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Halle Herzog Maker Showcase

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Halle's Maker Showcase

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I am so excited to share my maker journey with you! Click on a button above to see a specific part of my Maker Showcase. To continue following my maker journey, check out my instagram @halle_makes

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Halle Herzog

Maker Showcase

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Maker Philosophy

My Personal Experience

Joining Maker

At first I was hesitant to join UTeach Maker. I felt making was something other people did, not me. Even as I sat through the Step 1 maker lesson and was told "everyone's a maker!", I thought "that's cool, but I'm not". I was afraid to try and fail. I felt I would not be good at making, so I wasn't even going to try. Shelly constantly encouraged me to apply, but I was not convinced. Finally, we had a talk about stepping outside of your comfort zone. As a teacher, I want my students to take risks and try new things. After all, that's how you learn. How would I be able to ask my students to step outside of their comfort zones if I myself could not? So I did it, I applied to UTeach Maker and began my maker journey.

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Using YouTube videos I learned some basic stitches and began to create. I used my friends and family as inspiration and made different projects. The feeling of teaching myself a new skill was exhilarating. I wanted more. From there I kept learning and making. With the help of the amazing UTeach maker community, I

Making & my Teaching Philosophy

Making had a huge impact on me as a person. I went from thinking I was not able to create, to constantly wanting to create and solve problems. I learned that I am capable of teaching myself new skills and gained confidence in my abilities. Because of this impact, I began to change how I viewed my role as a teacher. I want my students to feel like they are capable. I want them to solve problems. I want them to step outside of their comfort zones and learn new skills. I want my students to hold maker mindsets, make, and identify as makers. I went from thinking my role was to teach kids math, to viewing my role as one to prepare these students for their future, whatever that looks like. Yes, I will teach math, but I will also teach students to be creative problem-solvers through making.

Girls are Makers!

I found the report [Making Culture](#) by Youngmoo E. Kim, Kareem Edouard, Katelyn Alderfer, and Brian K. Smith to be a very interesting read. It touched on how makerspaces have a positive impact in K-12 education, but also talked about the gaps in inclusion of makerspaces.

I was able to relate this reading to my own experience. Part of the reason I felt I was not a maker, is because I had a preconceived idea of what a maker looked like. My thought was a maker is the "nerdy engineering dude". After joining Maker, these ideas were broken down I learned more about myself as a maker. However, this reading opened my eyes as to how this problem is still apparent. Not only do recruitment efforts create barriers for girls, they also create barriers for boys who do not identify with

g Culture

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"The most common framings encountered within internal school recruitment for makerspaces were (paraphrasing):

'Students who are a bit geeky and can innovate'

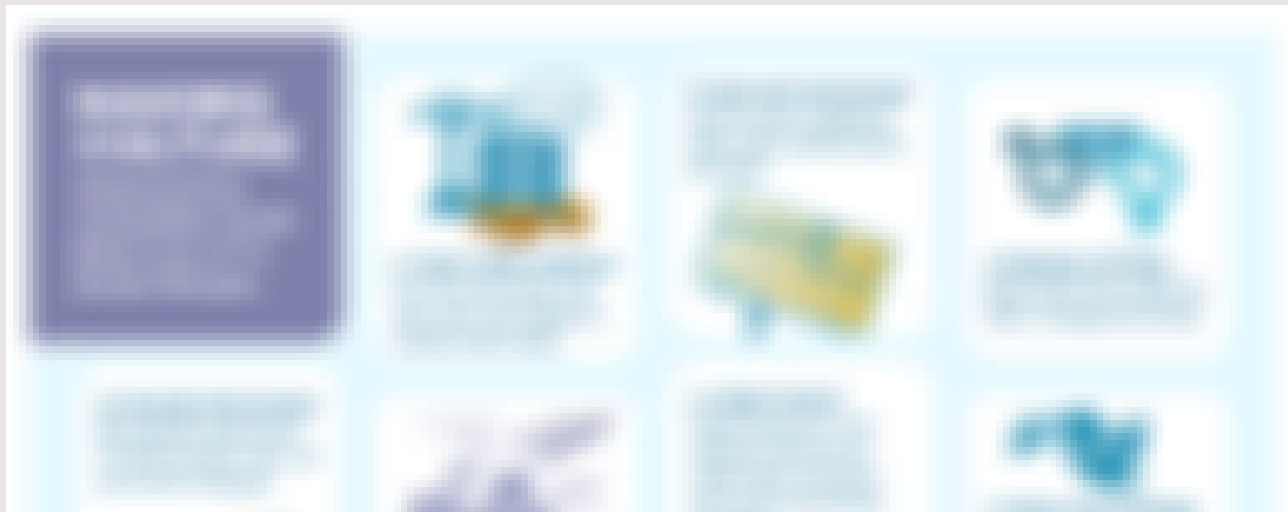
'Smart kids who like to tinker'"

