Integrated II Unit 7: Geometric Transformations and Congruence
Universal Essential Question: Why is resilience crucial for success? How does investigation lead to discovery? (7th)
Content Essential Question: How do mathematical relationships help us make sense of the world?

Learning Objectives At the completion of this unit, I should …	Self-Rating, what you understand/don't yet understand and (last column only) how you learned it 0 – I have no idea. 1 – I cannot solve problems yet but I am beginning to understand the strategies 2 – I can solve problems but do not yet know why the math works. 3 – I understand why the math works and can solve most problems but still make mistakes. 4 – I understand why the math works and can consistently and accurately solve problems.		
Know – Vocabulary related to transformations			
Be able to – Describe the translation of a figure in a plane (both by translation vectors and in a coordinate plane).			
– Describe the reflection of a figure in a plane (both by using a mirror line and in a coordinate plane).			
– Describe the rotation of a figure in a plane (both by using an angle of rotation and in a coordinate plane).			
– Describe the dilation of a figure in a plane (both by using a scale factor and in a coordinate plane).			
– Use information about two congruent geometric figures to describe their corresponding sides and angles.			
Understand – That rigid motion transformations result in congruent polygons.			
– How transformations relate to congruence and similarity			

Vocabulary of coordinate geometry

Transformations	Angle of rotation	Mapping
Translation	Point of rotation	Image
Vector	Dilation	Pre-Image
Reflection	Scale factor	Isometry
Mirror line	Rigid motion	
Rotation	Congruence	

Process Choice Matrix

1. Complete one cell in each column and in each row. Write this in your INB and be sure I can read it.

Transformations	Translation, Reflection, Rotation, Dilation	Combined Transformations and Congruence
Choose **3** unfamiliar words from the general transformations section. Make a 4-Square for each showing the definition, an example, a non-example, and symbols used.	Name **3** ways translation, reflection, rotation, or dilation transform a figure.	Name **3** rigid motions. Describe how you might use each rigid motion to prove one figure is congruent to another.
Compare and contrast **2** vector notation and coordinate notation. Give at least 2 similarities and 2 difference	Describe **2** real-world uses for each transformation we studied (translation, reflection, rotation, dilation).	Is the order in which you perform a combined transformation important? Give **2** different examples justifying your statement.
Describe the **1** most important property of an Isometry (in your opinion) and explain why.	List **1** transformation that you feel is most challenging, why, and how you will overcome this obstacle	Describe **1** example that shows that two different combined transformations (not a different sequence) can lead to the same image.

2. How does the mathematics we studied in this unit relate to the content and universal essential questions? Be specific by providing evidence from your learning activities for the unit.