

THIS IS GESS-NIUS!

THE FOLLOWING ACTIVITY WILL GUIDE THE STUDENTS AS THEY EXPLORE THE ROLE OF SCIENCE IN ART. STUDENTS WILL CREATE DIFFERENT MIXTURES OF ELEMENT (CHEMICAL CHANGES) TO OBTAIN THE OPTIMAL GESSO FOR A PAINTING THAT STUDENTS IDENTIFY THEMSELVES WITH. ADDITIONALLY, STUDENTS WILL PROVIDE POSITIVE FEEDBACK TO EACH OTHER'S ART PIECES.

Standards:

Standard 1.4: Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, imaginative, and effective solutions.
<https://www.iste.org/standards/iste-standards-for-students>

1.4.a Students recognize and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.

1.4.b Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

1.4.c Students develop, test, and refine prototypes as part of a cyclical design process.

1.4.d Students exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.

Standard 1.5 Computational Thinker. Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions

1.5.c Students break down problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

Standard 1.6 Creative Communicator. Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

1.6. a Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

Background Information:

Gesso is a substance used to protect the fibers of a canvas, providing a nice surface to work on as well as adding a little flexibility so that the canvas does not crack if rolled or folded. Traditionally, gesso is necessary for raw canvas, wood, and other surfaces due to its properties providing effective paint adhesion.

Gesso originated during the Italian Renaissance (1400's) It consists of chalk, ***gypsum***, white pigment and a binder or glue. Gypsum is a soft sulfate mineral which is mined and used as the main component in plaster, sidewalk chalk, and drywall.



Painting on wood is not a new art form, as the Olmec artists had been painting on wood for hundreds of years. With regards to Hispanic art, the substance gesso was first found to be used in Hispanic art in the early 1800's. Santos (the term that is used for artists) created their works primarily on wood panels. Many of these pieces of art contained Christian subject matter, however that later changed in the late 1800's. Santos would create beautiful paintings of life within their city, town and villages. Santos would first use gesso to coat the wood panel prior to painting. This allowed the paint to adhere to the wood panels.

Lesson Title: This is Gess-nius!

Materials Needed:

- Student pages
- Baby powder or cornstarch
- Liquid glue (school glue)
- White paint
- Cardboard
- Brush
- Paint of any color
- Internet access (optional)
- Computer, Chromebook, cellphone, or tablet (optional)

Implementation:

The first part of the activity is to show four art styles which are abstract, figurative, geometric, and surrealist to the students. The main purpose of presenting specific characteristics of each style for the students is to help them identify themselves (what they like or what they don't like) with some of those characteristics to develop their own art style.

The second part of the activity will guide the students to optimize for use on their canvas, their own gesso mixture utilizing the scientific method (hypothesis, test, analyze results, and conclusion).

The third part of the activity will ask the students to create a painting using their own art style, representing their heritage and personality. Lastly, students will create a gallery walk to display their art while also giving positive and constructive criticism to the artwork of their peers.

Discussion Ideas:

- What made you choose the art style you decided to use?
- What was the impact of the gesso on the artwork you created?
 - Color?
 - Crispness of lines, shapes and forms?
- How did the gesso improve the surface or texture of the base?
- How can you improve the gesso mixture?

Extensions:

Students will recreate a 3ft by 2ft artwork by making more of their optimized gesso (keeping in mind the gesso/surface area ratio) and produce a painting that represents their heritage and their school.

Student Page

Art Styles in Review: Choose a style, abstract, figurative, geometric, or surrealistic.



Untitled Art by Tarisa do Amaral |

Abstract Art is art that does not represent an accurate picture of a subject. Instead the artist will use a variety shapes, colors, forms and lines to create the effect or the illusion of a particular subject.



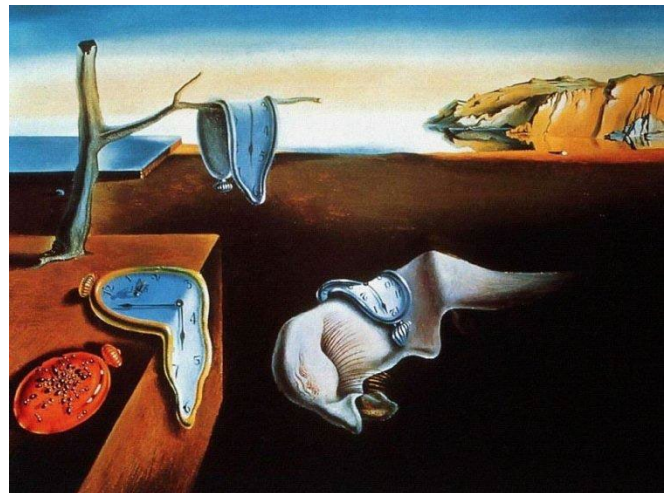
Flower Carrier by Diego Rivera

Figurative Art is art in which the subject matter is recognizable. This type of art uses a series of shapes, objects, figures, showing a likeness to the real world. It is also known as Figurativism.



Three Musicians by Pablo Picasso

Geometric Art is art is based on the use of geometric forms. The shapes can be placed into the art space representing realistic images or combined into a non-representational or abstract image.



The Persistence of Memory by Salvador Dali

Surrealistic Art is art that shows an unreal vision of a subject. It shows objects or the subject in the unconscious or a dreamlike state. This type of art uses objects that do not appear to be real by twisting them through the use of changing their natural state.

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This is Gess-nius!

Gesso is used to protect the canvas fibers, providing a nice surface to work on as well as adding a little flexibility so the canvas does not crack if rolled or folded. Traditionally, gesso is necessary for raw canvas, wood, and other surfaces due to its properties providing effective paint adhesion.



Now, you and your partner will create three different types of gesso for your paintings. Each trial will be a different mixture, looking for the optimal amount of ingredients to create the best gesso for your painting.

	Trial 1
Total amount in ml.	
Glue %	
Powder%	
Paint %	
Results	

	Trial 2
Total amount in ml.	
Glue %	
Powder%	
Paint %	
Results	

	Trial 3
Total amount in ml.	
Glue %	
Powder%	
Paint %	
Results	

Student Page

You will apply every trial of gesso on a piece of cardboard provided by your teacher. After all three trials are set and dry, paint something to test your gesso samples. Finally, analyze all three samples and come up with the optimal percentages of ingredients for your gesso.

The final step is to create the best gesso based on your findings and paint your artwork. Your artwork should reflect the characteristics of the different styles of painting (modernist, surreal, abstract, or impressionist) that you identify yourself with based on the artwork exploration you had at the beginning of the activity.