Making is for everyone. By using phrases and wording as shown above, it gives the idea that making is something only smart, geeky kids can do. The report also found that although in K-8 the gender makeup was pretty equal, by high school *"female representation dropped to 25%"*. Possible reasons for this drop were also found by the report from recruitment materials to the way boys and girls were referred to in interviews.

There is a preconceived idea of what a maker looks like. In order to move to more inclusive making, these barriers need to be taken down. More female representation in leadership shows girls that makers are not just the nerdy boy. It also shows the non-geeky boy that makers look different. We are all makers! We just might not all see it yet. The report also gives recommendations for creating an inclusive makerspace. A summary is below.

The report also discusses the positive impacts making has on ELL students, students with behavior problems, and the general mindset of students.

[Link to M](#)



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Edouard, Katelyn Alderfer, Brian K. Smith. Taken from [link](#)

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Maker Project

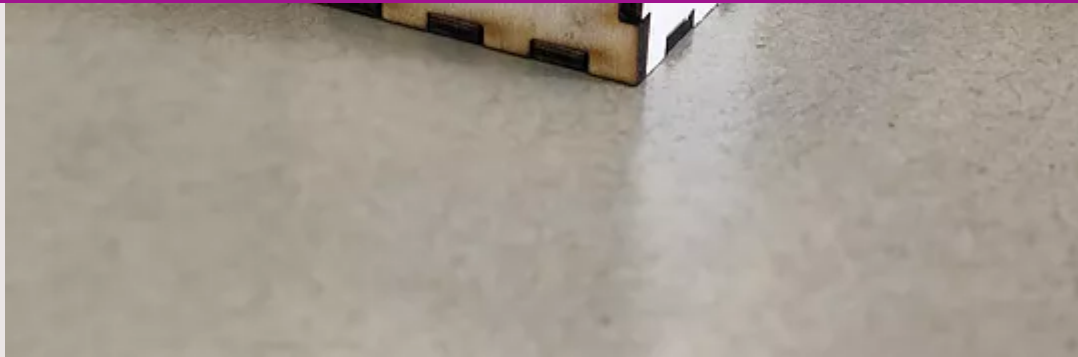
Custom Catan Board



Choosing a
Project

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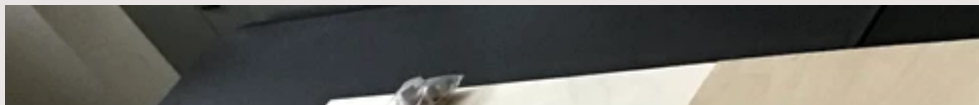
[Start Now](#)



small things. I taught myself embroidery and created several small pieces. With the help of Mao I made a custom light up name tag. With the help of other peer mentors I made a laser etched cutting board for Shelly. All of these projects were so fun to create and taught me a lot about making, however I did not feel they made up my project. I wanted my showcase project to be something bigger and more personal. After several semesters of coming up with nothing, I

finally decided on what I wanted to make for my maker project, a custom Settlers of Catan board.

Settlers of Catan is my favorite board game. The game board itself a large hexagon made out of smaller hexagons that each represent a resource. Each player then has several small wooden game pieces that represent roads, settlements, and cities. Then there are resource cards and development cards. I wanted to make a game board where all of these different pieces had a place to go. During my research I found people who had made their own Settlers of Catan game out of wood. I thought this was really cool, but did not think I would have the time to complete the entire game in time for showcase, so I settled on just the board for now with the option to keep adding and creating. I also think a part of making is that a project is never truly finished, so I felt this would work.



