artsNOW
Integrated learning solutions

SOLAR SYSTEM ART
Grade Band: 4-5
Content Focus: Visual Arts & Science

LEARNING DESCRIPTION

Students will get to know the pop artist, Peter Max, by exploring his solar system art posters. Students will create pop art coloring book pages/posters of the information they learn about the solar system. Students will write their information on the pages, creating individual pages or collaborating to create a class coloring book.

LEARNING TARGETS

Essential Questions	"I Can" Statements
• How can we explore our Solar System through creative art projects, specifically a creative coloring book page? • What elements of art (line, shape, color, etc.) do you see in Max's work?	• I can make a coloring book or poster inspired by a master pop artist. • I can Identify line, shape, and space in Peter Max's artwork. • I can explain the solar system and science facts through art.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 4: S4E1. Obtain, evaluate, and communicate information to compare and contrast the physical attributes of stars and planets. a. Ask questions to compare and contrast technological advances that have changed the amount and type of information on distant objects in the sky. b. Construct an argument on why some stars (including the Earth's sun) appear to be larger or brighter than others. c. Construct an explanation of the differences between stars and planets. d. Evaluate strengths and limitations of models of our solar system in describing relative size, order, appearance and composition of planets and the sun. S4E2. Obtain, evaluate, and communicate information to model the effects of the position and motion of the Earth and the moon in relation to the sun as observed from the Earth. b. Develop a model based on observations to describe the repeating pattern of the phases of the moon (new, crescent, quarter, gibbous, and full).	**Grade 4:** VA4.CR.1 Engage in the creative process to generate and visualize ideas by using subject matter and symbols to communicate meaning. a. Utilize multiple approaches to plan works of art incorporating imaginative ideas, universal themes, and symbolic images. b. Apply available resources, tools, and technologies to investigate personal ideas through the process of making works of art. c. Produce multiple prototypes in the planning stages for a work of art (e.g. sketches, 3D models). VA4.CR.2 Create works of art based on selected themes. b. Create works of art emphasizing multiple elements of art and/or principles of design. VA4.CN.1 Investigate and discover the personal relationships of artists to community, culture, and the world through making and studying art. a. Recognize the unique contributions of contemporary and/or historical art forms, including Georgia artists. c. Discuss how social, political, and/or cultural events inspire art.
Grade 5: S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes. a. Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive and/or destructive processes (examples could include deposition, weathering, erosion, and impact of organisms). b. Develop simple interactive models to collect data that illustrate how changes in surface features are/were caused by constructive and/or destructive processes.	**Grade 5:** VA5.CR.1 Engage in the creative process to generate and visualize ideas by using subject matter and symbols to communicate meaning. a. Utilize multiple approaches to plan works of art, incorporating imaginative ideas, universal themes, and symbolic images. c. Produce multiple prototypes in the planning stages for a work of art (e.g. sketches, 3D models). VA5.CR.2 Create works of art based on selected themes. a. Create original works of art that communicate values, opinions, and feelings. b. Create works of art emphasizing multiple elements of art and/or principles of design.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 4: 4.E.3A.1 Develop and use models of Earth's solar system to exemplify the location and order of the planets as they orbit the Sun and the main composition (rock or gas) of the planets. 4.E.3A.2 Obtain and communicate information to describe how constellations (including Ursa Major, Ursa Minor, and Orion) appear to move from Earth's perspective throughout the seasons.	**VA.CR.AL.1** I can create, refine, and communicate ideas based on the elements and principles of design and other compositional strategies and structures **VA.CR.IH.2.1** I can use a variety of materials, techniques, or processes in response to an artistic problem.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
Solar system - A collection of planets and their moons in orbit around a sun. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, (Pluto) Sun - The star around which the earth orbits. Moon - The natural satellite of a planet. Star - A fixed luminous point in the night sky. Astronomy - The study of the study of objects and matter outside the earth's atmosphere and of their physical and chemical properties.	Horizon line - A physical/visual boundary where sky separates from land or water. It is the actual height of the viewer's eyes when looking at an object, interior scene, or an exterior scene. Art media -Tools used to create art like: makers, crayons, colored pencils, oil pastels, etc. Contemporary art - Art—namely, painting, sculpture, photography, installation, performance, and video art—produced from the last 1960's to present day. Pop art - Art that refers to popular culture. Coloring books - books with lines and shapes done in black and white to be colored. Comics - Magazines with illustrations **Elements of Art:** Color - A way that we describe an object based on the way that it reflects or emits light. Line - A straight, one-dimensional figure that extends endlessly in both directions. Shape - the form of an object or its outline, outer boundary, or outer edge.

