

Topic: Congruence, Similarity, and Proofs

Key Learning(s): G.1.3.1

The students will use properties of congruence, correspondence, and similarity in problem solving settings involving 2- and 3-dimensional figures.

CC.2.3.HS.A.2, CC.2.3.HS.A.5, CC.2.3.HS.A.6

Optional Instructional Tools:

Unit Essential Question(s): How can you use properties of congruence, correspondence, and similarity in problem solving settings involving 2- and 3-dimensional figures?

Concept: G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.	Concept: G.1.3.1.2 Identify and/or use proportional relationships in similar figures.	Concept:
Lesson Essential Questions: How can you identify and/or use properties of congruent and similar polygons or solids?	Lesson Essential Questions: How can you identify and/or use proportional relationships in similar figures?	Lesson Essential Questions:
Vocabulary: congruent, similar, polygons, solids	Vocabulary: proportional relationships	Vocabulary:

Concept:	Concept:	Concept:
Lesson Essential Questions:	Lesson Essential Questions:	Lesson Essential Questions:
Vocabulary:	Vocabulary:	Vocabulary:

Attached Document(s):

Additional Info:

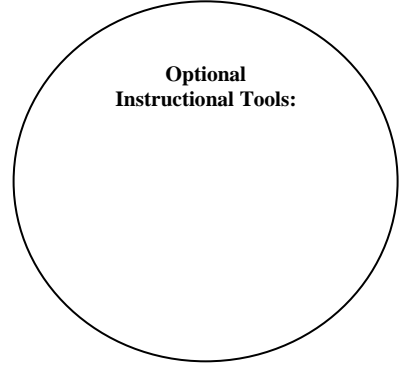
Topic: Congruence, Similarity, and Proofs

Topic:

Key Learning(s): G.1.3.2

The students will write formal proofs and/or use logic statements to construct or validate arguments.
 CC.2.3.HS.A.6, CC.2.3.HS.A.8, CC.2.3.HS.A.3, CC.2.3.HS.A.9

**Optional
Instructional Tools:**



Unit Essential Question(s):

How are formal proofs and /or logic statements used to construct or validate arguments?

Concept: G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/ proofs by contradiction	Concept:	Concept:
Lesson Essential Questions: How can you write, analyze, complete, or identify formal proofs or proofs by contradiction	Lesson Essential Questions: 1.	Lesson Essential Questions: 1.
Vocabulary: formal proof, contradiction	Vocabulary:	Vocabulary:

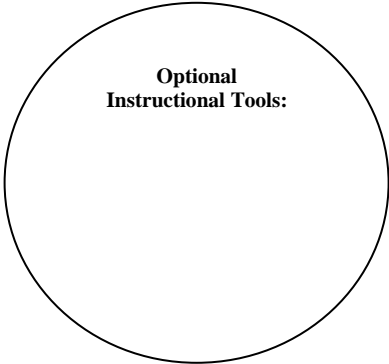
Concept:	Concept:	Concept:
Lesson Essential Questions: 1.	Lesson Essential Questions: 1.	Lesson Essential Questions:
Vocabulary:	Vocabulary:	Vocabulary:

Attached Document(s):

Additional Info:

Topic: Measurement of Two-Dimensional Shapes and Figures

Key Learning(s): G.2.2.1
 The students will use and/or compare measurements of angles
 CC.2.3.HS.A3



Unit Essential Question(s):
 How can you use and/or compare measurements of angles?

<p>Concept: G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles.</p>	<p>Concept: G.2.2.1.2 Use properties of angles formed when two parallel lines are cut by a transversal to find the measures of missing angles.</p>	<p>Concept:</p>
<p>Lesson Essential Questions: How can the properties of angles formed by intersecting lines are used to find the measures of missing angles?</p>	<p>Lesson Essential Questions: How are the properties of angles formed when two parallel lines are cut by a transversal used to find the measures of missing angles?</p>	<p>Lesson Essential Questions:</p>
<p>Vocabulary:</p>	<p>Vocabulary:</p>	<p>Vocabulary:</p>