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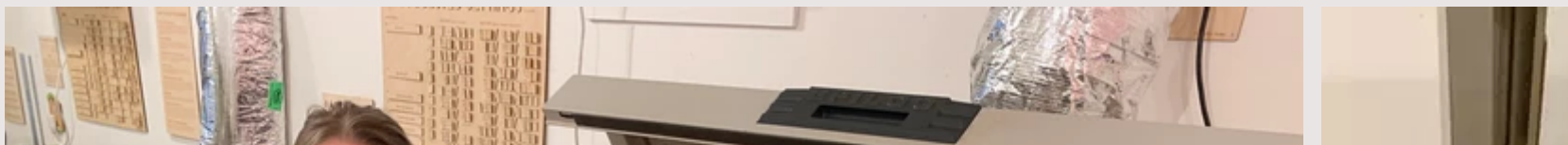
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When I first came up with this idea I did what I do with most projects I do and made a google doc of random ideas. I like to just type anything I can think of and add links, pictures, anything that may be helpful. Click [here](#) to see my google doc. I also made a really rough sketch of what I thought the board could look like. Unfortunately, I have lost this sketch throughout the process, but my final product did end up looking relatively similar to my original sketch.

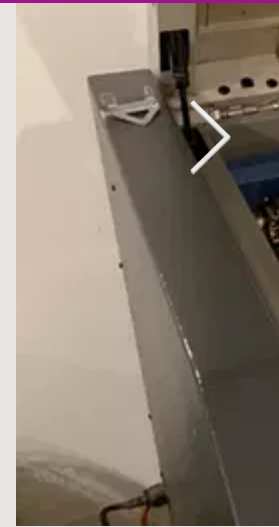
After organizing my ideas, I contacted my maker mentor, Lauren Siegel. We set up a time to meet and talk more about the project. During our meeting we discussed more logistics; materials, size, etc. I then began to design. I laid out my game and pieces on a wooden board, measured, and put together a design on corelDRAW. We then set up a time for me to use the laser at MakeATX to actually cut my board.

Cutting



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At MakeATX Lauren & I picked out a piece of wood. This was actually a process in itself because we tried to find the least warped piece we could. Then, I went ahead and cut my first iteration of the board. After cutting and placing some pieces on the board, I discovered that my measurements were a little off. Not all my pieces fit in the center hexagon. So, I reworked my design. I made the center hexagon bigger, the rectangles for game pieces smaller, and moved the whole design down. Then, using another piece of wood, I recut. This time my pieces fit perfectly. During this laser session I also decided to add a title and some little design aspects.

Staining

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I thought about painting my Catan board, but since I had never stained wood before I thought this would be a good time to try it out. I had absolutely no knowledge on staining wood, so I first consulted google. Like many things it gave me 20 different ways all contradicting each other, so I looked elsewhere for information. My mom and grandma are pretty crafty and often do little projects around the house, so I called them next. After consulting my mom and grandma, I made a list of supplies and set out to Home Depot.

I had a hard time picking a color just because I am very indecisive. I settled on "New American" and also bought "Dark Walnut" just in case (again super indecisive). I also bought a satin finish and sandpaper. My grandma recommended using a rag to apply the stain and my mom recommended just cutting up an old t-shirt to use as a rag, so with that I had all my supplies.

My board consists of two pieces that will be glued together for the final product. I also have a scrap piece that was my first laser cut board. I started by sanding all three pieces. I then used my scrap piece to try out the colors and process. I applied a little bit of both stain colors to the wood following the directions on the can and the tips my grandma gave me. Apply against the grain, wipe off with the grain. After testing it out, I settled on "New American". It's a lighter color and I was afraid of my board being too dark. Finally, I stained my two pieces and was very happy with the final product. Before starting the whole process I was worried about mess and having enough space to do the project. I just happen to being going out to my grandparent's ranch one weekend, so luckily it worked out that I would have a good workspace. See the pictures on the side of the process of staining the board.

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Reflection

I think I originally had a hard time picking a project because I had an idea in my mind of what it needed to be. I felt like I needed to make something big and complicated that would wow everyone at my showcase. When it got down to it, I realized that's not what I wanted to make. When I finally let go of the idea of making something to wow others and instead decided to make something that I wanted, I was able to pretty easily choose what I wanted to make. This translated into my maker philosophy. Making is personal. It's for yourself, not others. When I finally came to terms with this idea, I had a much better time making.

