

Space Exploration Merit Badge



NAME _____

TROOP _____

1.) Tell the purposes of space exploration including:

a.) Historical reason

b.) Immediate goals in terms of specific knowledge

c.) Benefits related to Earth resources

d.) Technology and new products

2a.) Tell about the main steps in humanity's movement into space

2b.) Tell the contributions of these individuals:

Jules Verne _____

K.E. Tsiolkovsky _____

Robert Goddard _____

Hermann Oberth _____

Werner von Braun _____

3.) Build, launch and recover a model rocket. Identify the following parts:

- Body tube
- Engine mount
- Fins
- Igniter
- Launch lug
- Nose cone
- Payload
- Recovery system
- Rocket engine

4.) Discuss and demonstrate each of the following:

- The law of action-reaction
- How rocket engines work
- How satellites stay in orbit
- How satellite pictures of the Earth and pictures of other planets are made and transmitted

5a.) List 4 facts about the moon and planets we have discovered through the use of manned and unmanned spacecraft:

5b.) Complete this table of facts about the planets in our Solar System

Planet	Distance from Sun	Period of Revolution	Period of Rotation	Number of Moons	Another Factoid
Mercury					
Venus					
Earth					
Mars					
Jupiter					
Saturn					
Uranus					
Neptune					
Pluto					

5c.) Design and draw a spacecraft that will be sent on a mission to another planet to take samples of its surface and return them to Earth. Name the planet your spacecraft will visit. In your design, show how your spacecraft will work and cope with the environment of that planet

Planet _____

6a.) Describe the purpose of the Space Shuttle

6b.) Tell what each of these mean in reference to the Space Shuttle

- Main components _____

- Typical mission profile _____

- Payloads _____

7.) Design an Earth-orbiting space station. Make a drawing of your station. Your design must include

- Source of energy _____
- How it will be constructed _____
- Life-support systems _____
- Purpose and function _____

8.) Describe two careers in space exploration.
