Lesson Plan #47

CELESTIAL TILES

Study of the Solar System

by Noelle Hoover and Diana Faris

The stars in the night sky have been the subject of eternal contemplation, poetry and research. They have provided inspiration for science, film-making and art for several centuries, and the study of Astronomy continues to amaze us with new discoveries! This is an exciting cross-curricular project involving the study and research of planets, moons, stars and solar systems. What better way to represent Celestial forms and colors on clay than with AMACO® Crystaltex glazes that fire naturally to create starbursts of color?

Tools & Materials

- Bisque-fired tiles—6"x6", Item #11333L
- Assorted AMACO® Crystaltex (CTL) glazes or starter set CTL Glaze Class Pack #4 – 12 pints, item #39229J
  Tip: The following glaze colors are recommended for the night sky / background and should also be available: CTL-22 Milky Way, CTL-1 Jet Moss, CTL-23 Moody Blue and CTL-3 Lava
- AMACO® TP-1 Coal Black Teachers Palette glaze, item #36601A
- Underglaze Applicators (16 gauge), item #11263K (1 per 2 students)
- Assorted soft-haired ceramics brushes
- **Optional:** Wax Resist Solution, Item #41382A may be used to cover glazed planet shapes before applying the background color.

Lesson Plan Goals and Objectives

- Students will study Astronomy, investigating why the planets in our solar system are different colors, whether they have solid, liquid or gaseous surfaces, and their relative scale to our planet, Earth.
- Students will explore composition and the spatial relationships of forms through the use of color.
- Students will investigate and visualize how glazes alter in appearance before and after firing.

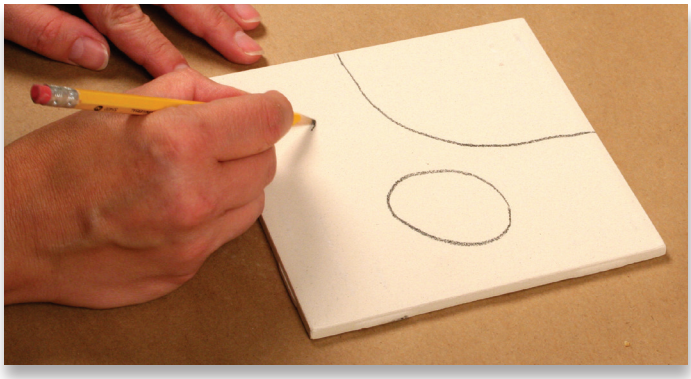
This lesson is ideal for grades 3-8.

National Visual Arts Standards

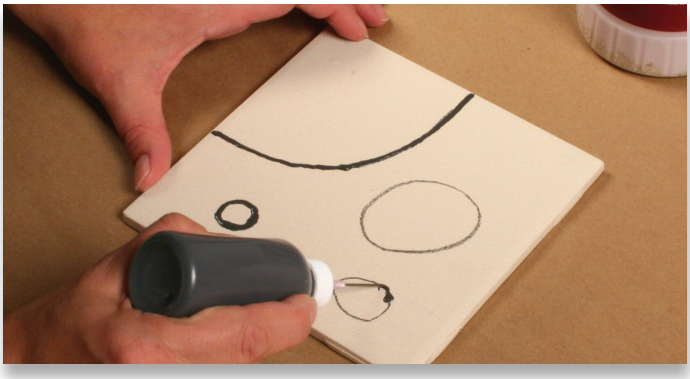
- Making connections between visual arts and other disciplines
- Content Standard Understanding and applying media, techniques, and processes
- Using knowledge of structures and functions
- Choosing and evaluating a range of subject matter, symbols, and ideas

Technique

1. Introduce the project and assign the desired level of research and sketching. Students could collectively create one large mural, or each paint their own personal design.