The main thing I learned from my maker project is that your maker community is everywhere. I reached out to different people from different parts of my life to help me complete this project. I reached out to my friend Mao who is also a maker. We constantly bounced ideas around and supported each other. My maker mentor Lauren who is an expert with the laser cutter. Finally, my mom and my grandma. Although not self-proclaimed makers, they were the first ones I reached out to when I decided to stain my Catan board. I knew they always were doing little projects around the house and would be a big help. My maker community has always been important to me. I'm glad that through this project I got to expand my maker community a little bit to include my mom and grandma.

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Step 1 Maker Jigsaw

As a peer mentor, I organized and led the Step 1 Maker Jigsaw in several Step 1



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students to making by showing them some technologies and resources to get them started making. I usually led the demo on scratch, but we also demoed makeyakey, circuit playground, and instructables.

MathHappens Internship

Through my internship with



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concepts outside of the classroom(library, field trips). I also helped out at the UTeach STEM Educators Conference in 2018.

Maker Faire Austin

I volunteered at the Maker Faire Austin in 2018.

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UTeach National Conference

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In 2018 I presented a poster at the UTeach National Conference on the UTeach Maker program.

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Maker Instagram

- I created an instagram page to quickly document my maker journey. I also used it to connect with the larger maker community

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Maker Lesson: Personal Conics Pictures

[Click here for
my lesson plan](#)

[Overview](#)

[The Idea](#)

Students created a picture using conics sections. They first graphed by hand, then transferred their graph to desmos. Finally their picture was printed and they used craft supplies to decorate and bring their picture to life.

Making pictures out of conic sections is the top conic sections project on google. I liked the idea because students could easily make it personal, use technology, and be creative. However, I was not set on the idea of students not having something they could hold and use their hands to create. In order to achieve this goal, I decided to have the desmos picture as just one part of the project. The next part would have students adding extra elements using

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The following sections are a description of what students do in each part and my reflection.

Part 1

Reflection

I launched Maker by showing a video and having students think-pair-share about what they thought about making. I wrapped it up with a discussion on growth mindset and collaboration and how we would need both going into our project. Next I launched the project. Students were given the task and project requirements. They then looked up desmos art and brainstormed things they would like to create. Once they decided on a picture, they began to draw by hand on graph paper. During this time I checked in on each student to discuss what they were creating, how they were going to use conic sections, and offer the opportunity for questions and suggestions.

When I first introduced the project students were kind of confused. They weren't sure what to create or how this would work. This is why I think having them look up desmos art came in handy. They were able to see some things other people have made and how graphs can be used to make art. They also got really excited and picked out some elaborate things to create. This at first made me really excited that the students would have the opportunity to create some really cool art, but then I got worried that they would not be able to complete the project. During Part 2 I addressed this concern by letting students know if they feel overwhelmed that their picture is too complicated, they can think about ways to simplify while still creating a picture. I did notice that the students seemed a little overwhelmed by the maker video. In the future I would probably change how I introduce making.

This part had students take their initial designs and begin to graph them on desmos. They first did an activity on desmos called "des-pet" in order to practice

Part 2

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Reflection

pictures in desmos.

I think des-pet really helped students see how they could restrict domain/range in order to create certain shapes. However, in the future I would probably give them a little more practice or a workshop on this in addition to the activity. When students were working on their graphs I still got a lot of questions on "how do I do this again?", so I think a little more practice would be helpful.

During this part is when students began to see the difficulty of the project and re-think their designs. Many had to simplify what originally was a very complex idea, while others worked on their pictures outside of school in order to keep more detail. It was also during this part where I really saw a lot of collaboration. I was worried because this project did not have explicit opportunities to work together, however I explained that it would be difficult and we would need to help each other. As I walked around the class, I saw students moving around the classroom to ask different people how to create a certain shape. I saw students huddled together discussing their designs and what they needed to do next. I was extremely proud of my students for taking this opportunity to really get help from their peers. Implementing this project again I will try to find a way to make this project even more collaborative. Maybe have students work in pairs.

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Part 3

Reflection

During this part, students get to work with their hands to add extra physical elements to their pictures. Students can use pompoms, pipe cleaners, stickers, tissue paper, LED lights, and whatever else they can think of to add to their pictures.

During this part students will also prepare for their gallery walk. I will give students three questions to answer to guide their presentations: what did you struggle with, how would you improve/add to your project, and how did you use math to create art.

