Course Name	Math Course 2-3	Approved: July 14, 2025
Unit Title	Unit A: Geometry: Solids, Triangles, and Angles	

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.3: Geometry

CC.2.3.7.A.1
Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.

CC.2.3.7.A.2
Visualize and represent geometric figures and describe the relationships between them.

Transfer

Students will be able to independently use their learning to...

- ❑ apply area of figures, as well as surface area and volume of prisms into real world scenarios such as painting, wrapping presents, and filling a pool with water
- ❑ decompose composite shapes to more easily calculate area, surface area, and volume
- ❑ visualize the slicing of a 3-D figure

Meaning

UNDERSTANDINGS

Students will understand that...

- ❑ You can use what you know about writing and solving equations to solve problems involving area, surface area, volume, and angle relationships.
- ❑ Knowing about surface area and volume of rectangular prisms can help you find the surface area and volume of any type of prism and any figure composed of prisms.
- ❑ Knowing about two-dimensional figures can help you identify the shape formed when a plane slices a three-dimensional figure.
- ❑ You can use what you know about angles, triangles, and

ESSENTIAL QUESTIONS

Students will keep considering...

- ❑ How do you apply formulas to determine area, surface area, and volume of geometric figures?
- ❑ How do you slice 3-D shapes to produce 2-D shapes?

	quadrilaterals to draw shapes with a given set of characteristics. ❑ Knowing that special angles are formed when parallel lines are cut by a transversal	
	Acquisition	
	Students will know... ❑ I demonstrate an understanding of geometric figures and their properties.	*Students will be skilled at...* ❑ I can solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume. ❑ I can identify, use, and describe properties of angles and their measures. ❑ I can determine circumference, area, surface area, and volume. ❑ I can visualize and represent geometric figures and describe the relationships between them. ❑ I can describe and apply properties of geometric figures.

EAST PENN SCHOOL DISTRICT

Course Name	Math Course 2-3
Unit Title	Unit B: Geometric Figures: Rigid Transformations and Congruence

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards	Transfer
CC.2.3: Geometry	*Students will be able to independently use their learning to...*

<table>
<tr><td rowspan="5">CC.2.3.8.A.2
Understand and apply congruence, similarity, and geometric transformations using various tools.</td><td colspan="2">❑ see congruence, similarity, and transformations in real world tools such as maps and applying the properties of angles to find things like the most effective route from point a to point b.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>UNDERSTANDINGS
Students will understand that...
❑ Rigid transformations are slides, flips or turns that change the location or orientation of a figure but not its size or shape. You can use the coordinate plane to explore how transformations affect the coordinates of a figure's vertices.
❑ You can use rigid transformations to make sense of congruence and understand why corresponding sides and angles of congruent figures have the same measure.</td><td>ESSENTIAL QUESTIONS
Students will keep considering...
❑ how transformations impact ordered pairs.
❑ how angles changes based on the number of sides a figure has.</td></tr>
<tr><td colspan="2">Acquisition</td></tr>
<tr><td>Students will know...
❑ I understand congruence, similarity, and geometric transformations.</td><td>Students will be skilled at...
❑ I can apply congruence, similarity, and geometric transformations using various tools.
❑ I can recognize and/or apply properties of angles, polygons and polyhedra.
❑ I can use and/or compare measurements of angles.
❑ I can apply properties of geometric transformations to verify congruence or similarity.</td></tr>
</table>

Course Name Math Course 2-3

Unit Title Unit C: Geometric Figures: Transformations, Similarity, and Angle Relationships

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.3: Geometry

CC.2.3.8.A.2

Understand and apply congruence, similarity, and geometric transformations using various tools.

Transfer

Students will be able to independently use their learning to...

- ❏ recognize congruence, similarity, and transformations in the world both figuratively (metaphors, etc.) and literally (copies, scaling, etc.) in order to produce congruent, similar, and transformed versions of originals.

Meaning

UNDERSTANDINGS

Students will understand that...

- ❏ A dilation is a transformation that can enlarge or reduce a figure. You can use what you know about scale drawings to understand dilations and similar figures.
- ❏ You can use what you know about transformations to discover relationships between angles formed by a pair of parallel lines and a line that intersects them.
- ❏ Knowing about types of angle pairs will help explore relationships in triangles. You can use what you know about angle measures to show that two triangles are similar.