<p>Concept:</p>	<p>Concept:</p>	<p>Concept:</p>
<p>Lesson Essential Questions: 1.</p>	<p>Lesson Essential Questions: 1.</p>	<p>Lesson Essential Questions:</p>
<p>Vocabulary:</p>	<p>Vocabulary:</p>	<p>Vocabulary:</p>

Attached Document(s):

Additional Info:

Measurement of Two-Dimensional Shapes and Figures

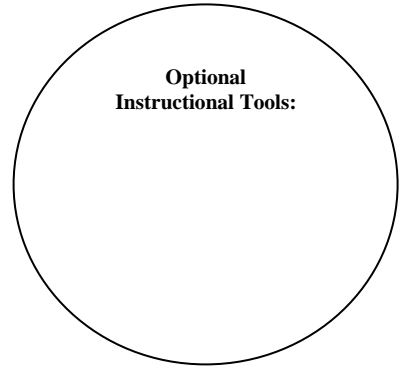
Topic:

Key Learning(s): G.2.2.2

The students will use and/or develop procedures to determine or describe measures of perimeter, circumference, and/or area.

CC.2.3.HS.A3,CC.2.3.HS.A.9

**Optional
Instructional Tools:**



Unit Essential Question(s):

What are the procedures to determine or describe measures of perimeter, circumference, and/or area?

Concept: G.2.2.2.1 Estimate area, perimeter, or circumference of an irregular figure.	Concept: : G.2.2.2.2 Find the measurement of a missing length, given the perimeter, circumference, or area.	Concept: : G.2.2.2.3 Find the side lengths of a polygon with a given perimeter to maximize the area of the polygon.
Lesson Essential Questions: How do you estimate area, perimeter, or circumference of an irregular figure?	Lesson Essential Questions: How can you find the measurement of a missing length, given the perimeter, circumference, or area?	Lesson Essential Questions: How can you find the side lengths of a polygon with a given perimeter to maximize the area of the polygon?
Vocabulary:estimate, area, perimeter, circumference, irregular	Vocabulary:perimeter, circumference, area	Vocabulary:polygon, perimeter, maximize, area

Concept: G.2.2.2.4 Develop and/or use strategies to estimate the area of a compound/composite figure.	Concept: G.2.2.2.5 Find the area of a sector of a circle.	Concept:
Lesson Essential Questions: How can you develop and/or use strategies to estimate the area of a compound/composite figure?	Lesson Essential Questions: How can you find the area of a sector of a circle?	Lesson Essential Questions:
Vocabulary:compound, composite figure	Vocabulary:sector	Vocabulary:

Attached Document(s):

Additional Info:

Measurement of Two-Dimensional Shapes and Figures

Topic:

Key Learning(s): G.2.2.3

The students will describe how a change in one dimension of a 2-dimensional figure affects other measurements of that figure.

CC.2.3.HS.A.8

**Optional
Instructional Tools:**

Unit Essential Question(s):

Can you describe how a change in one dimension of a 2-dimensional figure affects other measurements of that figure?

<p>Concept: G.2.2.3.1</p> <p>Describe how a change in the linear dimension of a figure affects its perimeter, circumference, and area.</p>	<p>Concept:</p>	<p>Concept:</p>
<p>Lesson Essential Questions:</p> <p>How does changing the length of the radius of a circle affect the circumference of the circle?</p>	<p>Lesson Essential Questions:</p> <p>1.</p>	<p>Lesson Essential Questions:</p> <p>1.</p>
<p>Vocabulary: radius, circumference</p>	<p>Vocabulary:</p>	<p>Vocabulary:</p>

Attached Document(s):

Additional Info:

Measurement of Two-Dimensional Shapes and Figures

Topic:

Key Learning(s): G.2.2.4

The students will apply probability to practical situations.

CC.2.3.HS.A.10

**Optional
Instructional Tools:**

Unit Essential Question(s):

How can probability be applied to practical situations?

