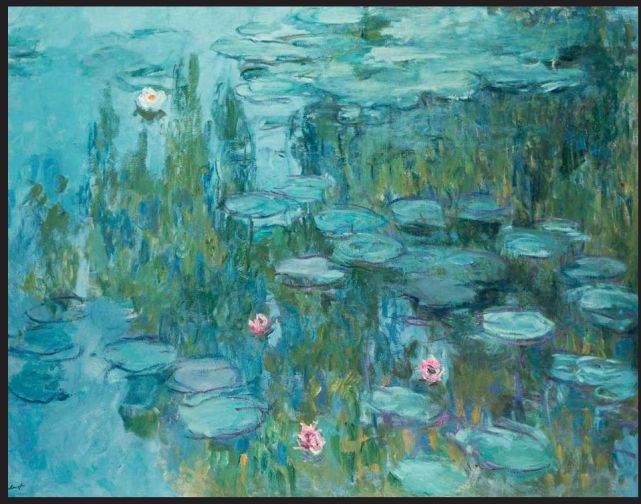


## STEAM: Daily Activity #1

# Claude Monet



### Materials needed:

- Small cups
- Food Coloring
- Shallow Pan
- Vegetable Oil
- Water
- Paper

This is The Studio's STEAM activity #1. We are going to experiment with oil and water to create a marbled background for our Claude Monet waterlily scene.

Oil and water do not mix together. Therefore, the outcome will be an interesting marbling pattern and texture. Water is heavier than oil. Oil molecules are not attracted to water molecules. A **molecule** is a group of atoms that are bonded together, and the smallest form of a chemical compound or element. When oil is poured on top of water, the oil molecules float.

What will happen when you try to put the paper in the oil and water mixture?

Can you paint your Monet Impressionism waterlilies on your marbled paper?

Monet painted in the style of Impressionism. Impressionism was an optical experience with nature. Therefore, artists would paint nature in the moment of how they feel inside, portraying the scene through expressive brushstrokes and soft colors. This idea was the predecessor for a multitude of modern art because it formed the union between the artist and subject on a deeper, emotional level, which may not always be a reflection of reality, but abstracted from reality.

### Steps to complete Monet Experiment #1:

1. Pour a tablespoon of oil into the bottom of cups
2. Squeeze a few drops of food coloring into the oil and stir with a fork (will create little drops of color in the cup)
3. Pour just enough water in the pan to cover the bottom
4. Pour a couple of the colors into the water (DO NOT stir)
5. Slide paper into the water from the side of the pan
6. Push the middle of the paper down so that the colors run over the back of the paper as well
7. Swish the paper around a little longer in the pan to create a pretty swirl of color
8. Pull paper out and set to the side to dry
9. Once paper is dry, use paint to paint a scene of waterlilies onto the marbled paper
10. Set aside to dry

## STEAM: Daily Activity #2

### Richard Anuskiewicz



#### Materials needed:

- Pencil
- Paper
- Ruler
- Crayons, markers, colored pencils

This is The Studio's STEAM activity #2. We are going to experiment with optics, and discuss Richard Anuskiewicz.

Optical illusions are perceived in a manner that is different than reality. Through preception, the visual interpretation of what images we are seeing with our eyes are trying to make sense of what our brain is also attempting to comprehend. This is accomplished by the use of colors, light, and patterns.

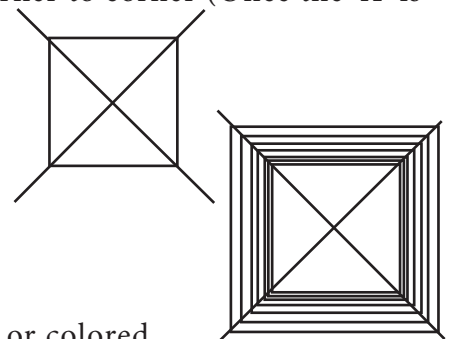
How do you create an optical illusion on paper?

Can you make the squares look like they are receding?