Before Implementation: I believe the opportunity to create a physical product is an important aspect of making and why I added this part to the project. I am planning on starting with 30 minutes of crafting time. I want students to have the opportunity to show their creativity without getting off task. If I notice students are focused and engaged with the project, I will extend the time. I think have the opportunity to really express themselves in a math class will be different, but exciting for students. I hope they enjoy this opportunity. I'm giving them some questions to prepare in order to help guide their presentations. I hope by preparing a few questions, the students will be more open to talking about how they learned from this project and how it is personal to them.

5/6/2019: A few students have gotten to this part of the project. These students typically put a lot of effort into their work, and this is also seen in their projects so far. At first the students were confused by me telling them to use craft supplies to add to their project. They were not really sure where to start. Once I explained this is really for them to just be creative and make a cool art piece, they got to work. I was so happy with their progress. Each student did their's a little different. One cut out their picture and glued it to another piece. One student added elements directly to her printed picture.

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Finally, students present their projects in a gallery walk format. Half the class sets up their projects to present, while the other half walks around and ask questions. I will put a list of questions on the board so that students have something to go off of. Students will also use feedback slips to give feedback to presenters. The feedback slips have a place to write "I Likes" and "Next Steps". I Likes are things that the presenter did well or the reviewer likes about the project. Next Steps are things the presenter should work on or suggestions for what the presenter could do next.

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Part 4

Reflection

After the gallery walk, students will do a written reflection on the whole project. They will reflect on the entire process from brainstorming to presenting. I will use a few different prompts & sentence stems to get students thinking on what they can write about. During this time I will move the projects to the hallway outside to showcase the projects to the whole school.

Before Implementation: Although the students have presented before, I think this presentation will be a little different than what they are used to. Instead of just presenting on what they discovered, they will be presenting on the entire process of making their project. I think appreciating the process is an important part of making, so I am excited to see what my students think of it. I am also excited to bring in a few outsiders to my classroom.

Update: I was happy to see students showing some reflection on their work and the process rather than just presenting a final answer. I think the reflection questions helped prompt the students' presentations. In the future I would like to see deeper reflection, but as this is something pretty new to the students I was happy with what they did.

Overall Reflection

So far I am extremely happy with how the project is going. I have had students excitedly show me what they have created, even if it's just a circle. While students are working I will notice them get up and walk across the room to show another

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Something that I actually don't think went really well is introducing making. I think the video was a lot for students as it shows over-the-top projects. I think instead showcasing my own small projects and asking students they have made would be more accessible to students. We are all makers, we just might not know it. This is also something I struggled with before I joined UTeach Maker, so I understand students thinking it's something they can't do.

I hope students will really reflect on the entire project. By saving artifacts throughout the project, talking about the process during their presentations, and doing a final written reflection, I want my students to see how far they have come in completing their projects. In the future I would incorporate short written reflections at the end of each part in order to have students reflecting throughout the entire process.

Overall I am so proud of my students for working together and solving problems. I am excited to see their final products and what they learned from the making process.

In future implementations I would:

- Introduce making differently
 - I think students were overwhelmed by the projects in the video
 - Instead I would show my own making projects and ask students if they have made anything
 - I would try to show students that they are already makers and making isn't just huge projects
- Have final products to show students before they start the project
 - This would be extremely helpful to students to have an idea of where they're headed
- Hopefully have more time so that students can present to people outside of their school
 - This is an important aspect of making that I did not have enough time to implement in this iteration of the project
- Require students to use LED lights by working a circuits activity into the lesson
 - This would add more technology to the project and have students learn a new skill
 - One possible activity is "Let There Be Light" and could be taught during Part 3
- Have students complete short written reflections at the end of each part

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MAKER LESSON PLANNING GUIDE

Name of lesson: Personal Conics Pictures	Duration: 3 to 4, 90 minutes class periods
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Subject/Course: Algebra II	Teacher(s): Halle Herzog	Grade Level: 9th/10th
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Interdisciplinary connections: The lesson incorporates Algebra II, Precalculus, and art.

