



Mission Patch



In our Astronaut Gallery, located in front of the Northrop Grumman Theater at Space Center Houston, you can see space suits from every era of NASA's manned space flight program. Some of the suits you can view are the Gemini space suit, Apollo suits, Space Shuttle suits, ejection escape suit, liquid cooling garment, and everyday outfits the Astronauts wear while in space. On the back wall of the Astronaut Gallery, you can view pictures of every manned mission that NASA has flown. The first team task the Astronauts that fly on these missions and wear these space suits do as part of their mission is to design their mission patch.

Mission Patch Background:

Each manned mission into space requires a hand picked crew of astronauts. The astronaut crew works with a graphic designer to create a patch that represents the crew and their mission. The mission patch includes all of the crew names and the graphic design depicts aspects of the mission and of the crew's lives that are most important. For example: patriotic symbols, the Space Shuttle, the Orbiter, the International Space Station, and even symbols that represent fallen colleagues. Each mission patch comes with a detailed description to explain the choice of the design.

Materials

- 1 large white poster board per group
- Pencils
- Markers
- Crayons
- Example Mission Patches
- 1 round patch sticker per student

Activity Procedure:

1. Discuss what a mission patch is and how it is designed. Tell the students they are to design a mission patch that tells a story about their group, their school and their personal goals. Just like the astronauts, the students must write a detailed explanation of their patch.
2. Divide students into groups of 4.
3. Pass out all materials.
4. Suggest that the students brainstorm ideas on another sheet of paper before they begin drawing their design with pencil.
5. Once the design is in pencil, the group can fill it in with color.
6. Remind the students that they must write a paragraph or two about their mission patch.
7. The completed posters can be displayed around the classroom, school or an art contest can be held to choose the most creative one.

Enrichment:

Students can design their own personal mission patch on a 3 inch diameter circular sticker. The patches can be used for personal use, as a name badge or to represent a particular class or group. Your students can even design a patch that represents the entire class to wear on the field trip.



Astronaut Mission Patch Samples



STS-114 (July 2005) The STS 114 patch design signifies the return of the Space Shuttle to flight and honors the memory of the STS-107 Columbia crew. The blue Shuttle rising above Earth's horizon includes the Columbia constellation of seven stars, echoing the STS-107 patch and commemorating the seven members of that mission. The crew of STS-114 will carry the memory of their friends on Columbia and the legacy of their mission back into Earth orbit. The dominant design element of the STS-114 patch is the planet Earth, which represents the unity and dedication of the many people whose efforts allow the Shuttle to safely return to flight. Commander Eileen Collins and Pilot James Kelly are named at the top of the insignia, with Mission Specialists Wendy Lawrence and Charles Camarda named below. Against the background of the Earth at night, the blue orbit represents the International Space Station (ISS). Mission Specialists Soichi Noguchi, Stephen Robinson and Andrew Thomas, who will work on the Station during spacewalks, are named on the orbit. The red sun on the orbit signifies the contributions of the Japanese Space Agency to the mission and to the ISS program. The multi-colored Shuttle plume represents the broad spectrum of challenges for this mission, including Shuttle inspection and repair experiments, and International Space Station re-supply and repair.



STS 103 (August 1999) --- Designed by the crewmembers, the STS-103 emblem depicts the Space Shuttle Discovery approaching the Hubble Space Telescope (HST) prior to its capture and berthing. The purpose of the mission is to remove and replace some of the Telescope's older and out-of-date systems with newer, more reliable and more capable ones, and to make repairs to HST's exterior thermal insulation that has been damaged by more than nine years of exposure to the space environment. The horizontal and vertical lines centered on the Telescope symbolize the ability to reach and maintain a desired attitude in space, essential to the instrument's scientific operation. The preservation of this ability is one of the primary objectives of the mission. After the flight, the Telescope will resume its successful exploration of deep space and will continue to be used to study solar system objects, stars in the making, late phases of stellar evolution, galaxies and the early history of the universe. HST, as represented on this emblem was inspired by views from previous servicing missions, with its solar arrays illuminated by the Sun, providing a striking contrast with the blackness of space and the night side of Earth.



STS 108 (May 2001) --- This is the insignia for the STS-108 mission, which marks a major milestone in the assembly of the International Space Station (ISS) as the first designated Utilization Flight, UF-1. The crew of Endeavour will bring the Expedition Four crew to ISS and return the Expedition Three crew to Earth. Endeavour will also launch with a Multi-Purpose Logistics Module (MPLM) that will be berthed to ISS and unloaded. The MPLM will be returned to Endeavour for the trip home and used again on a later flight. The crew patch depicts Endeavour and the ISS in the configuration at the time of arrival and docking. The Station is shown viewed along the direction of flight as will be seen by the Shuttle crew during their final approach and docking along the X-axis. The three ribbons and stars on the left side of the patch signify the returning Expedition Three crew. The red, white and blue order of the ribbons represents the American commander for that mission. The three ribbons and stars on the right depict the arriving Expedition Four crew. The white, blue, red order of the Expedition Four ribbon matches the color of the Russian flag and signifies that the commander of Expedition Four is a Russian cosmonaut. Each white star in the center of the patch represents the four Endeavour crew members. The names of the four astronauts who will crew Endeavour are shown along the top border of the patch. The three astronauts and three cosmonauts of the two expedition crews are shown on the chevron at the bottom of the patch.



Mission Patch Job Assignments



In order to facilitate the Mission Patch activity, please assign each student in the class one of the following roles. Use of these roles should insure that all students are involved and actively contribute to the project. *Feel free to modify the job assignments and numbers of recommended individuals as necessary.*

Student Jobs Associated with Written Component:

Researcher (one or two students): researches school history and school symbols for incorporation into the mission patch.

Secretary (one student): takes notes as students brainstorm ideas for the mission patch, takes notes as researcher uncovers information, shares information with the class when necessary.

Author (one or two students): composes the written explanation of the mission patch that will be turned in as part of the competition on Kids' Day at Space Center Houston.

Student Jobs Associated with Mission Patch:

Supply Master (one or two students): gathers supplies for students working on mission patch, makes sure all supplies are in their proper condition at the end of work time, returns all supplies to their proper location.

Artist (one to three students): designs and creates the mission patch to be entered into the competition on Kids' Day at Space Center Houston.

Student Job Associated with Both Components:

- **Supervisor/Task Manager** (one student): observes behavior of students performing other tasks and helps the class remain focused and on task throughout the project.