Richard Anuskiewicz was one of the forerunners in Op Art. Op Art is a visual art that incorporates optical illusions. An expert in color theory, Anuskiewicz utilizes complimentary colors for contrast in order to make the color feel alive. Incorporating spacial distancing, various thicknesses, and length, Anuskiewicz was able to create illusions that look as if they are coming out and receding in to the viewer's eye. Using a grid, optical illusions use precise measurements to organize the spacial arrangement of lines, shapes, and color. Therefore, the use of mathematics in art can successfully create beautiful masterpieces.

#### Steps to complete Optical Illusion Project:

1. On a piece of paper, using your ruler, draw a large 'X' from corner to corner (Once the 'X' is drawn, we can find the center of the paper)
2. Using your ruler, draw a 1x1 square guided by your ruler
3. Continuing to use your ruler, begin drawing another square around the center square
4. As you get further and further away from the center, you need to have more space between the squares.
5. Once you have expanded the squares, using markers, crayons, or colored pencils, begin to color alternate complimentary colors (put blues and oranges, purples and yellows, reds and greens next to each other) OR you can color alternating black and white lines.



## STEAM: Daily Activity #3

# Andy Goldworthy



### Materials needed:

- Rocks/pebbles of different sizes
- White Chalk or a light colored rock
- Crayons

This is The Studio's STEAM activity #3. We are going to use the Earth to create Earth-friendly art like Andy Goldworthy.

Earth Art, or the closely related Environmental Art, is artwork that incorporates materials extracted from the Earth like soil, rocks, water, etc. They strive to investigate the human relationship with nature. The artists wanted to accentuate nature, but never wanted to disturb it.

How can you make Earth Art that enhances nature?

Do you think Environmentalists could utilize Art in order to help the environment? How can Art help the environment?

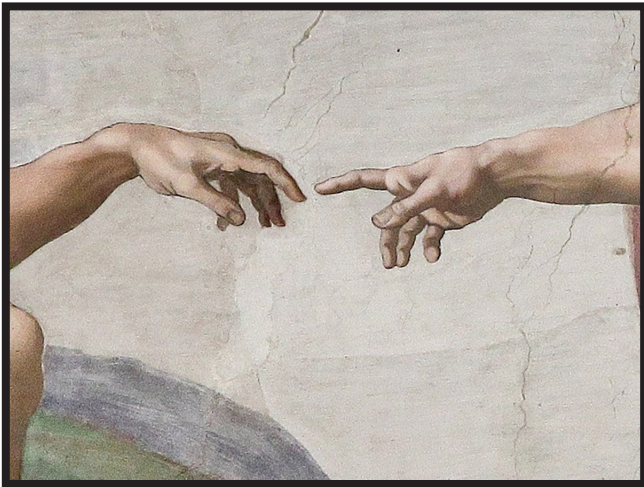
Andy Goldworthy was an artist who worked with natural objects, objects he could find on a lovely walk. He wanted to enhance nature, never take away from its beauty. Working on a small scale, his minimalist work encompassed its limitations, acknowledging that death and decay are a natural part of the environment and the sculpture he created. In his own right, Goldworthy worked as an artistic environmentalist. He enhanced the environment with his work, only to watch it return to the land in which it was formed from.

### Steps to complete Earth Art Project:

1. GO OUTSIDE!
2. Find different rock sizes, collect AT LEAST 20 different sizes (prepared to get dirty!)
3. Carefully created an interesting spiral arrangement for the rocks...the spirals can be simple or complicated, it can have little spirals coming out from it, it can have lines coming from it, it can have shapes around it
4. After you have settled on the design, use the white chalk, light colored rock, or crayons to use as colors connecting each rock in the spiral. The different elements can be different colors, i.e. the large middle spiral could be white like Andy Goldworthy's above Earth Art image, or you could pick another color, just make sure the color is in the middle (like a train riding over the tracks).
5. Be creative with the look of the pattern and colors that you use.

## STEAM: Daily Activity #4

# Michelangelo



### Materials needed:

- 2 cups of water
- 3 cups of all-purpose flour
- Shallow containers
- Food coloring
- Toothpicks

This is The Studio's STEAM activity #4. We are going to making homemade plaster and creating an abstract fresco painting like Michelangelo.

To make "plaster" is a pretty simple trick to do at home. The mixture of water and flour harden after the water molecules are absorbed by the flour. When you add the food coloring, the color bonds to the wet surface. As the homemade plaster settles, the color settles into the mixtures surface.

How long will it take for the plaster to dry? Could the amount of water have an affect on the amount of time?

What are frescos?

Frescos are murals rapidly painted directly onto wet plaster. This technique has been around for thousands of years, possibly as early as the Minoan or Ancient Roman cultures. However, we are going to focus on Michelangelo and the *Creation of Adam*. Painted on the Sistine Chapel in 1508-1512, the Italian Renaissance saw a surge in fresco paintings. Michelangelo's fresco on the ceiling of the Sistine Chapel was a great symbol of the Vatican. He spent extensive hours on his back, on a ladder painting the exquisite bodies and scenes of Christianity.

### Steps to complete Earth Art Project:

1. In a mixing bowl, mix 2 cups of water and 3 cups of all-purpose flour until smooth and creamy
2. Pour the mixture QUICKLY and SHALLOWLY into however many containers you chose - cupcake trays work
3. Tap the bottom of the container on the counter (or tabletop) to get out any little bubbles
4. Using a spoon, or other flat utensil, smooth the surface of the plaster QUICKLY
5. Using the food coloring, drop a few colors onto the top of the plaster
6. Using the toothpicks, spread the food coloring around in colors, swirls, lines, shapes, or other fun designs you want to create on the top of the surface
7. Let dry overnight and then remove from container when hard
8. After it has dried, you can leave the food coloring abstract design on the plaster by themselves as your piece of art like TRUE fresco painters, or you can paint a picture onto the dried plaster using the food coloring as a detailed background
9. **BONUS:** you can also use this technique to make homemade chalk, just mix one color into small containers of homemade plaster

## STEAM: Daily Activity #5

# Robert Wyland



### Materials needed:

- Watercolor paint
- Water
- Paintbrushes
- Salt

This is The Studio's STEAM activity #5. We are going to making underwater paintings in the style of Robert Wyland.

When watercolor painting, the main substance to spread the paint is...water! When you add more water, it spreads the pigment of the color thinner. However, what happens when we add salt to the watercolor? It dissolves! Why? Because when you add salt to water, the positive water molecules attract the negative chloride ions, and the negative water molecules attract the positive sodium ions.

What will happen to the painting when you add salt?

Can artist help promote the conservation of the oceans?

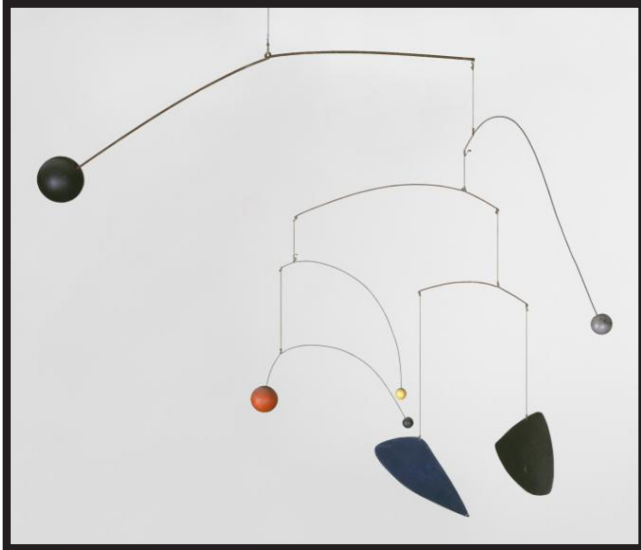
Robert Wyland is an American mural marine artist. He has been working as a conservationist for the oceanic environment since 1993 through kid-centered community events. The non-profit organization uses Art and science to inspire future generations to be caring conservationists of oceans, rivers, wetlands, lakes, and so on. Wyland's artistic career has spanned over 40 years. The marine life murals are large-scale, vibrant, and portray the beauty of nature on streets, museums, homes, centers, and other public buildings.

### Steps to complete watercolor painting:

1. Pick an underwater theme from a book, poster, picture, or so on
2. Draw out a sketch with a pencil on your paper, make sure to add a good focal point, i.e. a large turtle, sea monster, sunken ship, shark, clownfish, buried treasure, etc.
3. Add details around the focal point - think about coral, tiny fish, shrimp, seaweed, turtles, etc
4. Begin to waterpaint the paper, choosing vibrant colors
5. Layer color, think about shading (add black), tinting (add white), multi-colored sea life, different depths of blue for the water, etc.
6. Before the final painting dries, and you may want to choose sections, take a pinch of salt and sprinkle over the WET paint (if the paint is dry, the salt WILL NOT dissolve)
7. Watch the salt dissolve into the painting, observe the texture it gives the water

## STEAM: Daily Activity #6

# ALEXANDER CALDER



### Materials needed:

- Hanger
- String
- Stencil for the objects
- Construction Paper (optional)
- Markers (if using white paper)
- Glue/Tape

This is The Studio's STEAM activity #6. We are going to creating a wind-powered mobile. One artist to introduce mobiles as an art form was Alexander Calder.

Engineering a mobile through wind-power is a simple process. Wind has kinetic energy. Kinetic energy is the energy of motion. It is observable through the movement in objects. When you assemble the object, it has holes for the wind to blow through. Therefore, when it hangs, they will spin with kinetic energy through wind power.

How can wind energy save the environment?

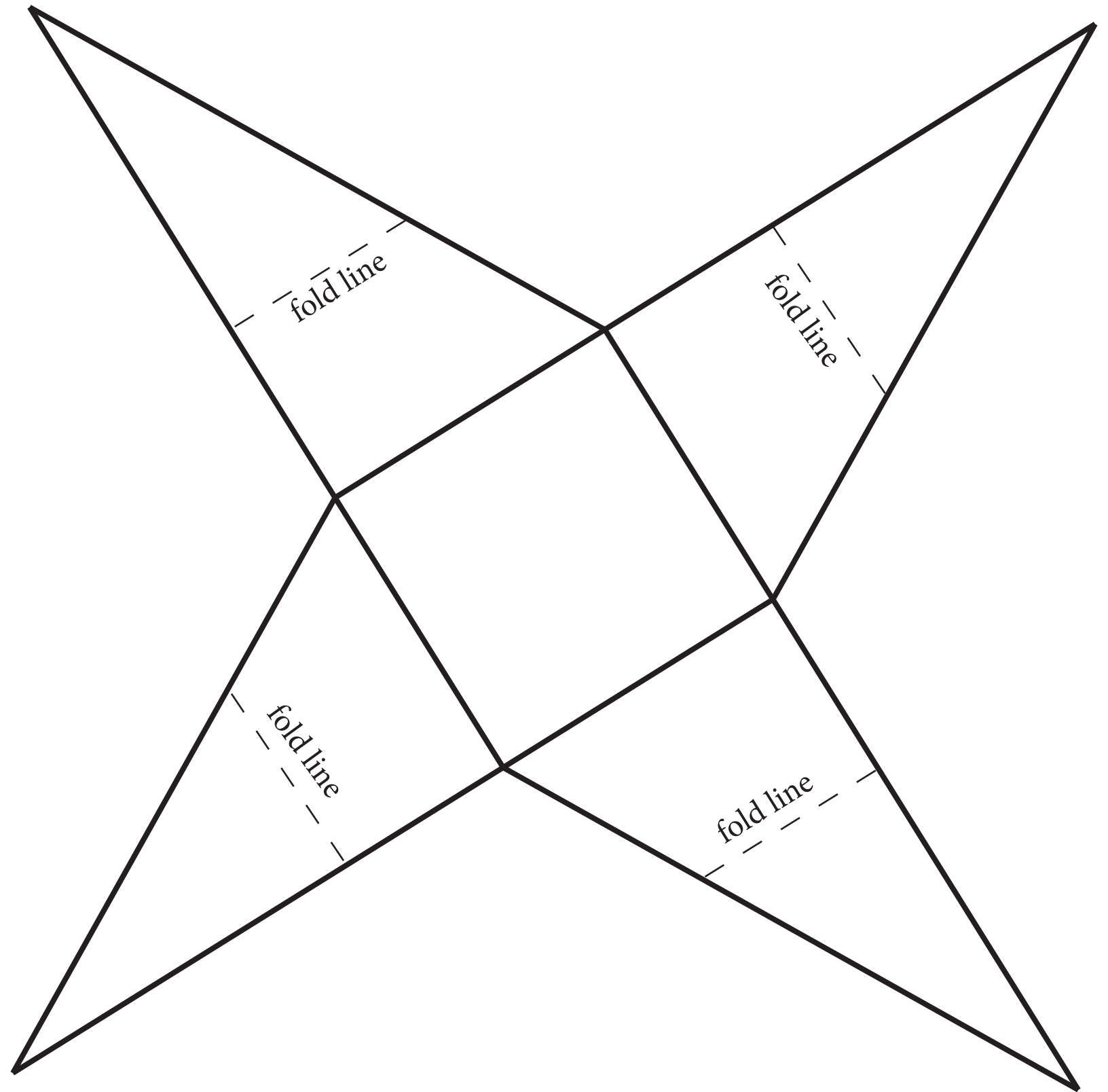
Are there other objects you can find that will hang well?  
Create music?

In the early 20th century, kinetic sculptors began creating mobiles with metal and found objects. Mobile is a French pun coined by artist Marcel Duchamp meaning "mobile" and "motive". Then, in the 1930s, Alexander Calder, an American artist and mechanical engineer, borrowed ideas like the whippletree, a mechanism to distribute force evenly through linkages (see figure) to create the element of movement. Calder assembled mobiles with abstract shapes on linkages. His mobiles ranged from miniature to over 100 feet.

### Steps to complete a mobile:

1. Choose a few different colors of construction paper, or grab a few pieces of paper
2. Using a stencil, or freestyle with a ruler, to draw a ninja star shape on the paper (it is a combo of 4 triangles, I used right angle triangles)
3. Draw 4-5 and cut them out carefully
4. Taking the tip of each triangle, fold to center of ninja star (you can fold them or just pull them over, but make sure you only secure the tip of the triangle onto the center of the form)
5. With glue, or tape, make sure all 4 sides are securely attached in the center (make sure you can still see through the form)
6. Have an adult poke a hole through the very center of the form
7. Pull string through the hole and tie a knot to keep it from coming out
8. Repeat on all forms
9. Tie strings to a hanger (make them different lengths - you can go from shortest to tallest, or you can stagger the lengths)
10. Hang it somewhere outside and watch the kinetic energy move the forms!

# Mobile Stencil/Layout



## STEAM: Daily Activity #7

# LOSANG SAMTEN



### Materials needed:

- Paper
- Pencils (regular and colored)
- Ruler
- Compass, or large circular object like a paper plate to trace

This is The Studio's STEAM activity #7. We are going to creating a Mandala, still created today in ancient sand art by Losang Samten.

Mandalas are mathematically structured pieces of artwork. They also have radial symmetry. Symmetry means that, if folded, both halves are equal. Radial symmetry means that from a central point, the symmetrical design radiates outward. Mandalas are also circular, made up of repeated geometric shapes and patterns.

What do Mandalas mean?

How can Mandalas be used as a meditation practice for students?

Mandala means 'circle' which represents wholeness. It is a basic representation of the universe. As an ancient Asian symbol, in Hindu and Buddhism, it was a symbol for sacred rites and an instrument for meditation.

Losang Samten is a Tibetan scholar and former Buddhist monk who brought Tibetan mandala sand art when he immigrated to America in 1988. Tibetan sand art is an ancient and sacred art form which is supposed to bless and benefit each viewer who experiences it. No two Mandalas are the same.

