

LESSON: NASA History (Project)

Title: NASA History (Project)
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School/Org: Fort Caroline Middle School

Lesson Overview:

This lesson plan is designed as a research and small group presentation project to orient students to the history of NASA manned flight. Depending on the grade level, the Internet research and PowerPoint skill level, and the number of available computers, the project could span 1-2 weeks. This project-based lesson assumes that the students can work well in small groups.

Suggested Classroom Time: 60-240 minutes

Grade Levels: 6-10

KLASS Module: 2-Orientation

Topic/Console: NASA History

Materials Needed:

Activity	Documents	Other Materials
1	RDG_The-Early-Years.pdf Also available for download: http://www-pao.ksc.nasa.gov/kscpao/nasafact/pdf/years.pdf	Student computers with Internet connection, Microsoft PowerPoint, and writing tools
2	NASA History Website: http://www.nasa.gov/topics/history/index.html http://history.nasa.gov/	Student computers with Internet connection
3	AS_The-Early-Years.doc KEY_The-Early-Years.doc	Writing tools

National Standards/Objectives:

Discipline	Standard	Objective
Science	F. Science in Personal and Social Perspectives	Students explore science and technology in society.
Science	G. History and Nature of Science	Students study science as a human endeavor, focusing on the history of science, and historical perspectives.
Technology	Technology productivity tools	Students use productivity tools to collaborate in constructing technology-enhanced models, preparing publications, and producing other creative works.
Technology	Social, ethical, and human issues	Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

Desired Results:

Students will be able to answer an essential question

- What NASA programs led to the Space Shuttle of today?

Students will know

- That a series of programs of ever-increasing scope and complexity led to the sophisticated Space Shuttle of today.

Students will be able to

- Summarize the missions from the *NASA Information Summary: The Early Years: Mercury to Apollo-Soyuz* (RDG_The-Early-Years.pdf).
- Create a PowerPoint presentation that features a timeline of the early years of NASA manned flight missions.

Learning Plan/Activities:**1. Introducing the Lesson.**

Script: “Today we are going learn about the early years of U.S. manned space flight. As we discuss the evolution of early NASA projects, we will be able to see how these engineered inventions kept getting bigger and better. Starting with Project Mercury (1958), the manned space flight programs have grown into the highly complex Space Shuttle and International Space Station. To learn about these endeavors, you will research their histories. As you do, notice how technology has improved due to the dedication and teamwork of mathematicians, scientists, and engineers from all over the world.

This project will span the next ___ days and will involve working in a small group, researching the history of manned space flight, and putting together an interesting and accurate presentation to share with your class. As you work in your small groups to create the presentation materials, take on the role of a NASA team member and design a great project.”

2. Creating the Rubric.

Create a checklist of what each group needs to do for its part of the presentation, outlining the required elements based on your teaching style. This checklist should then be used to form the grading rubric for evaluation and should be shared with the class as soon as it is ready.

3. Forming Groups.

Assign students to small groups to create PowerPoint presentations summarizing the *NASA Information Summary: The Early Years: Mercury to Apollo-Soyuz* (RDG_The-Early-Years.pdf). Each group will summarize a selection from the document to be put into the PowerPoint program. Group assignments could be determined using the Jigsaw Strategy (<http://www.jigsaw.org/steps.htm>) or any other method with which you are comfortable using.

Depending on the number of groups, the following topics could be assigned or broken into sub-topics as needed:

- Project Mercury
- Project Gemini
- Project Apollo

- Skylab
- Apollo-Soyuz Test Project (ASTP)

4. Investigating and Summarizing.

Allow enough class time for each group to investigate its topic and write a summary of its reading selection. The GIST or the Sum-It-Up strategies might be strategies you would like to offer students in order to summarize informational text. For more ideas, see the following sites:

GIST:

<http://www.nwrel.org/assessment/lessonplans.php?odelay=2&d=2&search=1&grade=0&trait=0&l=15>

http://www.readwritethink.org/lessons/lesson_view.asp?id=290

Sum It Up:

<http://www.readingquest.org/strat/summarize.html>

5. Planning and Designing.

Each group should be coached to “engineer” (plan and design) its part of the PowerPoint presentations. Discuss the checklist and expectations for the presentations. If the NASA History Website is available, direct students to go there to get video clips and images to enhance their presentations.

6. Creating and Evaluating.

Provide appropriate class time for each group to **create** its section of the PowerPoint presentation to be integrated into the whole group presentation. Remind each group to evaluate its section using the checklist and the rubric before turning it in for the teacher to evaluate it. Once the all the parts of the PowerPoint presentation are turned in, provide feedback as appropriate.

7. Sharing.

Announce the presentation schedule and evaluate based on the checklist and rubric. If needed, ask the audience to jot down 3-5 facts from each presentation or require that each person asks at least one question during a Q & A period. Also, create a quiz that includes facts from each of the presentations so students can complete each section based on what they learned. A basic quiz assessment on this lesson’s reading assignment is provided and can be easily edited with more specific questions from the presentations.

Assessment Evidence:

Performance Tasks

1. Collect and evaluate the written summaries using the assigned strategy.
2. Assign credit and provide feedback on the group presentations with the checklist and rubric.
3. If appropriate, have groups reflect on how they could do things differently next time they are asked to contribute via a small group.
4. Evaluate the knowledge gained via the *The Early Years: Mercury to Apollo-Soyuz* assessment (AS_The-Early-Years.doc).
5. Give individual feedback regarding improvements made working in a group and presenting to peers.

Other Evidence

1. Perform daily classroom observation and assessment of progress and participation.
2. Compare the abilities of the individuals to use the technology required to previously submitted samples.
3. Make notes to self on improving the process for the next group project.

Extensions and Going Further Resources:

- Students could use the [NASA History Website](#) to investigate their selections, or selections could be created based on the NASA History Website structure.
- For integrated school programs, the summaries could be written during Language Arts and the Presentations created in Technology, Social Studies or Science periods.
- See related lesson that requires math computation.
- Be sure to check for student opportunities, additional educational resources and more at: <http://www.nasa.gov/education>