Welcome to Solar System Week!

Each of the following pages highlights three examples of student activities by grade level, along with the related South Carolina curriculum standards that were included in the CReATE Kits for Solar System Week.

CReATE Kits were modeled after Engaging Creative Mind’s (ECM) national award-winning Summer STEAM Institute®, which was cancelled this year due to COVID-19, and the themed kits were distributed in July 2020 in partnership with local school districts. Students received all the materials, literature and instructions for five days of rigorous standards-based, interdisciplinary Arts Integration instruction.

CReATE Kits were funded with donations from ECM’s Academic Response Team (A.R.T.), which began in response to the COVID-19 pandemic. We are so grateful to our community, board members, and local businesses who donated and became a part of A.R.T. this summer. The investment provided over 350 students with STEAM (Science, Technology, Engineering, Arts and Math) activities they can do at home to combat spring and summer learning loss and prepare them for the new school year.

Sincerely,

Robin Berlinsky
Executive Director
Engaging Creative Minds

@EngagingCreativeMinds @ECMCharleston
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SOLAR SYSTEM SAMPLE ACTIVITIES:

- **LITERACY & THEATRE** | Students read *Goodnight Moon* by Margaret Wise Brown, touching each word as they read left to right, top to bottom. They create a puppet show to demonstrate all the things they remember saying goodnight to in the story.

- **SCIENCE & DANCE** | Students assemble, decorate, and fly balsa wood airplanes. Using nonstandard units of measure, students compare each “flight” and discuss why they think the distances differ. Students demonstrate flying and gliding with their bodies.

- **SCIENCE & VISUAL ARTS** | Students create a solar system mobile using found objects, and then identify each planet.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **LITERACY** | Principles of Reading
  - Demonstrate understanding of the organization and basic features of print
    - Follow words from left to right, top to bottom, and front to back

- **THEATRE** | Artistic Processes: Performing/Producing/Presenting
  - Demonstrate ways that characters change in a guided dramatic experience

- **SCIENCE** | Science and Engineering Practices
  - Analyze and interpret data from observations, measurements, or investigations to understand patterns and meanings

- **DANCE** | Artistic Processes: Creating
  - Create a composition based on the characteristics of fabric moving through space while demonstrating the texture, actions, and energy/force

- **SCIENCE** | Life Science: Exploring Organisms and the Environment
  - Analyze and interpret data to describe how humans use their senses to learn about the world around them

- **VISUAL ARTS** | Artistic Processes: Creating
  - Illustrate and explain the details in the work
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **LITERACY & THEATRE** | Students read *Goodnight Moon* by Margaret Wise Brown, and then create a puppet show to demonstrate all the things they remember saying goodnight to in the story.

- **SCIENCE & DANCE** | Students discuss the effect of the sun and moon on Earth. Students keep a “moon journal” for one month drawing nightly observations. After 30 days, students create a “moon dance” that shows the phases of the moon.

- **SCIENCE & VISUAL ARTS** | Using found objects, students create a solar system mobile and identify each planet.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **LITERACY** | Meaning and Context
  - Ask and answer who, what, when, where, why, and how questions to demonstrate understanding of a text; use key details to make inferences and draw conclusions in texts heard or read.

- **THEATRE** | Artistic Processes: Performing/Producing/Presenting
  - Demonstrate ways that characters change in a guided dramatic experience

- **SCIENCE** | Earth Science: Exploring the Sun and Moon
  - Demonstrate an understanding of the patterns of the Sun and the Moon and the Sun’s effect on Earth

- **DANCE** | Artistic Processes: Creating
  - Create a composition based on the characteristics of fabric moving through space while demonstrating the texture, actions, and energy/force

- **SCIENCE** | Life Science: Exploring Organisms and the Environment
  - Analyze and interpret data to describe how humans use their senses to learn about the world around them

- **VISUAL ARTS** | Artistic Processes: Creating
  - Illustrate and explain the details in the work
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **LITERACY & VISUAL ARTS** | Students read *The Magic School Bus Lost in the Solar System* by Joanna Cole and then make **alien straw paintings** by blowing through straws onto watercolor paints. Students **write a story about their alien**.

- **SCIENCE & VISUAL ARTS** | Students make **coffee filter planets** using water-soluble markers and a pipette. Once planets dry, students paste them in a journal on dark paper and write about them using **writing prompts** such as, “What is your planet’s name?” “Who lives there and what do they need to survive?” Students add details with oil pastels and neon gel pens.

