

SPACE EXPLORATION merit badge prerequisites

1) Read the Space Exploration merit badge book and workbook it can be found on the right hand side of the registration page under the workbooks file.

Start filling out the workbook with notes for the discussions to make them faster and more productive. No other versions of the workbook will be accepted.

2) Each registered Scout will be required to build the designated model rocket kit for the event. **Please contact Amanda Tuttle at TuttleScoutsSTEM@gmail.com to arrange to pick up a rocket kit.** Scouts will need to complete the kit following all instructions and **bring the completed rocket with them to FVTC on March 11th.** All rockets must be built according to the provided instructions and will be inspected before being allowed to launch. Rockets not constructed correctly will not be allowed to fly for the Scout's and event safety. Each Scout will fly their rocket twice during the class period in order to earn the merit badge.

3) Requirements 2, 5, 6, 7 & 8 will need to be completed ahead of time to allow for adequate time to launch and recover the participants' rockets TWICE!

- 2 Design a collector's card, with a picture on the front and information on the back, about your favorite space pioneer. Share your card and discuss four other space pioneers with your counselor.
- 5 Do TWO of the following:
 - a. Discuss with your counselor a robotic space exploration mission and a historic crewed mission. Tell about each mission's major discoveries, its importance, and what was learned from it about the planets, moons, or regions of space explored.
 - b. Using magazine photographs, news clippings, and electronic articles (such as from the Internet), make a scrapbook about a current planetary mission.
 - c. Design a robotic mission to another planet or moon that will return samples of its surface to Earth. Name the planet or moon your spacecraft will visit. Show how your design will cope with the conditions of the planet's or moon's environment.
- 6 Describe the purpose and operation of ONE of the following:
 - a. Space shuttle or any other crewed orbital vehicle, whether government owned (U.S. or foreign) or commercial
 - b. International Space Station
- 7 Design an inhabited base within our solar system, such as Titan, asteroids, or other locations that humans might want to explore in person. Make drawings or a model of your base. In your design, consider and plan for the following:
 - a. Source of energy
 - b. How it will be constructed
 - c. Life-support system
 - d. Purpose and function.

8 Discuss with your counselor two possible careers in space exploration that interest you. Find out the qualifications, education, and preparation required and discuss the major responsibilities of those positions.

* If local laws prohibit the launching of model rockets, do the following activity: Make a model of a NASA rocket. Explain the functions of the parts. Give the history of the rocket.