All For One and One For All- Crew Mission Patch

Learning Standards:

CCSS.ELA.RSIT.6.7,9; CCSS.ELA.WS.5.2; CCSS.ELA.RSIT.6, 7, 8.1, 4, 7; CCSS.ELA.RSIT.9-10, 11-12.1, 4, 7, 9. CCSS.ELA.WS.6, 7, 8.2, 3, 4, 5, 6, 7, 8, 9; CCSS.ELA.WS.9-10, 11-12. 2, 3, 4, 5, 6, 7, 8, 9; CCSS.ELA.SL.6, 7, 8.1, 2, 5, 6; CCSS.ELA. SL.9-10, 11-12.1, 2, 4, 5, 6; CCSS.ELA.LS.6, 7, 8.4, 5, 6; CCSS.ELA.LS.9-10, 11-12.4, 5, 6; NGSS.3-5.ETS1-1,2; NGSS.MS.ETS.1-1,2

Background:

A mission patch is a visual representation which includes signs, colors, symbols and wording to represent a mission or venture. The crew of each NASA (National Aeronautics and Space Administration) mission has a unique mission patch which signifies the importance and visual representations of that mission or venture. The mission patch also aligns to the specific goals of the mission or directive.

For students joining the Challenger Learning Center of Lake Erie West for a simulated space mission, the mission patch should represent the goals of the class as it relates to the mission. For the purpose of this lesson plan, each student will create a mission patch, however, only one mission patch from each class will be retained by the Challenger Learning Center of Lake Erie West and be placed on the Wall of Successful Missions. It is up to each individual instructor to determine the selection of the final mission patch and to bring it with the class the day of the mission.

Objective:

Student(s) will create a mission patch and be able to explain the significance of each symbol on the patch.

Time Requirement:

Approximately one class period or forty-five minutes.

Materials:

Fact sheets on selected NASA mission patches
Materials to design, draw and color mission patch
Mission Patch Template Handout

Procedure:

Introduce the activity to the students and share the meaning and significance of the STS-51L Mission Patch and additional NASA mission patches. Each student can work individually or can work in groups of three to four to create the mission patch. Have students brainstorm ideas for their patch design. Students may do this in their group or the instructor may choose to lead a class discussion. Upon completion of the discussion, distribute the handouts and applicable fact sheets (found at the end of this document) to students and allow students to design their mission patch using one of the four proposed shapes found in the template and using the available art materials. After the students have completed the patches and completed the student journals, invite each student or group to share with the class their mission patch and the significance of each element, symbol or color.

For further reading and resources:

NASA: Mission Patches
https://history.nasa.gov/mission_patches.html

ESA: Mission Patches
http://www.esa.int/About_Us/Welcome_to_ESA/ESA_history/European_manned_spaceflight_patches

Roscosmos: Mission Patches
http://www.spacepatches.nl/

The Making of the Apollo 11 Mission Patch
https://www.nasa.gov/feature/the-making-of-the-apollo-11-mission-patch