Concept: G.2.2.4.1 Use area models to find probabilities.	Concept:	Concept:
Lesson Essential Questions: How is area models used to find probabilities?	Lesson Essential Questions: 1.	Lesson Essential Questions: 1.
Vocabulary: models, probabilities	Vocabulary:	Vocabulary:

Concept:	Concept:	Concept:
Lesson Essential Questions: 1.	Lesson Essential Questions: 1.	Lesson Essential Questions:
Vocabulary:	Vocabulary:	Vocabulary:

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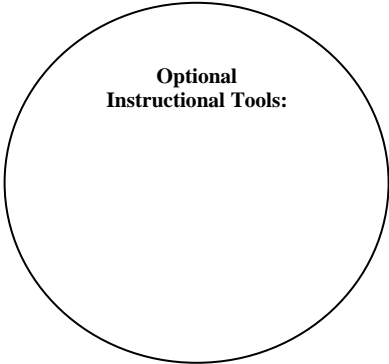
Additional Info:

Topic: Measurements of Three-Dimensional Shapes and Figures

Key Learning(s): G.2.3.1

The students will use and/or develop procedures to determine or describe measures of surface area and/or volume.

CC.2.3.HS.A.12, CC.2.3.HS.A.14



Unit Essential Question(s):

What procedures can be developed to determine or describe measures of surface area and/or volume?

<p>Concept: G.2.3.1.1</p> <p>Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p>	<p>Concept: G.2.3.1.2</p> <p>Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p>	<p>Concept: G.2.3.1.3</p> <p>Find the measurement of a missing length, given the surface area or volume.</p>
<p>Lesson Essential Questions:</p> <p>How can the surface area of prisms, cylinders, cones, pyramids, and/or spheres be calculated?</p>	<p>Lesson Essential Questions:</p> <p>How can the volume of prisms, cylinders, cones, pyramids, and/or spheres be calculated?</p>	<p>Lesson Essential Questions:</p> <p>How can the measurement of a missing length be found, given the surface area or volume?</p>
<p>Vocabulary: surface area, prism, cylinder, cone, sphere</p>	<p>Vocabulary: volume, prisms, cylinders, Pyramids, spheres</p>	<p>Vocabulary: surface area, volume</p>

Concept:	Concept:	Concept:
Lesson Essential Questions: 1.	Lesson Essential Questions: 1.	Lesson Essential Questions:
Vocabulary:	Vocabulary:	Vocabulary:

Attached Document(s):

Additional Info:

Measurements of Three-Dimensional Shapes and Figures

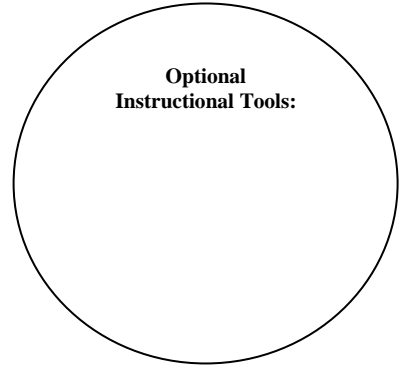
Topic:

Key Learning(s): G.2.3.2

The students will be able to describe how a change in one dimension of a 3-dimensional figure affects other measurements of that figure.

CC.2.3.HS.A.13

**Optional
Instructional Tools:**



Unit Essential Question(s):

How does a change in one dimension of a 3-dimensional figure affect other measurements of that figure?

<p>Concept: G.2.3.2.1</p> <p>Describe how a change in the linear dimension of a figure affects its surface area or volume</p>	<p>Concept:</p>	<p>Concept:</p>
<p>Lesson Essential Questions:</p> <p>How does changing the length of the edge of a cube affect the volume of the cube?</p>	<p>Lesson Essential Questions:</p> <p>1.</p>	<p>Lesson Essential Questions:</p> <p>1.</p>
<p>Vocabulary: cube, volume</p>	<p>Vocabulary:</p>	<p>Vocabulary:</p>

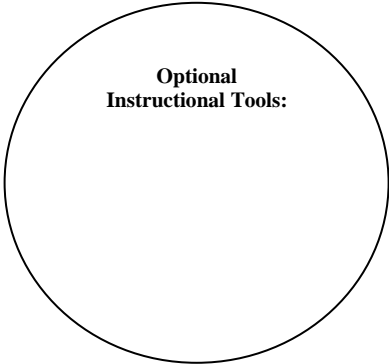
<p>Concept:</p>	<p>Concept:</p>	<p>Concept:</p>
<p>Lesson Essential Questions:</p> <p>1.</p>	<p>Lesson Essential Questions:</p> <p>1.</p>	<p>Lesson Essential Questions:</p>
<p>Vocabulary:</p>	<p>Vocabulary:</p>	<p>Vocabulary:</p>