- **SCIENCE & MUSIC** | Students build and launch **rockets**, measuring distance and comparing their results based on the design of their rocket. Students create or find **music** to accompany the flight.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **LITERACY** | Reading – Literary Text
  - Range and Complexity
    - Read and respond according to task and purpose to become self-directed, critical readers and thinkers

- **VISUAL ARTS** | Artistic Processes: Performing/Producing/Presenting
  - Mix and blend colors to show tints and shades in painting

- **SCIENCE** | Life Science: Animals and Their Environments
  - Obtain and communicate information to describe and compare how animals interact with other animals and plants in the environment

- **VISUAL ARTS** | Artistic Processes: Creating
  - Analyze the relationship between subject and the composition in artwork

- **SCIENCE** | Science and Engineering
  - Develop and use models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others

- **MUSIC** | Artistic Processes: Creating
  - Arrange a musical idea
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **LITERACY & VISUAL ARTS** | Students read *The Magic School Bus Lost in the Solar System* by Joanna Cole, and then make alien straw paintings by blowing through straws onto watercolor paints. Students write a story about their alien.

- **SCIENCE & VISUAL ARTS** | Students make coffee filter planets using water-soluble markers and a pipette. Once planets dry, students paste them in a journal on dark paper and write about them using writing prompts such as, “What is your planet’s name?” “Who lives there and what do they need to survive?” Students add details with oil pastels and neon gel pens.

- **SCIENCE & MUSIC** | Students build and launch rockets, measuring distance and comparing their results based on the design of their rocket. Students create or find music to accompany the flight.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **LITERACY** | Reading – Informational Text
  - Language, Craft, and Structure
    - Explain how the author uses words and phrases to inform, explain, or describe

- **VISUAL ARTS** | Artistic Processes: Performing/Producing/Presenting
  - Mix and blend colors to show tints and shades in painting

- **SCIENCE** | Life Science: Environments and Habitats
  - Demonstrate an understanding of how the characteristics and changes in environments and habitats affect the diversity of organisms

- **VISUAL ARTS** | Artistic Processes: Creating
  - Analyze the relationship between subject and the composition in artwork

- **MATH** | Measurement and Data Analysis
  - Generate data by measuring length to the nearest inch, half-inch and quarter-inch and organize the data in a line plot using a horizontal scale marked off in appropriate units

- **MUSIC** | Artistic Processes: Creating
  - Arrange a musical idea
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **SCIENCE & VISUAL ARTS** | Students read *Why the Sky is Far Away, A Nigerian Folktale*, by Mary-John Gerson, and then create constellation charts with paper and chalk.

- **SCIENCE & VISUAL ARTS** | Students create jewelry using UV Beads and then describe the transformation and patterns when exposed to sunlight.

- **LITERACY & DANCE** | Students explore African culture and reflect their learning through dance.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **SCIENCE** | Earth Science – Stars and Solar System
  - Construct scientific arguments to support claims about the importance of astronomy in navigation and exploration (including the use of telescopes, astrolabes, compasses, and sextants)

- **VISUAL ARTS** | Artistic Processes: Responding
  - Research and examine the relationships between visual art from multiple cultures and time periods

- **SCIENCE** | Physical Science: Forms of Energy – Light and Sound
  - Construct scientific arguments to support the claim that white light is made up of different colors

- **VISUAL ARTS** | Artistic Processes: Creating
  - Analyze the relationship between subject and the composition in artwork

- **LITERACY** | Reading – Informational Text
  - Language, Craft, and Structure
    - Use knowledge of appendices, timelines, maps, and charts to locate information and gain meaning; explain how these features contribute to a text

- **DANCE** | Artistic Processes: Connecting
  - Create a dance using two contrasting cultures and discuss how you decided to use each culture’s characteristics
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **SCIENCE & VISUAL ARTS** | Students read *Why the Sky is Far Away, A Nigerian Folktale*, by Mary-John Gerson. Students then research space exploration and artificial intelligence, and answer the following question; 1) What would your robot look like and what would it accomplish?

- **SCIENCE & VISUAL ARTS** | Students design and create a prototype of a machine that solves a problem that could occur during space exploration.

- **LITERACY & DANCE** | Students explore African culture and reflect their learning through dance and other artistic expression.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **SCIENCE** | Science and Engineering Practices
  - Construct scientific arguments to support claims, explanations, or designs using evidence from observations, data, or informational texts

- **VISUAL ARTS** | Artistic Processes: Creating
  - Create a body of work in a specific medium that explores a personal theme, idea, or concept

- **SCIENCE** | Physical Science: Forces and Motion
  - Analyze and interpret data to describe how a change of force, a change in mass, or friction affects the motion of an object

- **VISUAL ARTS** | Artistic Processes: Creating
  - Analyze the relationship between subject and the composition in artwork

- **LITERACY** | Reading - Informational Text
  - Language, Craft, and Structure
    - Analyze how the author uses words and phrases to shape and clarify meaning

- **DANCE** | Artistic Processes: Connecting
  - Compare similar themes among various cultures

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SOLAR SYSTEM SAMPLE ACTIVITIES:

- **MATH & VISUAL ARTS** | Students read *Hidden Figures*, by Margot Lee Shetterly and then research and draw a timeline of Katherine Johnson’s life, a mathematician who calculated flight trajectories for Project Mercury and other missions.

