

MATH MCS MYP UNIT PLANNER

Teacher(s)	Schumacher, Hull	Subject group and discipline	Honors Geometry		
Unit title	Unit 3 – Right Triangle Trig	MYP year	5	Unit duration (hrs)	10.5

Inquiry: Establishing the purpose of the unit

Key concept	Related concept(s)	Global context
Relationships	Pattern and Model	Scientific and Technical Innovation Exploration: Mathematical puzzles, principles and discoveries
Statement of inquiry		
Establishing relationships helps us to understand and model change.		
Inquiry questions		
<p>Factual—</p> <ul style="list-style-type: none"> What is the process to find a missing side using right triangle trigonometry? What is the process to find a missing angle using right triangle trigonometry? What are special right triangles? What are Pythagorean triples? What is the difference between angle of elevation and angle of depression? <p>Conceptual—</p> <ul style="list-style-type: none"> How would you describe the relationship between the sine and cosine of complementary angles? How is right triangle trigonometry used to solve real world problems? How do I know which trigonometric ratio to use to solve for a missing side/angle? How are Pythagorean triples and special right triangles used to solve problems? <p>Debatable—</p> <ul style="list-style-type: none"> How would measurements taken with a clinometer on a different planet, with a different distance from the sun, differ from clinometer measurements taken on earth? 		
MYP Objectives	Assessments	

MYP Assessment – Rubric C MYP Assessment – Rubric D	<ul style="list-style-type: none"> • Pythagorean Theorem and Special Right Triangles Quiz • MYP Assessment Rubric C/D • Right triangle trigonometry Test • Right Triangle Trigonometry Project
--	--

Approaches to learning (ATL)

- Give and receive meaningful feedback
- Negotiate ideas and knowledge with peers and teachers
- Use and interpret a range of discipline-specific terms and symbols
- Draw reasonable conclusions and generalizations
- Apply existing knowledge to generate new ideas, products or processes
- Apply skills and knowledge in unfamiliar situations

Action: Teaching and learning through inquiry

Content Standards

Define trigonometric ratios and solve problems involving right triangles
MGSE9-12.G.SRT.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.
MGSE9-12.G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles.
MGSE9-12.G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

Learning Activities and Experiences

Topic	Resource	Content Covered	Standards Addressed
Right Triangle Trigonometry	8-1 Right Triangles and the Pythagorean Theorem Pearson enVision pg. 345 – 353	<ul style="list-style-type: none"> • Prove the Pythagorean Theorem using similar right triangles. • Understand and apply the relationships between side lengths in 45°- 45°- 90° and 30°- 60°- 90° right triangles. 	SRT.8
	3- Act Task Horizons (DOE Spotlight Task)	<ul style="list-style-type: none"> • Pythagorean Theorem 	SRT.8
	8-2 Trigonometric Ratios Pearson enVision pg. 354 – 360	<ul style="list-style-type: none"> • Define and calculate sine, cosine, and tangent ratios • Use trigonometric ratios to solve problems. 	SRT.6 SRT.8
	Pythagorean Triples (DOE Short Cycle Task)	<ul style="list-style-type: none"> • Pythagorean Theorem 	
	Eratosthenes Finds the Circumference of the Earth Learning Task (DOE)	<ul style="list-style-type: none"> • Triangles in a Circular Context 	SRT.6 SRT.7
	8-5 Problem Solving with Trigonometry Pearson enVision pg. 374-379	<ul style="list-style-type: none"> • Distinguish between angles of elevation and depression. 	SRT.8

		<ul style="list-style-type: none"> Use trigonometric ratios to solve problems. 	
	3-Act Task The Impossible Measurement Pearson enVision pg. 373		SRT.8
	Culminating Task: Clyde’s Construction Crew (DOE)	<ul style="list-style-type: none"> This lesson is intended to help the teacher assess how well students are able to set-up trigonometric application problems involving right triangles. 	SRT.6 SRT.7 SRT.8
	Additional Resources: <ul style="list-style-type: none"> Finding Right Triangles in Your Environment Learning Task (DOE) 		

Personalized Learning and Differentiation

Teachers differentiate by providing examples (work samples or task-specific clarifications of assessment criteria); structuring support (advance organizers, flexible grouping, peer relationships); establishing flexible deadlines, and adjusting the pace.

- SWD/504- Accommodations provided
- ELL- Five Principle ELL Curriculum Framework and Vocabulary Supports
- Intervention Support- Re-teaching Activities in Small Groups with Progress Monitoring
- Extensions- Enrichment Tasks and Projects

Resources

Unit 3 DOE Frameworks

Savvas Textbook Resources