>• Students' interaction and engagement in classroom discussions. Students will be called to the front of the classroom randomly to participate.</li> <li>• Students' interaction with their peers and with in-class activities.</li> <li>• Grades of 70% or better on end of unit test.</li> </ul>	<p><b>PROGRESS MONITORING:</b></p> <ul style="list-style-type: none"> <li>• Collection and documentation of what, how and how much homework is completed.</li> <li>• Informal check of students to document classroom participation and personal interaction with teacher.</li> <li>• Informal assessment of students' work with peers during class-time.</li> <li>• Visual inspecting students' work while in progress.</li> <li>• Reviewing definitions and concepts prior to end of unit test and directing students in any corrections of interpretation needed.</li> <li>• Summative assessment: Unit 6 Test</li> </ul>
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Source: Wiggins, G, & McTighe, J. (2010). *The Understanding by Design Guide to High-Quality Units*. Alexandria, VA: ASCD.