SPACE EXPLORATION MERIT BADGE REQUIREMENTS

Additional checkoff sheets and helps are available from ScouterMom.com.

1. Tell the purpose of space exploration and include the following:										
1a. Historical reasons										
1b. Immediate goals in terms of specific knowledge										
1c. Benefits related to Earth resources, technology, and new products										
1d. International relations and cooperation										
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.										
3. Build, launch, and recover a model rocket. Make a second launch to accomplish a specific objective. (Rocket must be built to meet the safety code of the National Association of Rocketry. See the "Model Rocketry" chapter.) Identify and explain the following rocket parts.										
3a. Body tube										
3b. Engine mount										
3c. Fins										
3d. Igniter										
3e. Launch lug										
3f. Nose cone										
3g. Payload										
3h. Recovery system										
3i. Rocket engine										
4. Discuss and demonstrate each of the following:										
4a. The law of action-reaction										
4b. How rocket engines work										
4c. How satellites stay in orbit										
4d. How satellite pictures of Earth and pictures of other planets are made and transmitted										
5. Do TWO of the following:										
5a. 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.										
5b. Using magazine photographs, news clippings, and electronic articles (such as from the Internet), make a scrapbook about a current planetary mission										

5c. 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, operation, and components of ONE of the following:										
6a. Space shuttle or any other crewed orbital vehicle, whether government-owned (U.S. or foreign) or commercial										
6b. International Space Station										
7. Design an inhabited base located 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:										
7a. Source of energy										
7b. How it will be constructed										
7c. Life-support system										
7d. 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.										
Completed										
Presented										