

# *NASA AT 50*

## *1972: Nixon Authorizes Space Shuttle Program*

### **Teacher's Guide**



**Grade Level:** 6–12    **Curriculum Focus:** Science, Social Studies    **Running Time:** 4 minutes

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#### Introduction

*NASA at 50* acquaints students with key innovations and milestones in chemistry, physics, engineering, and space exploration from NASA's fifty-year history. Each clip serves as a gateway for extended lessons in science and history, promoting critical thinking and inquiry as essential components of scientific literacy.

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#### Program Description

Details the creation of the space shuttle program, which developed NASA's first reusable spacecraft. After the first test flight by John Young and Robert Crippen in 1981, space shuttles have been used to deliver the Hubble Space Telescope and components of the International Space Station, as well as for research missions on the effects of microgravity and the space vacuum.

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#### Learning Objectives

After viewing the program and participating in discussion, students will be able to:

- Explain how the space shuttle program was responsible for NASA's first reusable spacecraft;
  - Describe successes of the space shuttle program;
  - Identify how reusable spacecraft were constructed.
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#### Classroom Connections

Why did NASA push for the space shuttle program?

What are some characteristics of reusable spacecraft?

Name the different space shuttles and the years they were used.

How many missions have the shuttles completed?

Predict the next steps in space exploration for NASA. What are the future plans for the space shuttle program?

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## Classroom Activities

Students should research the different shuttles used during the space exploration program (visit [www.nasa.gov](http://www.nasa.gov)). Create a timeline documenting the details of each major mission. Hypothesize reasons for each of the names used to identify the space shuttles.

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## Target Vocabulary\*

**microgravity** - a condition of weightlessness

**orbit** - a path described by one body in its revolution about another

**vacuum** - a space absolutely devoid of matter

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## Academic Standards

National Science Teachers Association

The National Science Teachers Association (NSTA) has developed national standards to provide guidelines for teaching science. To view the standards online, go to

<http://www.nsta.org/publications/nse.aspx>.

This guide addresses the following standards:

- Science and Technology
- Earth and Space Science
- People, Places, and Environments
- Science in Personal and Social Perspectives
- History and Nature of Science

## National Council for the Social Studies

The National Council for the Social Studies (NCSS) has developed national standards to provide guidelines for teaching social studies. To view the standards online, go to

<http://www.socialstudies.org/standards/strands/>.

This guide addresses the following standards:

- Time, Continuity, and Change
- Science, Technology, and Society
- Individuals, Groups, and Institutions