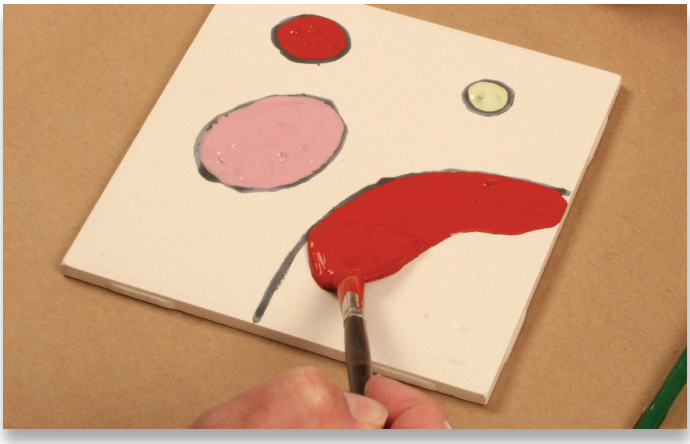


2. Sketch the basic designs onto bisque tiles using a regular pencil. If starting with moist clay, sketch on paper before translating onto clay.

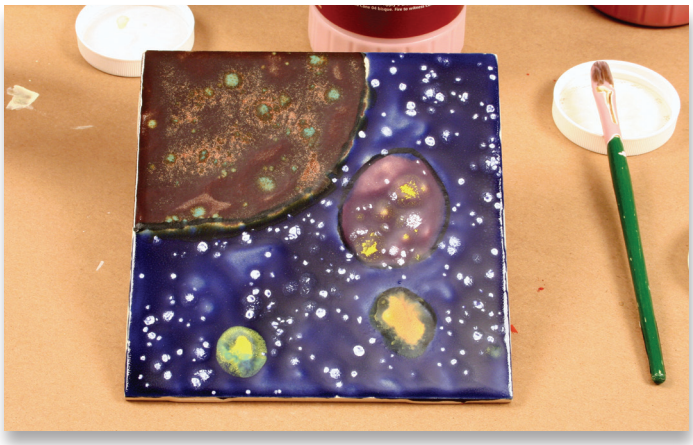


3. Use an underglaze applicator bottle filled with AMACO® Teacher's Palette TP-1 Coal Black to draw over the pencil lines. This will help separate the various glaze colors. Lines should be about 1/16"–1/8" wide. Let dry.

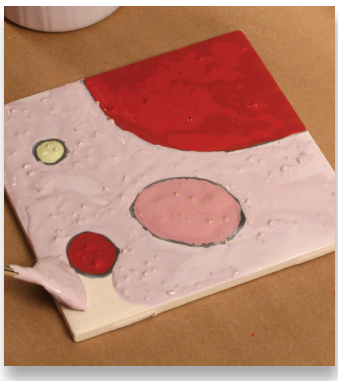
6. The crystal chunks within the CTL glaze may also be placed specifically where desired for controlled color bursts.



4. Fill in the circles with the desired AMACO® Crystaltex glaze colors. Brush on 2-3 coats of glaze for full coverage, or if a small area, one "pooled" application may be sufficient.
NOTE: Mix the CTL glazes well before use to disperse the crystal chunks which normally settle to the bottom.



7. Fire tiles flat so the colors will not flow together to Cone 05.



5. Fill in the night sky or background with the desired glaze color.

Project Variations:

Use Stickers: Adhesive circles or stickers cut in the shapes of the desired planets and stars may be placed on the bisque tile first before any glazing is done. The "background" would then be painted and allowed to dry before removing the stickers and filling in the other colors.

Sculpt Wet Clay: If more than one class period is available, this assignment could be executed in 3D or in relief by using moist clay then modeling and sculpting the planet shapes and textures (use AMACO® 25M White Art Clay, Item #45015Y). Upon bisque-firing to cone 04, the pieces would be glazed as indicate above with Crystaltex glazes and re-fired to cone 05.

Create Tile Frames: Custom frames may be modeled using AMACO's air-drying Cloud Clay®. Just apply the soft Cloud Clay® to the completed fired tiles and allow to dry in place. Cloud Clay® will adhere as it dries, so place it on wax paper for easy removal.

Glossary

Astronomy: The science of celestial objects, space and the physical universe.

Bisque: Unglazed ceramic after the first firing.

Fire: To heat the clay in a kiln at a very high temperature until it is hard and it becomes ceramic.

Glaze: A mixture of ceramic materials including clay, silica and fluxes that forms the protective and decorative coating on the surface of pottery when subjected to high temperatures in a kiln.

Solar System: The nine planets and their moons orbiting around the sun.

Underglaze: A colored decoration applied to bisque or greenware and usually covered with a glaze before firing.