WAUCONDA SCHOOL DISTRICT 118
UNIT PLANNING ORGANIZER

Subject: Geometry

Grade Level or Course: Geometry

Unit: 8 Right Triangles & Trigonometry **Pacing: 11 days**

STAGE 1 – DESIRED RESULTS

Essential Questions:

- **How do you find a side length or angle measure in a right triangle?**
- **How do you use trigonometric ratios to find missing side lengths in right triangles?**

Big Ideas:

- **If the lengths of any two sides of a right triangle are known, the length of the third side can be found by using the Pythagorean Theorem.**
- **The side lengths of triangles with angle measures of 30°-60°-90° and 45°-45°-90° have patterns.**
- **Use pythagorean theorem, geometric mean theorems, patterns for special right triangles, and trigonometric ratios to find segment lengths in right triangles.**
- **Use trigonometric ratios to find angle measures in right triangles.**

CCSS (Priority Standards):

- **G.SRT.4 Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.**
- **G.SRT.C.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.**
- **G.SRT.C.7 Explain and use the relationship between the sine and cosine of complementary angles.**
- **G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.**

CCSS (Supporting Standards):

STAGE 2 – EVIDENCE

Concepts (What students need to know)	Performance Tasks (What students will be able to do)	21st Century Skills
● Pythagorean Theorem ● Converse of Pythagorean Theorem ● Special Right Triangles ● Trigonometric Ratios ● Inverse Trigonometric Ratios	● Simplify radical expressions. ● Use the Pythagorean Theorem to solve problems. ● Use the converse of the Pythagorean Theorem to classify triangles by their angle measures. ● Find side lengths of 45˚-45˚-90˚ triangles and 30˚-60˚-90˚ triangles. ● Use trigonometric ratios (sine, cosine, and tangent) to find side lengths and angle measures in right triangles. ● Distinguish between angles of elevation and depression in real-world problems. ●	

Common Formative/Summative Assessments:

- **Topic 8 Test**
- **Checks for Understanding**

Interim Assessments (Informal Progress Monitoring checks):

- **Warm-ups**

Modified Common Assessments:

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Modified Interim Assessments:

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STAGE 3 – LEARNING PLAN (INSTRUCTIONAL PLANNING)

Suggested Resources/Materials/Informational Texts

Suggested Research-based Effective Instructional Strategies

Academic Vocabulary/ Word Wall	Enrichment/Extensions/ Modifications	Interdisciplinary Connection
Essential Vocabulary: Angle of Depression Angle of Elevation Cosecant Cosine Cotangent Hypotenuse Inverse Trigonometric Functions Leg Pythagorean Theorem Pythagorean Triples Right Triangle Trigonometric Ratio Secant Sine Tangent **Worth-knowing Vocabulary:**		