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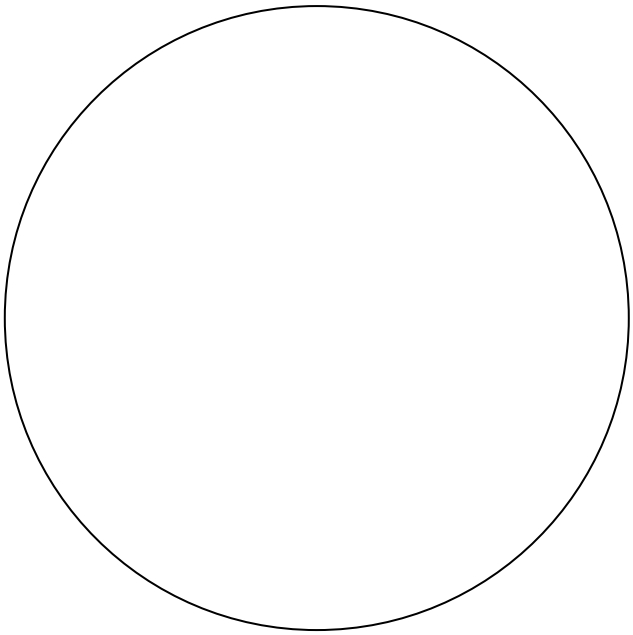
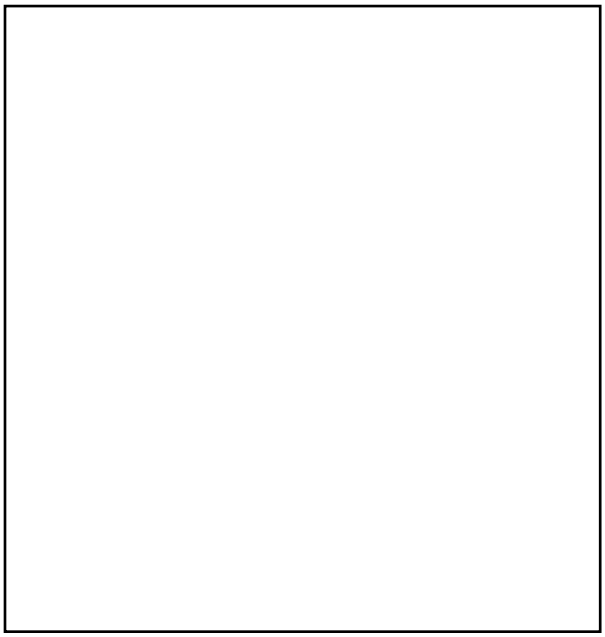
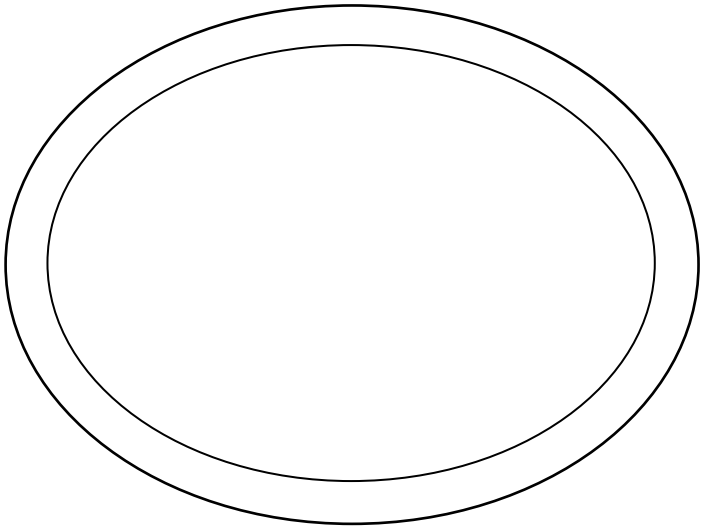
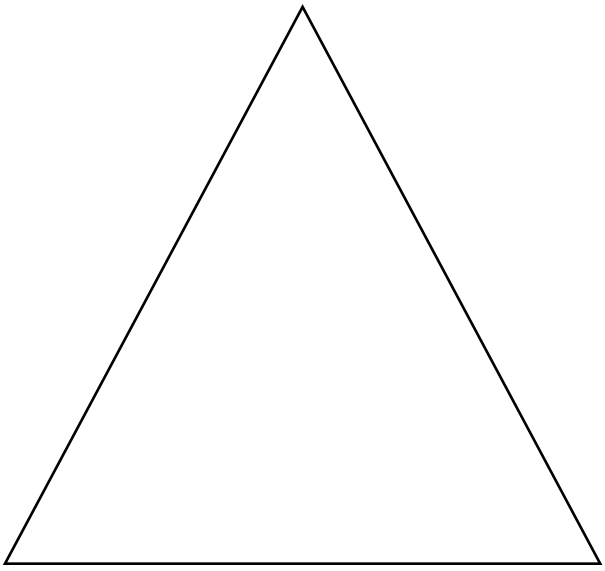
Mission Patch Template Designs

Using one of the shapes below, create a mission patch using the information you have learned from the class discussion and the fact sheets.









STS 51-L

The SS-51L patch was designed by Ernie Reyes at the request of Dick Scobee, mission commander. The patch includes seven stars from the American flag symbolizing the seven astronauts and the United States of America. It includes an Orbiter with a golden plume launched from Kennedy Space Center in Florida. The orbiter with open cargo doors represents the 51-L mission to launch a communication satellite, to collect data from Comet Halley which is shown streaking in the forefront of the flag. The apple located next to the name "McAuliffe" symbolizes the educational component to the mission by including the first teacher aboard a NASA shuttle mission. The patch is encircled with the last names of the seven crew members, Francis R. (Dick) Scobee, Commander; Michael J. Smith, pilot; Ron McNair, Ellison Onizuka, and Judith Resnik, mission specialists; Greg Jarvis, payload specialist; and Christa McAuliffe, teacher in space.

For more information:
https://www.nasa.gov/mission_pages/shuttle/shuttlemissions/archives/sts-51L.html

Apollo 1

The insignia for the first piloted Apollo flight depicted an Apollo spacecraft in Earth orbit. In the background were the stars and stripes of the U.S. flag. The crew members' names appeared in the inner border. The Moon appeared at the right, reminding us of the project goal.

For more information:
https://history.nasa.gov/SP-4029/Apollo_18-18_Mission_Insignias.htm

Apollo 11

The American eagle, symbolic of the United States, was about to land on the Moon. In its talons, an olive branch indicated the crew "came in peace for all mankind." The Earth, the place from which the crew came and would return safely in order to fulfill President John F. Kennedy's challenge to the nation, rested on a field of black, representing the vast unknown of space.

Apollo 13

Apollo, the sun god of Greek mythology, was represented as the sun, with three horses driving his chariot across the surface of the Moon, symbolizing how the Apollo flights have extended the light of knowledge to all mankind. The Latin phrase "Ex Luna, Scientia" means "From the Moon, Knowledge."

Mission Patch Journal

Using the space provided, describe the creation of your mission patch. Think about how you thought of the ideas and the design you have? Why did you choose certain colors, shapes and images to be included in your mission patch? Describe what each part of your mission patch means and why it is important.

Mission Patch Journal