



# South Carolina

## Full STEAM Ahead:

### Connecting Library of Congress Primary Sources and Graphic Novels

#### Lesson Plan Template

**Author(s):**

Candice Seawright & Emily Jones

**Grade Level(s):**

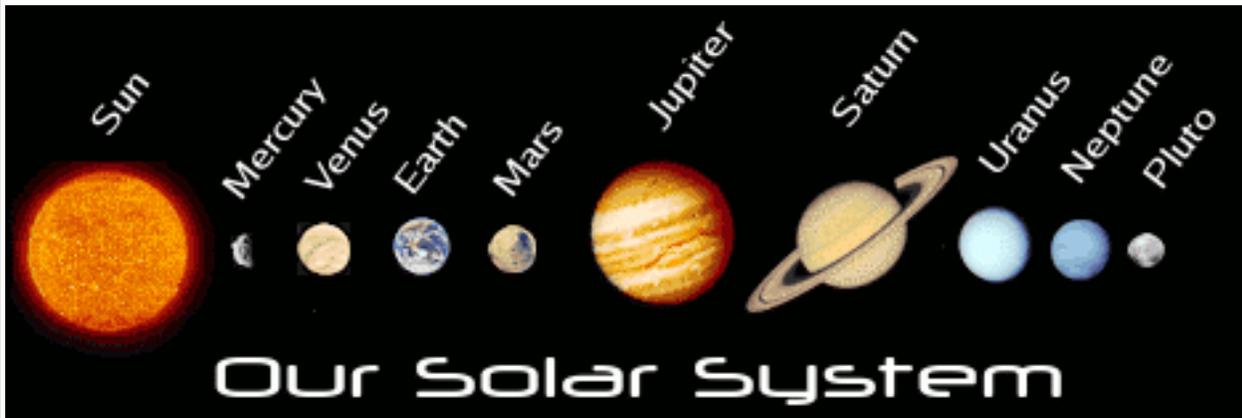
4<sup>th</sup> Grade

**Subject:**

Science- Solar System

**Length of Class:**

45-60 minutes



**Image Citation:**

Public domain clip art: Click image to close this window. (n.d.). Retrieved November 15, 2021, from <https://www.pdclipart.org/displayimage.php?pid=16518&fullsize=1>.

**Lesson Title:**

Solar System

**Overview:**

The student will demonstrate an understanding of the composition of each planet and determine what order each planet is from the Sun.

<b>Learning Objective:</b>	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.
<b>Standards:</b>	Standard 4.E.3: The student will demonstrate an understanding of the locations, movements, and patterns of stars and objects in the solar system.
<b>Essential Question:</b>	How are the objects in the solar system arranged?
<b>Supporting Question(s):</b>	-How do scientists classify the different planets in our solar system? -How are planets in our solar system similar, and how are they different? -What is the solar system made of? -How has the solar system changed throughout history?
<b>Digital Primary and Secondary Sources:</b>	Solar System from 1846 - <a href="https://www.loc.gov/resource/g3180.ct003790/">https://www.loc.gov/resource/g3180.ct003790/</a> NASA Solar System Exploration- <a href="https://solarsystem.nasa.gov/resources/490/our-solar-system/">https://solarsystem.nasa.gov/resources/490/our-solar-system/</a>
<b>Required Classroom Materials:</b>	-Science Journal -Laptop -Smartboard -Solar System Project/Activity Materials: <a href="https://link.gale.com/apps/doc/A595570025/ITKE?u=scschools&amp;sid=bbookmark-ITKE&amp;xid=7124a06f">https://link.gale.com/apps/doc/A595570025/ITKE?u=scschools&amp;sid=bbookmark-ITKE&amp;xid=7124a06f</a>
<b>Classroom Environment:</b>	Students should work in groups or pods. No more than three or four to a group. All collaborative groups should be able to see the Smartboard located at the front of the room. Students should be in proximity of each other to hear the researched information and discuss how they will present information. Each group member will be given a job title to make certain all aspects of the project get completed. This will include a note taker, artist (to design model of planet), timer keeper and project manager. This will hold all students accountable in working and finishing the work.
<b>Differentiation and Adaptations:</b>	The teacher gives the students a variety of nonfiction texts and graphic novels that focus on the planets in the Solar System.  The teacher could also begin reading the novel or text to the students and then allow them to finish the book on their own.

<b>Lesson Sequence/Procedures</b>	
<b>Estimated Time Needed</b>	<b>Detailed Description of Teaching and Learning</b>
5-10 minutes	<p><b>Engaging Opener</b></p> <ul style="list-style-type: none"> <li>Teacher will place a map of the solar system from 1846 on the board. Students will have a chance to look at this picture to compare and contrast it what they already know about Solar System today. Students will write their thoughts and responses on sticky notes to share with peers during call out session.</li> </ul>
30-40 mins	<p><b>Explore (Student Discovery)</b></p> <p>Teacher will assign each group a different planet. Students will work in collaborative groups to read graphic novel "Science comics: Solar System- Our Place in Space. From the book, students will gather information to create their 3D model of assigned planet. Students will need to find information on the characteristics of the planet, the composition of the planet, the distance away from the Sun and any interesting facts they may come upon while researching.</p>
10 mins	<p><b>Explain (Teacher checks for misconceptions)</b></p> <p>Students will have a chance to present their research to the class. After presentation of information, they will add their 3d planet to our class scaled model. Teacher will use this time to check for misconceptions or information students have not included during presentation. Teacher will present vocabulary to students (Solar system, Planet, Location and Orbit). Once class model is complete, teacher and students will look at the picture presented in the beginning on the lesson. They will once again compare the picture of the planets in 1846 to the class scaled model.</p>

<b>Assessments:</b>	<p>Students demonstrate their understanding and mastery of content with an exit slip questions.</p> <ul style="list-style-type: none"> <li>1. How many planets are in our solar system?</li> <li>2. Do the planets orbit at the same time and speed?</li> <li>3. What is the composition of each planet?</li> <li>4. Based on what we have learned today, what are the planets in order?</li> </ul>
<b>Learning Extensions:</b>	<p>Students can take a tour of the Solar System with a live view using the website:</p> <p><a href="https://eyes.nasa.gov/index.html">https://eyes.nasa.gov/index.html</a></p>