ESSENTIAL QUESTIONS

Students will keep considering...

- ❏ how properties of congruence, similarity, and transformations can impact beauty.
- ❏ how angle measures can impact success in such things as throwing/launching an object or playing pool.

Acquisition

Students will know...

Students will be skilled at...

	❑ I understand congruence, similarity, and geometric transformations.	❑ I can apply congruence, similarity, and geometric transformations using various tools. ❑ I can recognize and/or apply properties of angles, polygons and polyhedra. ❑ I can use and/or compare measurements of angles. ❑ I can apply properties of geometric transformations to verify congruence or similarity.

EAST PENN SCHOOL DISTRICT

Course Name Math Course 2-3

Unit Title Unit D: Linear Relationships: Slope, Lines, and Systems of Linear Equations

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

<table>
<tr><th>Standards</th><th colspan="2">Transfer</th></tr>
<tr><td rowspan="3">CC.2.2: Algebraic Concepts
CC.2.2.8.B.2
Understand the connections between proportional relationships, lines, and linear equations.

CC.2.2.8.B.3
Analyze and solve linear equations and pairs of simultaneous linear equations.</td><td colspan="2">Students will be able to independently use their learning to...
❑ analyze and apply their understanding of rates of change in their daily lives, other subjects, and in upcoming statistical concepts.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><td>UNDERSTANDINGS
Students will understand that...
❑ A linear equation in two variables is a graph that is a straight line. Knowing about proportional relationships can help you make sense of the slope and y-intercept of a line.
❑ Linear equations in one variable can have one</td><td>ESSENTIAL QUESTIONS
Students will keep considering...
❑ How can I find slope between two points, from an equation, table, or graph?
❑ What does the solution and number of solutions of linear systems represent?
❑ How can I solve linear equations, systems of linear equations, and</td></tr>
</table>

	solution, no solution, or infinitely many solutions. ❑ A system of linear equations is a group of related linear equations where a solution makes all the equations true at the same time. You can use what you know about solving equations to solve systems of equations.	inequalities using a variety of techniques?
	Acquisition	
	Students will know... ❑ I understand the connections between proportional relationships, lines, and linear equations.	*Students will be skilled at...* ❑ I can interpret and/or use linear functions and their equations, graphs or tables. ❑ I can analyze and describe linear relationships between two variables, using slope. ❑ I can analyze and solve linear equations and pairs of simultaneous linear equations. ❑ I can write, solve and/or graph systems of linear equations using various methods. ❑ I can analyze and solve linear equations and pairs of simultaneous linear equations. ❑ I can write, solve, graph, and interpret linear equations in one or two variables, using various methods.

Course Name Math Course 2-3

Unit Title Unit E: Functions: Linear and Nonlinear Relationships

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.2: Algebraic Concepts

CC.2.2.8.B.2
Understand the connections between proportional relationships, lines, and linear equations.

CC.2.2.8.C.1
Define, evaluate, and compare functions.

CC.2.2.8.C.2
Use concepts of functions to model relationships between quantities.

Transfer

Students will be able to independently use their learning to...

- ❏ interpret and evaluate rates of change such as unit cost in their daily lives to make decisions.

Meaning

UNDERSTANDINGS
Students will understand that...

- ❏ A function is a rule that assigns exactly one output to each input. You can use what you know about relationships between two variables to help you understand functions.
- ❏ You can use tables, graphs, equations, and verbal descriptions to model, evaluate, and compare characteristics of linear functions.
- ❏ You can describe a function qualitatively based on its graph, even when no scale values are shown.

ESSENTIAL QUESTIONS
Students will keep considering...

- ❏ How do I represent relationships as functions?
- ❏ What are the benefits of the different representations of functions (algebraically, graphically, or numerically in tables or by verbal descriptions)?

Acquisition

Students will know...

- ❏ I understand the connections between proportional relationships, lines, and linear equations.

Students will be skilled at...

- ❏ I can define, evaluate, and compare functions.
- ❏ I can write, solve and/or graph linear equations and inequalities using various methods.
- ❏ I can analyze and/or use patterns or relations.