- **SCIENCE & VISUAL ARTS** | Students design and create a prototype of a machine that solves a problem that could occur during space exploration.

- **SOCIAL STUDIES & MUSIC** | Students create a timeline of space exploration through present day; including the countries involved and the results of each launch, and use music from each decade to accompany their work.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **MATH** | Expressions, Equations, and Inequalities
  - Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation

- **VISUAL ARTS** | Artistic Processes: Creating
  - Create a body of work in a specific medium that explores a personal theme, idea, or concept

- **SCIENCE** | Science and Engineering Practices
  - Analyze and interpret data from informational texts, observations, measurements, or investigations using a range of methods (such as tabulation, graphing, or statistical analysis) to (1) reveal patterns and construct meaning or (2) support hypotheses, explanations, claims, or designs

- **VISUAL ARTS** | Artistic Processes: Creating
  - Analyze the relationship between subject and the composition in artwork

- **SOCIAL STUDIES** | Global Interdependence
  - Analyze the progression of technological developments and the resulting cultural diffusion throughout the 20th and 21st centuries

- **MUSIC** | Artistic Processes: Responding
  - Explain how the elements of music are used in a variety of genres, cultures, and time periods
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **MATH & VISUAL ARTS** | Students read *Hidden Figures*, by Margot Lee Shetterly and research and draw a timeline of Katherine Johnson's life, a mathematician who calculated flight trajectories for Project Mercury and other missions. They then explore astrophysics and how it relates to our world.

- **SCIENCE & VISUAL ARTS** | Students design and create a prototype of a machine that solves a problem that could occur during space exploration, and then answer these questions: 1) Has someone already tried to invent this? 2) What was the result?

- **MATH & MUSIC** | Students create a model comparing the first spaceflight to their prediction of future space exploration, and use music through the decades to accompany their work.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **MATH** | The Number System
  - Demonstrate that the distance between two rational numbers on the number line is the absolute value of their difference
  - Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to add and subtract rational numbers

- **VISUAL ARTS** | Artistic Processes: Creating
  - Create a body of work in a specific medium that explores a personal theme, idea, or concept

- **SCIENCE** | Science and Engineering Practices
  - Use mathematical and computational thinking to (1) use and manipulate appropriate metric units, (2) collect and analyze data, (3) express relationships between variables for models and investigations, or (4) use grade-level appropriate statistics to analyze data

- **VISUAL ARTS** | Artistic Processes: Creating
  - Analyze the relationship between subject and the composition in artwork

- **MATH** | Geometry and Measurement
  - Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations

- **MUSIC** | Artistic Processes: Responding
  - Explain how the elements of music are used in a variety of genres, cultures, and time periods
SOLAR SYSTEM SAMPLE ACTIVITIES:

- **MATH & VISUAL ARTS** | Students read *Hidden Figures*, by Margot Lee Shetterly and research and draw a timeline of Katherine Johnson’s life, a mathematician who calculated flight trajectories for Project Mercury and other missions. They then explore astrophysics and how it relates to our world.

- **SCIENCE & VISUAL ARTS** | Students design and create a prototype of a machine that solves a problem that could occur during space exploration, and then answer these questions; 1) Has someone already tried to invent this? 2) What was the result?

- **MATH & MUSIC** | Students create a model comparing the first spaceflight to their prediction of future space exploration, and use music through the decades to accompany their work.

RELATED SOUTH CAROLINA CURRICULUM STANDARDS:

- **MATH | The Number System**
  - Explore the real number system and its appropriate usage in real-world situations.
    - Recognize the differences between rational and irrational numbers
    - Understand that all real numbers have a decimal expansion
    - Model the hierarchy of the real number system, including natural, whole, integer, rational, and irrational numbers

- **VISUAL ARTS | Artistic Processes: Creating**
  - Create a body of work in a specific medium that explores a personal theme, idea, or concept

- **SCIENCE | Earth Science: Earth’s Place in the Universe**
  - Obtain and communicate information to describe how data from technologies (including telescopes, spectrosopes, satellites, space probes) provide information about objects in the solar system and the universe

- **VISUAL ARTS | Artistic Processes: Creating**
  - Analyze the relationship between subject and the composition in artwork

- **MATH | Geometry and Measurement**
  - Investigate the properties of transformations (rotations, reflections, translations, dilations) using a variety of tools (e.g., grid paper, reflective devices, graphing paper, dynamic software). a. Use coordinate geometry to describe the effect of transformations on two dimensional figures. b. Relate scale drawings to dilations of geometric figures

- **MUSIC | Artistic Processes: Responding**
  - Explain how the elements of music are used in a variety of genres, cultures, and time periods
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