

Lesson Plan

Title: Abstract Mini Sculpture	Grade Level: 10-11
The Big Idea (Overall Concept): Techniques are practiced through spontaneous creation	
Description of Lesson (Brief Summary): Using scrap metal, students will safely experiment with new techniques and processes. The intention of this project is to practice the ways that color, texture, and form can be used while working with metal. They will be introduced to and incorporate all of the following techniques into their mini abstract sculpture: sawing, stamping, roll printing, polishing, heat patina, chemical patina, piercing and riveting. Students will add color and texture to scrap pieces of metal and attach their work together spontaneously without having a preconceived plan of an end result.	
Time: 8 days (1.5 weeks)	
Enduring Understandings: <ul style="list-style-type: none"> • Artists and designers balance experimentation and safety, freedom and responsibility while developing and creating artworks. • Artists and designers experiment with forms, structures, materials, concepts, media, and artmaking approaches. • Creativity and innovative thinking are essential life skills that can be developed. 	21st Century Skills: <ul style="list-style-type: none"> • Creativity • Problem solving • Analytical thinking Studio Habits: <ul style="list-style-type: none"> • Stretch and explore • Develop craft • Envision
Essential Questions: <ul style="list-style-type: none"> • Why is it important for safety and health to understand and follow correct procedures in handling materials, tools, and equipment? • What responsibilities come with the freedom to create? • What factors prevent or encourage people to take creative risks? 	Technical Skills: <ul style="list-style-type: none"> • Sawing • Piercing • Riveting • Polishing • Stamping • Roll printing • Heat patina • Chemical patina
National Core Art Standards: http://www.nationalartsstandards.org/ <ul style="list-style-type: none"> • VA:Cr2.1.1a - Engage in making a work of art or design without having a preconceived plan. • VA:Cr2.1.1a - Through experimentation, practice, and persistence, demonstrate acquisition of skills and knowledge in a chosen art form. • VA:Cr2.2.11a - Demonstrate understanding of the importance of balancing freedom and responsibility in the use of images, materials, tools, and equipment in the creation and circulation of creative work. VA:Cn10.1.11a - Utilize inquiry methods of observation, research, and experimentation to explore unfamiliar subjects through artmaking. 	

Instruction - daily plan:

Day 1 - Students will have their first day introduction to working with metals. I will explain the first project, leaving it open-ended and experimental. The requirements are to use all of the demonstrated methods to piece together a small abstract sculpture. The rest of the day will be dedicated to demonstrations and safety. I will show students around the room and enact the different techniques while explaining their safety processes. Students will be encouraged to take notes, ask questions, and pay attention. We will begin with sawing. I will show how to attach the blade to their saw, and explain practical tips like going slow without pushing the blade forward. They won't be doing a significant amount of sawing for this project because they're using smaller pieces of scrap metal, but they should still cut a few pieces to get the feel of it. We will move into the methods of how to add texture - stamping, roll printing, and polishing. I will give demonstrations on each of these machines, show the range of texture options available, explain procedures and precautions, and tell cautionary horror stories about students who ignored the safety rules. Next we will move into the methods of how to add color - chemical and heat patinas. I will show examples of pieces before and after their patinas. Students will be introduced to the bottles of chemical patina we have available and how to use them. I will wear disposable gloves and eye protection. I will put a piece of metal in a plastic bag with a liquid patina, or using a brush to apply the liquid patina, then leave it alone for 15 minutes. We will move on to learning the process of heat patina. I will double check my hair is pulled back, sleeves are pulled up, and I'm wearing eye protection. I will use the torch to slowly heat a piece of metal, then use tweezers to place it in a bowl of water to cool down. And finally, we will move into the cold connect process of piercing and riveting. I will show how to choose the right size drill bit, attach drill bits to the drill, and drill holes into metal. I will wear eye protection during this demonstration. I will cut the appropriate size metal wire, align the drilled holes of two pieces, and use a clamp and hammer to secure the metals together.

Day 2 - We will begin the day by finishing any demonstrations we didn't have time to finish to the day before. I will begin the class with a review on safety by asking questions. Does everyone have close-toed shoes and their hair and sleeves pulled back? Which processes require you to wear gloves? Which processes require safety glasses? I remind students that if they have questions, they should ask me or each other. Students will begin their first work day of experimentation. They will spread out across the room, each beginning with a different process. I will walk around to observe, assist, and ask questions.

Day 3 - Students will have the day to work on their sculptures. I will walk around to observe, assist, and ask questions. Toward the end of the day, I will pass out an exit slip for them to fill out and hand in as they leave.

Questions on the exit slip:

- Are there any processes that need more clarification?
- Are there any processes that you especially like or dislike so far?
- Are you having any successes or challenges?

Days 4, 5, 6, and 7 - Based on the exit slip responses, I will address any individual students who need help or any overall class confusion. Students will work throughout the hour on experimenting with methods and toward completing their projects.

Day 8 - We have our final work day. All work will be turned in at the end of the hour. Students will put the final touches on their abstract mini sculptures. I will pass out a final evaluation sheet for students to fill out and submit with their final work. At the end of the hour, they will place their sculpture and folded up final evaluation sheet in a plastic bag with their name on it.

Questions on the final evaluation sheet:

- Are there any processes that need more clarification?
- What processes did you especially like or dislike?
- What successes or challenges did you have?

Resources: (Websites, Books, Music, etc...)

- Roll printing
 - <https://youtu.be/iFjuUQrgEt0>
- Stamping
 - <https://youtu.be/o8hC502EpbE>
- Riveting
 - https://youtu.be/d5xy_9b909Q
- Heat patina
 - <https://youtu.be/WQIJwDUHLuo>
- Chemical patina
 - <https://www.patinas.com/patinas-products>
 - <https://www.patinas.com/patina-how-to>
 - <https://youtu.be/yl67z6XmNiQ>
 - <https://youtu.be/CXjbAsJkEkk>

Materials Needed:

- Scrap metal
- Saw and blades - size #0, #1, and #2
- Drills and drill bits
- Copper and brass wire
- Sand paper
- Polishing machine
- Roll printing machine
- Hammer, pliers, files
- Stamps
- Torch, setup, and safety protection
- Chemical patina
- Citric acid (pickle)
- Fire extinguisher
- Sink, soap, sponge, paper towel

Evaluations:

Formative

- Exit slip (day 3)
- Working with students individually (days 2-7)

Summative

- Final evaluation sheet (day 8)