

Brittany Williams

Learning with the Internet

Wikispace Units – Types of Quadrilaterals

Wikispace example URL: <https://williamsquadrilaterals.wikispaces.com/Parallelograms>

Wikispace Intended Users: This project is intended for high school Geometry students

Project Purpose

The project I would like to implement into my geometry class in the future consists of a collaborative group project for the unit on quadrilaterals. I will split my class into five groups, one group for each type of quadrilateral; parallelogram, rhombus, square, rectangle, and trapezoid. I will split the groups myself being very purposeful in picking specific students to work with other students, this will eliminate all the stronger students being in the same groups and students who pick their friends and then do not work on the project. Each group will be assigned a type of quadrilateral at random. They will be given a rubric and guidelines. Each group will need to create a wiki space for their quadrilateral with the properties of the shape with pictures that explain what the properties mean and how to find the area of the shape. Students will also have to give at least two examples of their shape in the real world and explain why that shape is used (i.e. parallelograms on a guitar to help with finger placement.) They then will have to create 5 questions about their shape to be put on their wiki space. One question needs to use algebra, one needs to be a word problem, and each need to cover a different property. They will have to turn in the answer key to those questions to me (the only part of the project not going on the wiki space).

There are a couple of different ways the students can create their wiki spaces. My classroom has computers in the room that have internet for them to research and access the wiki spaces from, we also have access to an iPad cart that we can check out so the students can work in other locations on their project rather than just in my classroom. They can work in other rooms on this project since every classroom in my building has computers so the possibilities on locations are endless.

This project will allow students to learn about the different types of quadrilaterals by learning from their peers. Since they had to find the properties, find picture examples of the properties and create examples, the retention of the material should be much higher than just sitting and getting all the information from me. On the last day of the project, the students will present their wiki spaces to the class. The class will have access to all the wiki spaces afterward. This project will serve as a study guide of sorts for students to utilize during this unit. The examples created by each team will be put on a quiz for the class to take when the unit is over. This is an opportunity for each student to work collaboratively for the greater good of not only their own learning, but the learning of others.

Learning Outcomes/Objectives and Standards

The learning outcomes for this project are so that students can learn the properties of special quadrilaterals and how to apply them to solve math problems and where they can find these shapes useful in a real world situation. When the unit is finished they will know what determines each shape and how they apply to their everyday lives. Students will also learn 21 century learning skills like creativity (how they want to create their page), critical thinking (why

do they care about the shape and what questions could I make utilizing the properties), communication (presenting their work to the class), and collaboration (working with a group to create one cohesive project). This project meets the states standards of:

- CCSS.MATH.CONTENT.HSG.MG.A.1-Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*
- ISTE.1 -* Creativity and innovation - Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. a.) Apply existing knowledge to generate new ideas, products, or processes b.) Create original works as a means of personal or group expression c.) Use models and simulations to explore complex systems and issues d.) Identify trends and forecast possibilities.

Assessment

Students will be given a rubric at the beginning of the project that will outline how they will be assessed. They will be graded as a whole group but also individually. I will give them the chance to let me know who did what on the project and give them each what they individually earned. The rubric shown below outlines what they need in order to earn all points. They will grade themselves using the rubric as will I. They will also have to write a reflection statement about how they think the project went and if they feel everyone did their part.

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Format	All properties of shape are included with pictures of explanation of properties	All properties of shape are included and some pictures are missing	Some properties of shape are included with some or no pictures	Properties are not correct/ not included and pictures are not present	There is no wiki space
Real World Connection	There are at least two examples of real world applications of the shape with information as to why they are used	There are two examples of real world applications with no information as to why they are used	There is one example of real world applications with little/ no information as to why they are used	There is one example that could be a real world application	There no examples of real world application
Presentation	The presentation flows (has a beginning, middle, & end), presenter is knowledgeable of content and engages audience (eye contact)	The presentation is clear on topic, presenter is knowledgeable of content and has some eye contact	The presentation has a topic, presenter is somewhat knowledgeable of content and has little contact	The presentation does not have a topic, presenter is not knowledgeable of content and has no eye contact	There was no presentation
Questions	5 questions are present, at least one is algebraic, one is a word problem and all cover different properties	5 questions are present, at least one is algebraic or one is a word problem and all cover different properties	5 questions are present about the shape	Less than 5 questions are present	There are no questions on the topic

Meaningful Learning with Technology

As students collaborate and contribute to their wiki spaces, they will have gained valuable knowledge of the shape they are looking in to. They will learn the properties of their shape and how to utilize that information to solve (and create) problems. Students are participating in meaningful learning for the following reasons.

Active- Students will be expected to have participated in the project with their group in order to create their page and meet all the expectations set by the rubric. They will also be able to move

around the room and go to various spots in the school to work so they are not restricted to a desk.

Intentional- Students will be able to show the knowledge they have gained about their shape by creating the wiki space together as a group. Students will be able to utilize the properties they learned about by solving problems. They will be able to remember this information better because they had to search for the information and not just regurgitate what I have told them.

Authentic- Students will have to work together to create a wiki space for their respective shape. This will be new information to them and they will have to create something authentic to them and be able to explain what the properties mean in their own way.

Cooperative- Students will have to work together to create their wiki spaces and each student within that group will be held accountable for parts of the project to be determined by the group. If each group fulfills their responsibility and creates their site the project will be successful because they will have created spaces for all special quadrilaterals.

Constructive- This project will allow students to create something useful not only to their group but for the class as a whole. Every student will have access to every group's space and will use those spaces along with the student's presentation to learn the properties of all the quadrilaterals.

Reflection of Project

While creating this project, I was trying to come up with something that while meaningful, will be beneficial to everyone involved. I originally had the students creating wiki

spaces with their group using the properties and pictures explaining those properties. They also had to create some questions. I got some feedback from my peers about the project and after reading those I decided to add an element of real world to my project. The shapes now have to be found in real world and put onto the wiki space with an explanation as to what that shape is being used for and why. I also decided to include my rubric. This project should give students a good understanding as to how to create a wiki space and learn about properties in geometry.

Peer Review

Christopher Peters- I like the project but wonder how it is meaningful learning. They are working in a group and doing collaborative work but feel that really what they are doing is low on blooms scale. I wonder

- If you should add them making an object that is useful that you would find in the world with their shape?
- What if you had them use pictures that were actual things you see in this world?
- What if you had them lobby for why their object is better than the other objects using the history of how it is used?
- I like the project a lot but feel that it needs more depth of how it can connect to their lives. You have the foundation for an awesome project. I hope this helps and doesn't come across as being an ass...sorry
- I also changed a sentence in your paper above so make sure you do the same in your original

Karrie Symithia- I agree that this will help them retain the information much better.

Do you have a sample wiki space for them to see?

I know the assessment tool isn't required, but you should include the standards and objectives. Also, what will each student be required to do? How will you be sure everyone works on the project?

What guidelines will you give them? Can you outline those in your lesson design? I like the idea of them coming up with 5 questions. Will you give them examples of good questions?

Will the wiki be a group grade? Are you assessing the presentation as well?