Attached Document(s):

Additional Info:

Topic: Properties of Circles, Spheres, and Cylinders

Key Learning(s): G.1.1.1
 The students will identify and/or use parts of circles and segments associated with circles, spheres, and cylinders.
 CC2.3.HS.A.13, CC.2.3.HS.A.8, CC.2.3.HS.A.9



Unit Essential Question(s): How can you identify and/or use parts of circles and segments associated with circles, spheres, and cylinders?

<p>Concept: G.1.1.1.1 Identify, determine, and/ or use the radius, diameter, segment, and/ or tangent of a circle.</p>	<p>Concept: G.1.1.1. 2 Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.</p>	<p>Concept: G.1.1.1.3 Use chords, tangents, and secants to find missing arc measures or missing segment measures.</p>
<p>Lesson Essential Questions: How can you identify, determine, and/ or use the radius, diameter, segment, and/ or tangent of a circle?</p>	<p>Lesson Essential Questions: How can you identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle?</p>	<p>Lesson Essential Questions: How can you use chords, tangents, and secants to find missing arc measures or missing segment measures?</p>
<p>Vocabulary:radius, diameter, segment, tangent</p>	<p>Vocabulary:arcs, semicircles, sectors, angles</p>	<p>Vocabulary:chords, tangents, secants</p>

<p>Concept G.1.1.1.4 Identify and/or use the properties of a Sphere or cylinder.</p>	<p>Concept:</p>	<p>Concept:</p>
<p>Lesson Essential Questions: How can you identify and/or use the properties of a sphere or cylinder?</p>	<p>Lesson Essential Questions:</p>	<p>Lesson Essential Questions:</p>
<p>Vocabulary: sphere, cylinder</p>	<p>Vocabulary:</p>	<p>Vocabulary:</p>

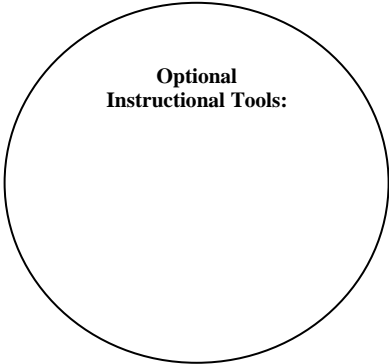
Attached Document(s):

Additional Info:

Topic: Properties of Polygons and Polyhedra

Key Learning(s): G.1.2.1
 The students will recognize and/or apply properties of angles, polygons, and polyhedra.
 CC.2.3.HS.A.3,CC.2.3.HS.A.13

Unit Essential Question(s): How can you recognize and/or apply properties of angles, polygons, and polyhedral?



Concept: G.1.2.1.1 Identify and/or use properties of triangles.	Concept: G.1.2.1.2 Identify and/or use properties of quadrilaterals	Concept: G.1.2.1.3 Identify and/or use properties of isosceles and equilateral triangles.
Lesson Essential Questions: How can you identify and/or use properties of triangles?	Lesson Essential Questions: How can you identify and/or use properties of quadrilaterals?	Lesson Essential Questions: How can you identify and/or use properties of isosceles and equilateral triangles?
Vocabulary:triangles	Vocabulary:quadrilaterals	Vocabulary:isosceles, equilateral triangles

Concept: G.1.2.1.4 Identify and/or use properties of regular polygons.	Concept: G.1.2.1.5 Identify and/or use properties of pyramids and prisms.	Concept:
Lesson Essential Questions: How can you identify and/or use properties of regular polygons?	Lesson Essential Questions: How can you identify and/or use properties of pyramids and prisms?	Lesson Essential Questions:
Vocabulary:regular polygons	Vocabulary:pyramids, prisms	Vocabulary:

Attached Document(s):

Additional Info: