

Canton
Museum
of Art

THE ARTCHEMIST PROJECT

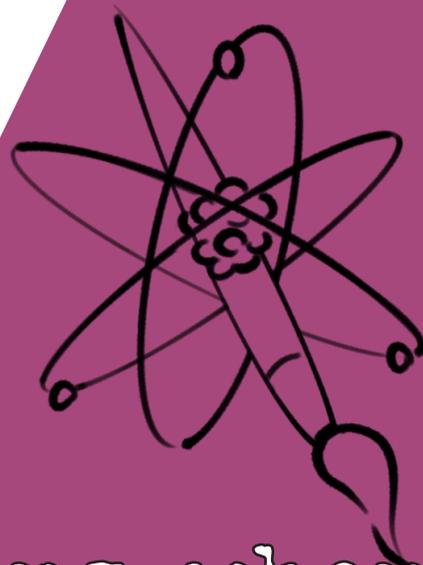
Generous support for this project provided by:



Art Bridges

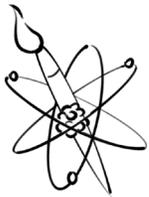
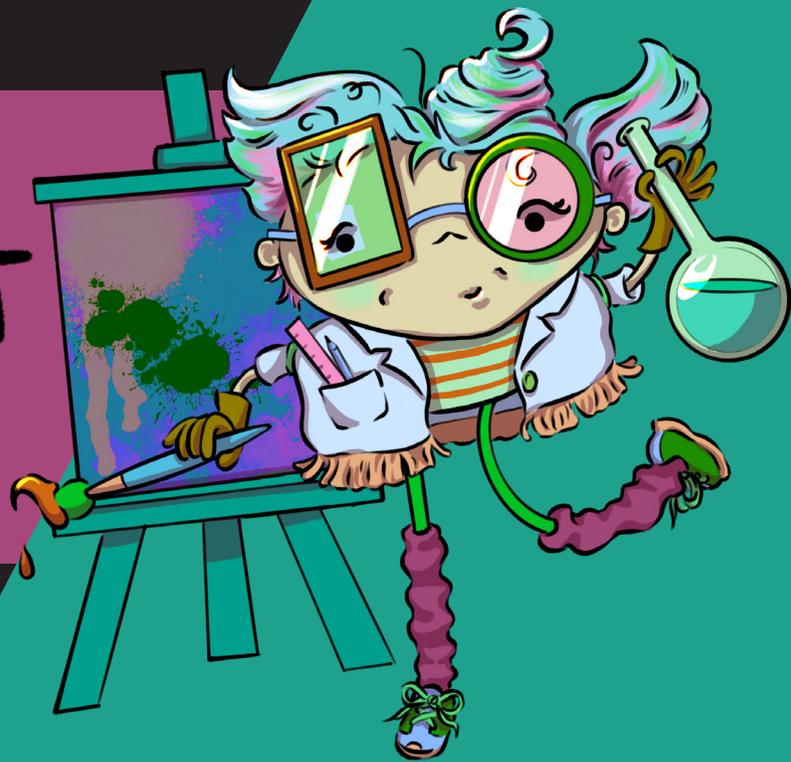
Anthony J. & Susan E. Paparella
Family Foundation
in honor of Gerry Cook Jones Bernhardt

**The
Hoover
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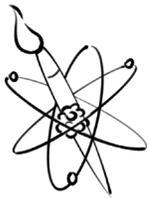
Explore what happens when
chemistry and art collide!

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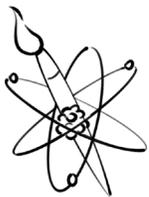
Page 2

Learn about artist Jeff Koons' artwork: "One Ball Equilibrium Tank." and test it out for yourself.



Page 3

Printable Scientific Method Sheet - Print this sheet and conduct your art experiments like a real scientist!



Pages 4-8

Make awesome art pieces through experiments that combine Chemistry and Art! Everything you need is included in your kit!



Page 9

Submit one of your works of art for the ArtChemist installation at CMA: Learn how!!

Hi! I'm Artemis, I'm an alchemist! An alchemist is a person who transforms or creates something through a seemingly magical process. Since the beginning of time, artists have investigated the ways in which substances interact, combine, and change to create amazing pieces of art. Through ArtChemist, I'll be leading you through projects where we'll experiment, hypothesize, and collaboratively create to build an art installation at CMA through the magic combination of chemistry and art together. Let's get started!

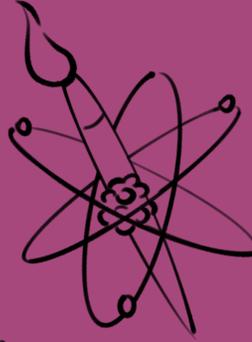


Check out the ArtChemist videos on our Youtube Channel and do the experiments with us! Just search Canton Museum of Art and click on our playlists menu to find out ArtChemist playlist!

You can also find the videos by visiting our website at: <https://www.cantonart.org/theartchemistproject>

Time to Experiment!

Grab a clear cup, water balloon, and salt (any salt will do). Fill the cup halfway with water and fill the balloon with water too. Drop the balloon in the cup and watch it sink. Add salt a little bit at a time until your cup is almost full. What do you notice?



Go ahead and leave the cup sitting for two weeks with the salt and water inside. Record what happened throughout the experiment!



Artist Jeff Koons created the piece, "One Ball Total Equilibrium Tank," (Pictured Left) by filling a basketball with distilled water and suspending it in a solution of distilled water and pure salt. Koons had to carefully craft this solution through the process of trial and error, as too much salt would make the ball float to the top and too little would cause the ball to sink. As with most things that appear perfect, there are unseen challenges to keeping the ball perfectly suspended in the solution. The balance of the solution will eventually shift due to evaporation and absorption, and the ball will sink. This active aspect of the work is like a social metaphor for the way many young, underprivileged Americans believe advertisements that present athletic stardom as a pathway out of poverty, which for the vast majority is not true.

One Ball Total Equilibrium Tank (Spalding Dr. J Silver Series) by Jeff Koons is on display at CMA on loan from Art Bridges. Art Bridges provides financial and strategic support to get art out of storage and into communities.

Jeff Koons, "One Ball Total Equilibrium Tank (Spalding Dr. J Series)," 1985, glass, steel, sodium chloride regent, distilled water, and basketball, 64 3/4 x 32 3/4 x 15 1/2 in (164.5 x 83.2 x 39.4 cm). Art Bridges.

The Scientific Method



Scientists use the Scientific Method to predict what will happen during an experiment, test their experiments, record their findings, and show what they learned. Use this worksheet during your own experiments! Write in the blank spaces below the prompts.



Make an observation (What do you have in front of you?)



Ask a question (What do you want to know?)



Form a hypothesis (Guess what will happen in your experiment.)



Make a prediction based on the hypothesis (Why did you make that guess?)



Test the prediction (Time to experiment! Record your results!)



Conclude or Iterate: (Reflect on what happened or use the results to make new predictions and keep experimenting!)



PROJECT #1

Artemis's Rainbow Paper



*****A NOTE FOR TEACHERS*****

Due to the fumes created from the nail polish, this project **MUST** be done in a well-ventilated area. Please send this part of the kit home with your students so they can experiment on their own.

Step 1

Fill your bowl 2/3 of the way with water.



Put on your gloves & pour clear nail polish into the aluminum tray

Step 2

Materials:

- Aluminum Tray
- Black 6x6 Paper
- Gloves
- Water
(You will supply water)
- Clear Nail Polish
(this is in a small vial)

Step 3

Dip paper into aluminum tray at an angle and pull out slowly, swishing it from side to side as you pull out.



Why does this work?!

Much like how salt is more dense than water, water is more dense than nitrocellulose (the main ingredient in nail polish). Water also speeds up the drying time of nitrocellulose. The nail polish floats on top of the water which creates a thin layer or film. When the paper is pulled out, the half-dry film of nail polish sticks to the paper, creating a translucent layer that catches the light and makes a rainbow.

PROJECT #2

Artemis's Separating Markers

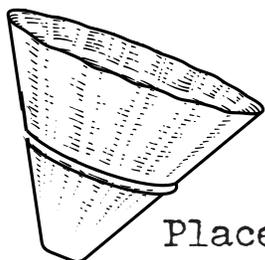


Step 1

Fill up your cup half-way with water

Get out your coffee filter, lay it flat, and trace the circle with a washable marker of your choice. Fold it back up, and pinch the center.

Step 2



Your filter should look like this when folded back up

Place the bottom of the coffee filter into the water being careful not to get your circle wet. You may want to tape the filter to the cup on both sides. Wait for a while and observe what happens.

Step 4

Once you see a big reaction, take your filter out, open it, and set it on a paper towel to dry. Once dry, glue down onto the paper and cut off the excess.

Materials:

- Cup
- Coffee Filter
- White 6x6 Paper Square
- Glue Stick
- Water
(You will supply water)
- Marker

Step 3



Why does this work?!

Other than the primary colors (red, yellow, and blue), all colors are made up of multiple colors, or pigments. Black and grey specifically are made up of a LOT of pigments. As the water spreads through the water-based markers at a slow rate, the color becomes separated into all of the pigments that make it up. This happens because each color has a different density of molecules. The slow rate of the water causes the least-dense pigments to rise to the top of the filter.

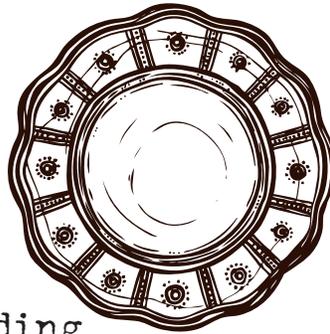
PROJECT #3

Artemis's Foamy Abstract Painting



Step 1

Sprinkle a little baking soda across the whole plate (you can experiment with adding more after your first creation)



Put on your gloves and drip different colors of dye across the surface any way you'd like

Step 2



Why does this work?!

Vinegar is an acid and baking soda, or sodium bicarbonate, is a base which is the opposite of an acid. When vinegar and baking soda are mixed together, hydrogen ions in the vinegar interact with the sodium and ions in the baking soda. The result of this initial reaction is explosive because of two new chemicals that are created while the acid and base try to mix. These chemicals are called carbonic acid and sodium acetate. These help break down the excess hydrogen created in the reaction and eventually let in oxygen, resolving the explosion by creating water. This is why you have to work so fast while the mixture foams. In addition, the foam causes the colors to mix which creates exciting color reactions too!

Step 3

Once the foam reaches about 1/2 inch high,

Press paper evenly into the foam and let it sit for ten seconds. Gently pull up the paper and see your creation

Step 4

Materials:

- Plastic Plate
- White 6x6 Paper
- Gloves
- Baking Soda
- Vinegar
- Food Dye or Liquid Watercolor

****Work quickly here:**
Spritz or pour a generous amount of vinegar on the baking soda & watch it foam!



THE ARTCHEMIST PROJECT

Wow! I hope you had as much fun as me testing out all kinds of new experiments! I can't wait to see all the cool stuff you came up with when it's added to our ArtChemist installation!

Not sure what to do next?
Find out below!

Share Your
Experiments!

*Please note: All materials will be provided in the free art kits. All are welcome to use your own materials as well.

Each piece must be an exact 6"x 6" square no larger than 1/2 inch thick.

Pieces must be created on a fairly lightweight and sturdy material like tag board, mat board, or cardboard. Materials must be securely attached, non-toxic, and safe to touch.

Tag CMAI!



Canton Museum
of Art



@cantonmuseum

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Community Art Installation

Submissions are accepted from:
2/4/22- 3/4/22 before 5:00pm

The art installation will consist of a perfect grid of squares. Anyone is welcome to contribute to the art installation, which will be installed by participants on the Museum lobby walls. Individuals are encouraged to bring in or mail your submission directly to the Museum, Attn: The Artchemist Project.

Learn more at
cantonart.org/theartchemistproject