Key Knowledge and Understanding (content standards)	<p>Precalculus:</p> <p>(3) Relations and geometric reasoning. The student uses the process standards in mathematics to model and make connections between algebraic and geometric relations. The student is expected to:</p> <p>(H) use the characteristics of an ellipse to write the equation of an ellipse with center (h, k); and</p> <p>(I) use the characteristics of a hyperbola to write the equation of a hyperbola with center (h, k).</p> <p>Algebra II:</p> <p>(c) Knowledge and skills.</p> <p>(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;</p> <p>(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;</p> <p>(E) create and use representations to organize, record, and communicate mathematical ideas;</p> <p>(F) analyze mathematical relationships to connect and communicate mathematical ideas; and</p> <p>(G) display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p>
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Elements of Making (to be taught and	<p>Makers create a picture that incorporates conic sections. The picture is personal and of the maker's choosing.</p>	<p>Makers draw an initial sketch by hand. They then graph on desmos and finally print to create their final product.</p>
------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------

assessed. Please describe how the lesson addresses each element)	Makers are introduced to a Maker mindset during the Maker Launch. They must have a maker mindset to overcome obstacles throughout the project.	Makers work together throughout the project and present to their community during a gallery walk.
	Makers present their final products in a gallery walk format. Their projects are then hung in the hallway for the school to see.	Makers utilize content specific knowledge and skills Makers incorporate graphing conic sections, problem-solving, and communicating mathematical ideas into their final presentations.

Lesson Summary How will the lesson be introduced? What are students being asked to make, build, or invent? How does it connect to their lives/community?	Students are introduced with making by watching a video and creating a list of what they think making is. They then are given the task of creating an art project incorporating conic sections. The art project is a picture of something that relates to each student. The picture is graphed on desmos, then printed and made creative with craft supplies. In the end students present their final product to their peers and other teachers in a gallery walk format.
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Public Presentation of Work	Individual and/or team products to be presented: A picture created by the students
	Specific content and skills to be assessed: equation of hyperbola, ellipse, and circle how changing the equation affects its graph
	How will the products be made public and who will students engage with? Students will present their products. After presentations, the pictures will be displayed in the hallway of the school.

MAKER LESSON RESOURCES

Resources Needed	Facilities:
	Equipment/Materials/Safety: tablet or laptop for each student, tablet or laptop for teacher, projector, craft supplies Rubric

People/Community Resources:

MAKER LESSON SEQUENCE

Estimated Time	Description of Lesson Segment <i>What the teacher does</i>	Description of Lesson Segment <i>What the students do</i>	Checkpoints/Formative Assessment Questions/Opportunities for Reflection	Specific resources and skills needed for this segment. <i>*Include safety considerations</i>
15 min.	<p>Maker Launch The teacher shows a video on making. After the video, the teacher leads a Think-Pair-Share on what the students think of making. While students are discussing with their table, the teacher walks around to hear what students have to say. The teacher uses index cards to randomly call on students and have them share out what they discussed at their table. The teacher creates a class list/definition on making. The teacher then talks about themselves as a maker.</p> <p><i>*If the teacher has personal examples of making this would be the place to show what they have made.</i></p>	<p>Maker Launch The students watch the video on making. After the video, students silently think and create a list of words/phrases on what they think making is. They then share this list at their table. Finally, the students share with the class what they think about making.</p>	<p>What do you think making is?</p> <p>Have you ever made anything?</p> <p>Was there anything that you liked/didn't like about the video/making?</p>	<p>A projector</p> <p>link to video</p>
10 min	<p>Project Launch The teacher says we will be using making for our next project. The</p>	<p>Project Launch The students look over the project requirements with the teacher. They</p>		<p>Students need a copy of the project requirements (digital or hard copy)</p>