### Steps to complete a Mandala:

1. On a piece of paper, using a compass or the large circular object you chose to trace, draw a large circle in the middle of your paper.
2. Section the circle lightly into 4 parts, like cutting a pie into 4 equal pieces
3. Find the center point, this is where you will radiate your patterns from
4. Begin to create you pattern around the circle; remember, you need to make sure the Mandala incorporates radial symmetry, which means that your pattens need to be equal in throughout each section
5. Use your ruler to draw lines, to measure equal distances between patterns, and use different objects to trace if you don't have stencils
6. After you have completed your Mandalas in pencil, use colored pencils (or crayons) to decorate the patterns. Make sure that you color the Mandala equally as well.
7. If you want to color the background behind the Mandala, do it!



## STEAM: Daily Activity #8

# FREDA DIESING



### Materials needed:

- Paper towel roll OR toilet paper roll
- Ruler
- Markers, paint, crayons, etc
- Construction Paper
- Glue

This is The Studio's STEAM activity #8. We are going to design and engineer our own totem pole and discuss the history of Freda Diesing.

To design a structure means you are taking steps to create a piece from 2-Dimensionality to 3-Dimensionality. Following the 5-step Design Plan are: Share idea with others, Define, Form an Idea, Prototype, and Test.

What do totem poles represent?

How are the design process and creative process similar? different?

Totem poles are carved, painted, vertical logs. Totem poles were constructed by Native Americans in tribes across the United States and Canada. Most portray symbolic images of animals and spirits. The word 'totem' means guardian or ancestral being, not necessarily worshipped, but respected and admired. Freda Diesing (1925) was Haida, an indigenous ethnic group of Haida Gwaii, British Columbia, Canada. She began carving at the age of 42. She was the first female carver of the Northwest Coast. With a group of artists, she helped re-awakening the culture and art of the Northwest Coast.

### Steps to complete totem pole structure:

1. Starting on a piece of paper, we are going to complete a preliminary design of your totem pole
2. Measuring a rectangular shape on your paper with a ruler, section of the rectangle into 2-4 sections
3. Thinking about your favorite animal or character, draw the face using simple shapes in the top section
4. Follow this process all the way down
5. Using a pencil, trace out your design onto the paper towel roll or toilet paper roll (remember, you are going from 2D to 3D which means its going to be more difficult to draw on)
6. Once you have transferred your design to your 3D roll, use markers or paint to color in your sections
7. If you want to add 3D elements to the outside of the roll (like wings, nose, ears, symbols), then cut out of extra paper and carefully glue onto the roll...LET DRY!

## STEAM: Daily Activity #9

# Oscar Micheaux



### Materials needed:

- Any sort of electronic that takes video (possibly with a video editing app)
- Paper
- Pencil
- Props
- Characters

This is The Studio's STEAM activity #9. We are going to become a filmmaker, discussing the arts, advancing technology, and the first African American filmmaker, Oscar Micheaux.

The physics of filmmaking evolves from the process of putting the series of images onto the movie screen. First, the film is a long series of translucent images. After it is positioned in the middle of a movie projector, a bright light shines from behind it in front of a concave reflector. The light shines through two lenses (condenser), and projects filtered light which spreads the image onto a large screen.

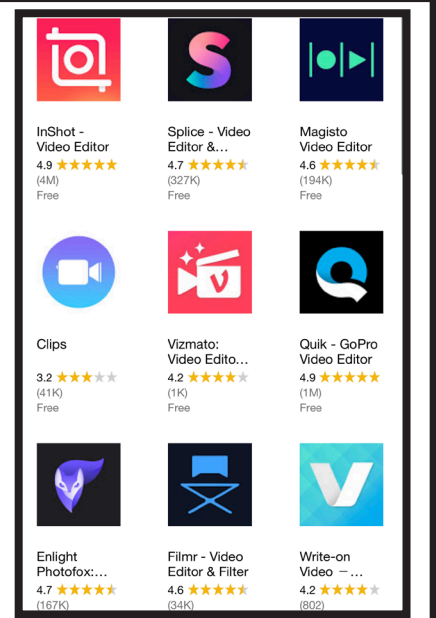
What are the differences and similarities between the film process and digital process on your technology?

How can you build a successful storyline for a movie?