		❑ I can interpret and/or use linear functions and their equations, graphs or tables. ❑ I can define, evaluate, and compare functions displayed algebraically, graphically, or numerically in tables or by verbal descriptions. ❑ I can use concepts of functions to model relationships between quantities. ❑ I can describe, compute and/or use the rate of change (slope) of a line. ❑ I can use functions to model relationships between quantities. ❑ I can represent or interpret functional relationships between quantities using tables, graphs, and descriptions. ❑ I can analyze and describe linear relationships between two variables, using slope.

EAST PENN SCHOOL DISTRICT

Course Name Math Course 2-3

Unit Title Unit F: Proportional Reasoning: Percents and Statistical Samples

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards	Transfer
CC.2.1: Numbers and Operations	*Students will be able to independently use their learning to...*

CC.2.1.7.D.1
Analyze proportional relationships and use them to model and solve real-world and mathematical problems.

CC.2.4: Measurement, Data and Probability
CC.2.4.7.B.1
Draw inferences about populations based on random sampling concepts.

CC.2.4.7.B.2
Draw informal comparative inferences about two populations.

- ❏ apply percentages to solve real-world problems involving interest rates, markup, discounts, coupons, commissions, tax, tip/gratuity

Meaning

UNDERSTANDINGS
Students will understand that…

- ❏ Knowing how to reason proportionally can help you understand applications of percents, such as simple interest, percent change, and percent error.
- ❏ You can use proportional reasoning skills to draw conclusions about populations based on random samples.
- ❏ You can use what you know about data distributions and measures of center and variability to compare two populations.

ESSENTIAL QUESTIONS
Students will keep considering…

- ❏ How does a percent represent a significant change?
- ❏ How do you use a random sample to make an inference about a population?

Acquisition

Students will know…

- ❏ I demonstrate an understanding of proportional relationships.

Students will be skilled at…

- ❏ I can analyze proportional relationships and use them to model and solve real-world and mathematical problems.
- ❏ I can use random samples.
- ❏ I can draw inferences about populations based on random sampling concepts.
- ❏ I can draw informal comparative inferences about two populations.
- ❏ I can use statistical measures to compare two numerical data distributions.

EAST PENN SCHOOL DISTRICT

Course Name Math Course 2-3

Unit Title Unit G: Integer Exponents: Properties and Scientific Notation

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.2: Algebraic Concepts

CC.2.2.8.B.1

Apply concepts of radicals and integer exponents to generate equivalent expressions.

Transfer

Students will be able to independently use their learning to...

- ❏ represent quantities in a variety of ways using different syntax such as scientific notation.

Meaning

UNDERSTANDINGS

Students will understand that...

- ❏ You can explore operations with powers and discover patterns that help you understand and apply properties of exponents.
- ❏ A very large or very small quantity can be expressed as the product of a number and a power of 10. You can use what you know about properties of exponents to operate with numbers in this form.

ESSENTIAL QUESTIONS

Students will keep considering...

- ❏ How can I simplify radicals and expressions using exponent properties to be more manageable?
- ❏ How can I represent large/small quantities using scientific notation to be more manageable?

Acquisition

Students will know...

- ❏ I demonstrate an understanding of expressions and equations with radicals and integer exponents.

Students will be skilled at...

- ❏ I can apply concepts of radicals and integer exponents to generate equivalent expressions.
- ❏ I can use exponents, roots and/or absolute value to solve problems.

		❑ I can represent and use expressions and equations to solve problems involving radicals and integer exponents.

Course Name Math Course 2-3

Unit Title Unit H: Real Numbers: Rational Numbers, Irrational Numbers, and the Pythagorean Theorem

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.1: Numbers and Operations

CC.2.1.8.E.1
Distinguish between rational and irrational numbers using their properties.

CC.2.1.8.E.4
Estimate irrational numbers by comparing them to rational numbers.

CC.2.3: Geometry

CC.2.3.8.A.1
Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.

CC.2.3.8.A.3
Understand and apply the Pythagorean Theorem to solve problems.

Transfer

Students will be able to independently use their learning to...

- ❑ represent values in various ways to have a greater understanding of the capacity of 3-dimensional spaces in their daily lives when they do such things as cooking, packing, etc.

Meaning

UNDERSTANDINGS
Students will understand that...

- ❑ An irrational number cannot be written as a terminating or repeating decimal. You can use what you know about working with rational numbers to solve problems with irrational numbers in topics like algebra and geometry.
- ❑ The side lengths of a right triangle have a special relationship. You can use this relationship and what you know about triangles to determine unknown side lengths.