	teacher assigns the task of creating an art piece involving conic sections, then goes over the project requirements with students. The teacher then gives students time to brainstorm.	then look up desmos art and brainstorm a list of possible things to draw. Students should save their brainstorming list in order to document the entire process.		Teacher can use projector to project the requirements on the board Art Project Requirements
40 min.	Sketch The teacher passes out graph paper and has each student start a sketch of what they want to create. The sketch includes labeling conic sections. The teacher then checks in with each student to see what they want to create. The teacher answers questions and offers suggestions for how to complete their project.	Sketch The students each sketch their first design of what they will create. During this time the students discuss with the teacher about what they are planning and how they will incorporate conic sections. The students should save their initial sketch in order to document the entire making process.	What do you want to make? Where will you use conic sections? Where do you think the center of that circle/ellipse/hyperbola could be? How do you think you can make this shape?	Students need something to access internet (laptop/tablet/phone) Students need graph paper and writing utensil to sketch desmos art
15 min	Des-pet The teacher launches the desmos activity, des-pet. The teacher then monitors students progress on their computer, and walks around and checks in on students as they work through the activity. *Note: some technology issues may occur. The teacher may have to review what was learned from the activity if needed.	Des-pet The students work through the desmos activity. The activity has students restrict domain/range in order to add whiskers to a cat that has been already graphed on desmos. At the end of the activity, students add another feature to the cat by adding a new equation to the graph.	How can we alter this equation to fit where we want it? How can we restrict the domain/range to only be on a certain interval? How will this help us with our art projects?	each student needs a way to access desmos (laptop/tablet) teacher needs a way to launch activity(laptop/tablet) des-pet link
60-75 min *note this time can be split between days	Desmos The teacher tells students to now take their initial sketch and graph it in desmos. The teacher lets students know that this will be hard, but that's okay. If they get stuck, ask a friend or the teacher. The teacher walks around while students are working. He/she	Desmos The students graph their sketches using desmos. Although their projects are individual, the students are able to talk to each other and work together. If they run into a problem they can ask a friend or the teacher. When the students are done, they	How did you make that shape? How did you decide which conic section to use? How did you change this equation to get the shape that you wanted?	each student needs access to desmos desmos

	<p>provides workshops to small groups or whole class when needed. Possible workshops are: restricting domain/range, getting started, making adjustments to equations. The teacher has students turn in their desmos link when they are done. The teacher then prints each students picture and the equations used.</p> <p>*Note this work-time can be split between days with other activities in between such as working through de-contextualized problems*</p>	<p>turn in the link to their project.</p> <p>*Note: students should create an account on desmos so they can save their work as they go*</p>		
<p>30 min *Note: more time can be given if students are engaged and working</p>	<p>Hands-On Creating The teacher goes over the craft supplies available and addresses and safety concerns. The teacher then sets a timer for how long students have to add to their picture. The teacher can also provide workshops on how to add LEDs to their projects.</p>	<p>Hands-On Creating Using craft supplies, students add to their product. The added elements bring their pictures to life and allow students to show off their creativity. The students also have the opportunity to add LED lights to their product.</p>	<p>Why did you add that to your picture?</p> <p>What else would you want to add if you had it?</p> <p>How does adding that element add to the overall quality of your art piece?</p>	<p>Craft Supplies: tissue paper, stickers, pompoms, pipe cleaner, LED lights, copper tape, coin batteries, glue (hot glue or elmers)</p> <p>*Safety Consideration: Hot glue can burn students. Be sure to address this with students or have a teacher be in charge of the hot glue.</p>
<p>15 min.</p>	<p>Gallery Walk Prep The teacher gives students three questions to prepare for their presentation: what was something you struggled with, how would you improve/add to your project, how did you create art using math. The teacher then walks around and checks in with students. The teacher also passes out the students' lists of equations used to create their</p>	<p>Gallery Walk Prep The students answer the three questions. They also think about how they will want to set up their project.</p>	<p>What was something you struggled with?</p> <p>How would you add to/improve your project?</p> <p>How did you use math to create art?</p>	

	product.			
30 min total, 15 min each group	<p>Gallery Walk</p> <p>The teacher splits the class in half. One half presents while the other interacts with the presenters. The teacher then passes out feedback slips and puts a list of possible questions on the board. The teacher then starts a 15 minute timer and participates in the gallery walk. The teacher gives time warnings throughout the 15 minutes. After one group presents, they switch and the 15 minutes starts again.</p>	<p>Gallery Walk</p> <p>The presenting students set up around the classroom. They stand next to their final product and discuss with audience members what they made, how they made it, and why they made it.</p>	<p>How did you decide what to make?</p> <p>How did you use math in your project?</p> <p>Why did you choose to incorporate that shape?</p> <p>How did you create this shape?</p> <p>What did you learn from this project?</p> <p>If you had more time & resources what would you change or add?</p> <p>Did you enjoy this project?</p>	
10 min	<p>Reflection</p> <p>The teacher gives the students a prompt and asks them to reflect on the entire project from brainstorming to presenting. Students are encouraged to look back at the documents from the beginning of the project.</p>	<p>Reflection</p> <p>The students complete a written reflection over the entire project from brainstorming to presenting. Students also look over the documents saved throughout the making process in order to reflect.</p>	<p>What did you learn from the process of making (math or other)?</p> <p>Did you enjoy this project? why or why not?</p>	