

NHU/NASA Summer Institute

Lesson Plan

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Date 10/30/03

Lesson Plan Title	Planets of the Solar System
Grade Level	First Grade – Primary
Concept/Topic to Teach	Planet characteristics Planets in order Orbit & Rotate Planet research projects
Standards	SCIENCE 4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will: a. Draw pictures that portray some features of the thing being described. b. Record observations and data with pictures, numbers, or written statements. d. Describe the relative position of objects by using two references (e.g., above and next to, below and left of). VISUAL AND PERFORMING ARTS (MUSIC) 2.2 Sing age-appropriate songs from memory. 4.1 Create movements to music that reflect focused listening.
General Goals	Student will: be able to recite information about the planets, use technology as a media device for presentations, and work with a partner to do research.
Specific Objectives	Students will be able to recite the names of the planets in order. Students will be able to present one interesting fact about their chosen planet. Students will be able to design a Kidpix (computer software) drawing using the computer to display what they have learned. Students orally present their drawing and research to the class. Students can sing the planet song and model orbit and rotate.
Required Materials	- <u>Astronomy Adventures; Ranger Rick's Naturescope</u> Judy Braus Activities Blast Off! pg.65 and Whirling and Twirling pg. 22 (Song Lyrics "The Planets Go Spinning") - Solar System Lithographs from NASA.

	<ul style="list-style-type: none"> - Planet Vacation lesson on researching planets basis for my Planet Research Worksheets. Found at: http://nasaexplores.com/show_k4_teacher_st.php?id=030103131634 - Chart Paper/ markers. Either drawing paper and materials OR Kidpix software on several computers. - Seymour Simon planet books (title is name of each planet) - <u>The Planets of the Solar System</u>, Gail Gibbons - http://www.jpl.nasa.gov/solar_system/index.cfm - touch planets on screen and the program gives a little info on each planet. (Center activity) - Globe, Basketball, sidewalk chalk.
Anticipatory Set	<p>Students gather on the carpet to begin their journey to space. Teacher guides students through getting dressed in an imaginary astronaut suit, boarding the shuttle, and blasting into space. Describe a quick journey past the sun and the nine planets. As travel past each object show the NASA lithographs (Naturescope – Blast Off! Goes through step-by-step if you need help.)</p>
Step-by-Step Procedures	<p>DAY1: Anticipatory Set and learn words to the song ‘The Planets Go Spinning.’ As a class create a mnemonic device to remember the planets in order.</p> <p>DAY 2: Sing Planet Song. Make a KWL about the planets in our solar system. What does ‘solar system’ mean? – “Sol” in Spanish is sun... so it’s the name for our sun system!</p> <p>DAY 3: Sing Planet Song and discuss lyrics. What does rotate mean? What is an axis? What does revolve mean? Use a globe and a basketball or beach ball to model. Have students practice rotating on their axis (spin in one place) and revolving around the sun (teacher in the middle students walk in a circle around).</p> <p>DAY 4: Teacher draws 9 chalk orbits on a black top area for students to use as a guide for orbiting the sun. Children hold a planet lithograph and walk that orbit. Other students count how many times they can go around the sun in the time it takes Pluto to go around 1 time. Sing Planet Song. Discuss the research of planets to create a cool Kidpix drawing that they can show their parents after the visit to the planetarium. Allow them to choose their top 3 and teacher assigns. Students should be mixed so that there is a high reader in each group.</p> <p>DAY 5-7: Research begins. Students are introduced to the questions they need to answer. Read through as a class. Go over any vocabulary that they may not remember. I did centers during this time so that the researchers could have a lot of help reading the non-fiction books.</p> <p>CENTERS were: practicing with the Kidpix software so that they would know how to use it later, a solar system floor puzzle, solar system matching using Space cards, tissue paper planets (paper</p>

	<p>plates would work too), NASA's Jet Propulsion Lab's website http://www.jpl.nasa.gov/solar_system/index.cfm - touch planets on screen and the program gives a little info on each planet.</p> <p>DAY 8: Students are introduced to the laptops, how to open Kidpix, and work on the art screen. Due to limited time I saved all of the students work and compiled them into a Kidpix slideshow.</p> <p>DAY 9: Students rehearse reading their sentence on the projection screen. Final practice for Planet song and movements.</p> <p>DAY10: Students and parents visit the local planetarium at De Anza Junior College. Or combine with day 11.</p> <p>DAY 11: FINAL DAY. Planet presentations. Parents & staff invited. Students go through slide show and planet songs. Students and parents are invited to look into the science folder to see all of the work that the student has done. Students graduate from the space academy and are given certificates and Mars or Milky Way candy bars.</p>
Plan for Guided Practice	Teacher works with students to create a mnemonic device. Students practice as homework. Teacher and students rehearse planet songs and slide show before they are presented.
Plan for Independent Practice	Students work on drawing their planet and choose at least one cool fact. All center work is done independently.
Assessment (based on objectives)	Students will have completed their research worksheet. Students will work with their partner to create a Kidpix drawing that includes planet colors, rings, number of moons as well as one cool fact per person. Students can model the difference between rotation and orbiting.
Adaptations (ELL students or special populations)	Kinesthetic learners included through the dancing of the planet song as well as acting out rotation, revolution and orbiting. Most of the non-fiction books have real photographs instead of drawings also use NASA lithographs. Can create a Space Wall with space vocabulary next to pictures of what those things are. Students are given a chance to show what they have learned in an artistic way instead of writing a report. Students can verbally tell teacher what they have learned about their planet. Students will be given their sentence for the presentation of a note card so that they can practice it and use it during the show.
Extensions (for gifted students)	Students can be encouraged to read more/ learn more about their planet challenge them to find something you don't know about the planet. Their drawings should be super- accurate. They also need to

	make sure their partner understands what is being read. They may be the reader for the group.
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