Oscar Micheaux was the forerunner in race films. Born in 1884, he was an author, and wrote, produced, and director of over 40 films. After becoming an author, knowing the restrictions of black persons, he overcame the odds by creating his own publishing company to sell his books, he became intrigued by the film industry and began his own movie production company. In 1919, he became the first African American to make a film.

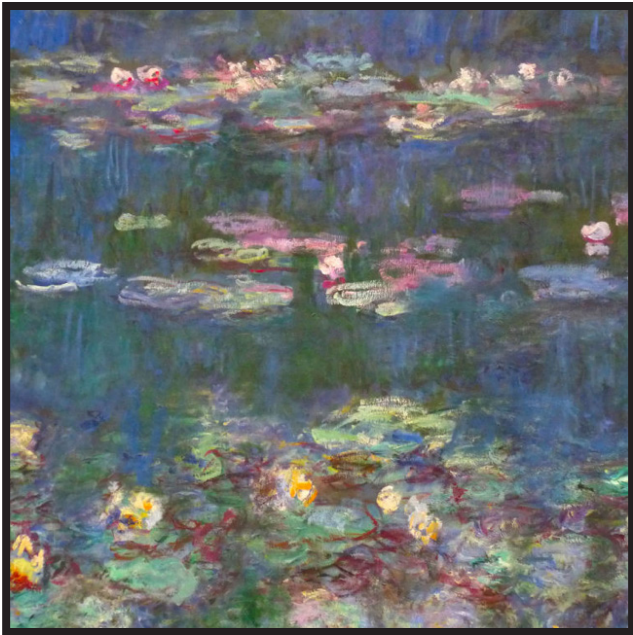
### Steps to complete your movie:

1. On a piece of paper, outline a storyline for a movie - make sure to create characters, a beginning, a middle, and an end
2. Using the props you collected, stage your first scene (be creative! you can make your own characters using paper, stuffed animals, legos, dolls, plastic characters, or people of your household)
3. Set up your device on video - maybe have someone help you film different scenes
4. If you don't have a video editing app, film through your entire video in one shot (if your grown-ups let you - there are lots of FREE video editing apps) ----->>>
5. Be the voice of your video! Director it and produce it like YOU want to see your story unfold



## STEAM: Daily Activity #10

# Claude Monet



### Materials needed:

- Food Coloring
- Shallow Pan
- Milk
- Dishwashing Liquid
- Paper

This is The Studio's STEAM activity #10. We are going to do experiment #2 with milk, food coloring, and dishwasher soap to create a marbled background for our Claude Monet waterlily scene.

When soap is added to milk, there is a chemical reaction. A chemical reaction is when there is a rearrangement of ionic or molecular structure of a substance, opposed to a physical form. Therefore, when we add food coloring to milk, we can visually see the chemical reaction between soap and milk. Soap reduces the surface tension of milk and reacts with the fat, trying to join together, causing movement.

How does the marbling with milk mixture look different from the oil and water mixture?

Is it easier to paint on the milk marbled paper than the oil marbled paper?

Monet painted in the style of Impressionism. Impressionism was an optical experience with nature. Therefore, artists would paint nature in the moment of how they feel inside, portraying the scene through expressive brushstrokes and soft colors. This idea was the predecessor for a multitude of modern art because it formed the union between the artist and subject on a deeper, emotional level, which may not always be a reflection of reality, but abstracted from reality.

### Steps to complete Monet Experiment #2:

1. Pour milk into the bottom of a pan, enough to cover the surface
2. Squeeze a few drops of food coloring into the milk, but DO NOT STIR
3. Put a few drops of dishwasher soap and watch the food coloring disperse
4. Place a sheet of paper onto the milk, pressing it just a little to make sure its submerged
5. Lift paper out by the corner, and let dry
6. Once paper is dry, look at the difference in the paper from the oil experiment - which had a shine to it, a film of oil
7. Using paint (preferably watercolor, but you can use acrylic or tempera) began painting your Impressionism waterlillies
8. Compare the similarities and differences between Monet experiment #1 and experiment #2