

Stage 1 Desired Results		
ESTABLISHED GOALS <ul style="list-style-type: none"> - Students will be able to accurately identify right angles, obtuse angles, and acute angles. - Students will be able to accurately identify supplementary angles and complementary angles. - Students will be able to accurately draw points, lines, line segments, rays, angles . - Students will be able to identify perpendicular and parallel lines. - Students will be able to identify these in two-dimensional figures. <p>(4.G.1) State Standard</p>	Transfer <p><i>Students will be able to independently use their learning to...</i></p> <ul style="list-style-type: none"> - create a blueprint for a bridge or other various construction buildings, and notice the structural engineering components of each of these buildings. - identify and see the importance of perpendicular and parallel lines in the world around them. - research and study abstract, two-dimensional, geometric artwork then create their own. 	
	Meaning	
	UNDERSTANDINGS <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> - angles are often used in bridges to hold up the weight of passengers across a bridge. - abstract artwork often portrays geometric two-dimensional shapes as well as rays, points, lines, angles and line segments. - there exists a unique application of parallel and perpendicular lines on coursing maps which is essential to city planning and development. - life is full of these two-dimensional figures in the world around them. - points, lines, line segments, rays and angles are key elements to future application in jobs such as engineering, governmental positions, legislation, military techniques, 	ESSENTIAL QUESTIONS <ul style="list-style-type: none"> - How can you use the angles and lines that you have learned to build a bridge? - How can you use perpendicular and parallel lines to create a city map? - How can you use the two-dimensional figures we have learned to create an animal? a plant? a mode of transportation? - If you could build something using all of the content that we have learned, what would it be? Why? - What are some of your favorite structural engineers and their design standards for building bridges? Why?

	artwork, media and police enforcement.	
	Acquisition	
	<p><i>Students will know...</i></p> <ul style="list-style-type: none"> - a perpendicular line is at a 90 degree angle - a parallel line runs at the same angle as another line and thereby they never cross - a right angle is set at a 90 degree angle. It is also known as a complementary angle. - an obtuse angle is any angle greater than 90 degrees and up to 180 degrees. - an acute angle is any angle less than 90 degrees but more than zero. 	<p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> - identifying key elements of points, lines, line segments, perpendicular, parallel lines, right angles, acute angles, obtuse angles, angles, two-dimensional shapes and rays in nature and the world around them by creating a collage. - using their knowledge to develop a blueprint for constructing a bridge. - researching and discussing various structural engineering techniques for building bridges. - identifying the use of points, lines, right angles, acute angles, obtuse angles, and rays within various occupational jobs in society. - using their knowledge of points, lines, rays and angles in painting an abstract piece of artwork.
Stage 2 - Evidence		
Evaluative Criteria	Assessment Evidence	
<ul style="list-style-type: none"> - Students successfully pass both a midterm and final exam regarding the unit content. 	<p>PERFORMANCE TASK(S):</p> <ul style="list-style-type: none"> - The Abstract Artwork contains points, lines, line segments, rays and angles which are correctly and appropriately described in an oral presentation (explaining the contemporary abstract artwork piece created by the student). - The students will create a blueprint for a bridge. They will research online various techniques for building bridges. They will discover what types of angles must be used to provide the most strength. 	

	<ul style="list-style-type: none"> - The students will be given an example pre-test to help them study for the final exam. This will provide review so that the students can succeed and also know what is expected of them.
<ul style="list-style-type: none"> - Rubric For Project Objectives Listed in Performance Tasks. - Students show understanding of perpendicular and parallel lines as well as obtuse, acute and right angles when constructing both abstract artwork as well as a bridge blueprint design. 	<p>OTHER EVIDENCE:</p> <ul style="list-style-type: none"> - The Abstract Artwork contains a nice selection of colors that compliment one another. - The presentation of the artwork must be done with accurate terminology as well as understanding (of key words in the unit). - The students will provide on graph paper a front view, top view and side view of the bridge.

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Day One of Instruction

- Students will be given a paper that has the Keywords: Point, Line, Line Segment, Ray
- On that page, students will be asked to draw an example of each of those keywords.
- Lastly, students will be required to look in their textbook to find the definition and meaning of the keywords. They will write that on their page.
- They will complete homework in their textbook about labeling various examples of points, lines, line segments and rays appropriately.

Day Two of Instruction

- Students will complete a review quiz on the material they just learned in order for me to assess the student understanding of the material. It will be a simple definitions matching quiz with a few examples of each keyword concept.
- Students will be presented with abstract art. Then they will be given the opportunity to create their own abstract art using the keyword concepts.

Day Three of Instruction

- Students will complete their abstract art and then present it in class.
- If they have not finished, they will have the opportunity to take it home and finish it for homework.

Day Four of Instruction

- Students will continue their presentations and provide positive feedback and peer review. Students will clap after each presentation as well as be given the opportunity to share with the artists only “what they like about the painting/drawing.” This will encourage the student.
- Students will be given another list of Keywords: obtuse angle, acute angle, right angle, parallel and perpendicular lines.
- On that page, students will be asked to draw an example of each of those keywords.

- Lastly, students will be required to look in their textbook to find the definition and meaning of the keywords. They will write that on their page.
- They will complete homework in their textbook about labeling various examples of obtuse angles, acute angles, right angles, parallel and perpendicular lines.

Day Five of Instruction

- Students will complete a quiz to assess student understanding of the new keywords.
- Students will begin research on bridge and building construction designs. They will be required to find out what angles to use to strengthen the bridge structure.
- They will be given graph paper and shown an example of a front view, top view and side view of a bridge.
- They will then be allowed to start their project objective of designing their own bridge using the various angles and techniques that they have learned.

Day Six of Instruction

- Students will complete their drawing in class of their bridge.
- Students will then be shown an example of a map depicting parallel and perpendicular lines.
- Students will review cardinal directions as well as turning left and right.
- For homework, students will be given puzzle games of a map that have a starting point and label the ending point questions (by using the cardinal directions and instructions- they must discover where various characters travel on the map).

Day Seven of Instruction

- Students will create their own map and create their own puzzle game map.
- They will create instructions and then the teacher will collect their maps and instructions.

Day Eight of Instruction

- I will make copies of the maps and instructions and students will work on figuring out the answers to their classmates' puzzle map game (of beginning and ending points of various characters).
- They can work on this in class and then finish the puzzle map instruction games for homework.

Day Nine of Instruction

- Students will complete a review pre-test quiz student understanding of the unit.

Day Ten of Instruction

- Review of the pre-test and answer any student questions about the material.

Day Eleven of Instruction

- Students will complete an end of unit test during the class period.