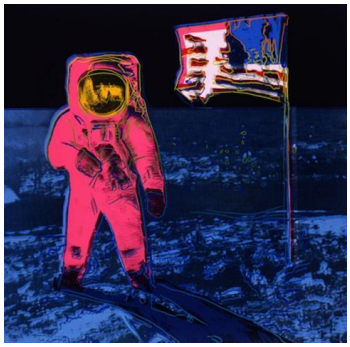
MATERIALS

- 9” x 12” (or larger) white paper,
- Sharpie or black crayon
- A variety of objects to trace to create circles such as candles, plates, coins, cups, etc.
- Markers or crayons

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

- Begin the lesson by sharing information about POP art which is an art movement that emerged in the United Kingdom and the United States during the mid- to late-1950s. The movement presented a challenge to traditions of fine art by including imagery from popular and mass culture, such as advertising, comic books and mass-produced cultural objects.
- Students will look at coloring book pages and the contemporary art works of Peter Max, Perry Milou, Kenny Scharf, Andy Warhol and Roy Lichtenstein.
    - Illustrations can be found here: https://petermax.com
- Ask students what they notice about the illustrations.
- Introduce the visual art vocabulary as it comes up in the group discussion.



Work Session

- Students will create their own POP art inspired coloring book posters that will show what they know about the solar system! They can even make it an Earth Day poster.

Ideas to share:

- Our solar system formed 4.6 billion years ago.
- A solar system includes a star (in our case the Sun) and all objects that orbit around it.
- The sun contains 99.86% of all of the solar system’s known mass.
- There are 8 planets in our solar system.
- Neptune was the last planet to be discovered.
- Saturn’s ring particles are made almost entirely of water ice particles.
- Jupiter is the biggest and heaviest planet in our solar system.
- Earth is the only known planet that has oceans (as far as we know for now).

Teachers will share pertinent information from their grade level standards.

- Students will showcase the solar system, including the Sun and include any of the planets they chose to research such as Mercury, Venus, Earth, Mars, Juniper, Saturn, Uranus, or

Neptune. They may also include a variety of stars, asteroids, or a galaxy or planet of their own creation while being inspired by the works of Peter Max and other pop artists.

1. Using a straight edge draw a horizontal line across your paper. (Horizon Line) Next, using a large circle template, draw the sun as a semicircle that touches the horizon line.
2. Using a variety of sizes of circles, trace the planets, orbiting in the space above the sun and horizon line. You may choose to include all 8 or make them larger scale and just show a few. Be sure to consider the size of each in relationship to one another.
3. Next, sketch in creative details of your own such as sun rays, asteroids, spaceships, astronauts, or other stars. You may choose to draw an environment below the horizon line such as seen in this example by Peter Max. Is the point of view from the moon? On the space station? Or a newly "discovered" planet. Are there people on that planet? Mountains? Water?
4. Add any public messages or words to your poster in large letters.
5. After you are finished with your drawing, outline in black crayon or sharpie.

Closing/Reflection

There are several creative ways to complete this project:

- Have students put their works together and create class coloring books to share
- Have students share their works to collaboratively color in while sharing what they know
- Hang the posters in the hallway for others to color and learn by doing.

Since art is the most authentic assessment tool, students will be reflecting on their science learning while creating their artistic coloring book pages/posters.

ASSESSMENTS

Formative

Engage students in one-on-one or group in-process critiques to gauge student progress and understanding. Teachers will be able to see immediately what solar system information students have retained via their art.

Summative

Student reflections will gauge student mastery of the standards. Specifically, students will be able to talk about artworks of master pop artists, explain what pop art is, and use this art to showcase their specific learning in the sciences. Students will understand and apply media, techniques, and processes of 2d art using art materials in a safe and appropriate manner to develop skills. The teacher will use art as an authentic assessment tool, seeing how well students filled the space in their art and how effective they were in creating solar system coloring book pages and/or posters. As others color these in, the student's new knowledge will be shared.

DIFFERENTIATION

Acceleration:
Students can play with line quality and use a variety of drawing pens to add thin and thick lines around each of their drawings. Students can stipple dots in to create a gradation of shade.

Students can create their own coloring books as opposed to only creating a page of a collaborative book. Students can create their own imaginative version of their science facts via these outlined drawings bringing in literacy and storytelling standards.

Remediation:

Students can trace pages of actual scientific / astrology books to help them create their own coloring book page. Remind students that a closed line makes a shape so they can focus on creating the circles to make their planets, stars and suns.

ADDITIONAL RESOURCES

Look at the works of Andy Warhol, Annie Leibovitz and Norman Rockwell via the Art of Nasa program:
https://www.themarginalian.org/2013/08/29/nasa-art-program/

"Peter Max." *Artsy*, www.artsy.net/search?term=peter+max. Accessed 28 June 2023.

"Make Every Day Earth Day!" *Peter Max Store*, petermax.com/collections/all/products/make-every-day-earth-day. Accessed 28 June 2023.

Crawford, Matt. "Sneak Peak: The Official Outside Lands 2013 Poster." *SF Station | San Francisco's City Guide*, 17 Dec. 2016, www.sfstation.com/2013/08/08/sneak-peak-the-official-outside-lands-2013-poster/.

**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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