ESSENTIAL QUESTIONS
Students will keep considering...

- ❑ How to find unknown measurements of a shape from known dimensions?
- ❑ How do the different representations of numbers relate to one another?

	❑ You can use what you know about pi and the area of circles to solve real-world problems about the volumes of cylinders, cones, and spheres.	
	Acquisition	
	Students will know... ❑ I demonstrate an understanding of rational and irrational numbers. ❑ I understand the Pythagorean Theorem.	*Students will be skilled at...* ❑ I can distinguish between rational and irrational numbers using their properties. ❑ I can represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents). ❑ I can apply concepts of rational and irrational numbers. ❑ I can estimate irrational numbers by comparing them to rational numbers. ❑ I can apply the Pythagorean Theorem to solve problems. ❑ I can solve problems using analytic geometry. ❑ I can solve problems involving right triangles by applying the Pythagorean theorem. ❑ I can apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems. ❑ I can use and/or develop procedures to determine or describe measures of surface area and/or volume. (May require

		conversions within the same system.) ❑ I can solve real-world and mathematical problems involving volume. ❑ I can apply volume formulas of cones, cylinders, and spheres.

EAST PENN SCHOOL DISTRICT

Course Name Math Course 2-3

Unit Title Unit I: Probability: Theoretical Probability, Experimental Probability, and Compound Events

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards	Transfer	
CC.2.4: Measurement, Data and Probability CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.	*Students will be able to independently use their learning to...* ❑ determine the likelihood of a given event such as rolling a number cube or choosing a card	
	Meaning	
	UNDERSTANDINGS *Students will understand that...* ❑ The probability of a chance event is a number between 0 and 1 that tells how likely the event is to occur. You can use proportional reasoning to understand probabilities and to make predictions about future events. ❑ You can use what you know about collecting and analyzing data to help you estimate the	ESSENTIAL QUESTIONS *Students will keep considering...* ❑ How can we base decisions on chance? ❑ How can probability be used to simulate events and to predict future happenings.

	probability of a chance event. ❑ Analyzing possible outcomes and using what you know about fractions, decimals, and percents can also help you determine probability.	
	Acquisition	
	Students will know... ❑ the difference between theoretical vs. experimental probability ❑ what tree diagrams and lists represent ❑ the meaning of likelihood, probability	*Students will be skilled at...* ❑ I can investigate chance processes and develop, use, and evaluate probability models. ❑ I can apply probability to practical situations. ❑ I can investigate chance processes and develop, use, and evaluate probability models. ❑ I can predict or determine the likelihood of outcomes. ❑ I can use probability to predict outcomes.

EAST PENN SCHOOL DISTRICT

Course Name Math Course 2-3

Unit Title Unit J: Statistics: Two-Variable Data and Fitting a Linear Model

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards	**Transfer**	
CC.2.4: Measurement, Data and Probability CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations.	*Students will be able to independently use their learning to...* ❑ ask and answer questions systematically to better understand relationships between two variables.	
	Meaning	
	UNDERSTANDINGS *Students will understand that...*	ESSENTIAL QUESTIONS *Students will keep considering...*

<table>
<tr><td rowspan="3">CC.2.4.8.B.2
Understand that patterns of association can be seen in bivariate data utilizing frequencies.</td><td>❑ You can build on what you know about one-variable data displays by constructing and analyzing two-variable data displays.
❑ Knowing about linear equations will help you model a linear pattern in a two-variable dataset and use your model to make predictions.
❑ You will organize and interpret two-variable categorical data and describe possible associations between the variables using relative frequencies.</td><td>❑ How can bivariate data represent relationships between two variables?
❑ What is the importance of using data and visual representations of data to understand variables?</td></tr>
<tr><td colspan="2">Acquisition</td></tr>
<tr><td>Students will know...
❑ I understand that patterns of association can be seen in bivariate data utilizing frequencies.
❑ I can understand that patterns of association can be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.</td><td>Students will be skilled at...
❑ I can analyze and/or interpret bivariate data displayed in multiple representations.
❑ I can analyze and/or interpret data on a scatter plot.
❑ I can investigate patterns of association in bivariate data.
❑ I can analyze and interpret bivariate data displayed in multiple representations.</td></tr>
</table>