



## Space Exploration - Section 2 -

Technological developments are making space exploration possible and offer benefits on Earth

Name \_\_\_\_\_

Class \_\_\_\_\_

### 2.1 Getting There: Technologies for Space Transport

1. Satellites transmit non-stop information for use in all of the following EXCEPT ...
  - A. communications
  - B. navigation
  - C. structural strength
  - D. weather forecasting
2. The very first Rocketeer was a Chinese official, Wan-Hu. In the 16<sup>th</sup> century forty-seven rockets were attached to his chair and connected to two kites. After the rockets were ignited ...
  - A. Wan-Hu was lifted into orbit.
  - B. the explosion proved that rockets were reliable.
  - C. no traces of Wan-Hu, the chair, or the kites was found.
  - D. the rockets helped propel Wan-Hu into space and the kites kept him up there for two days.
3. The first country to launch an artificial satellite was Russia. On October 4, 1947 they successfully launched a satellite called
  - A. Freedom
  - B. Soyuz
  - C. Sputnik
  - D. Allouette
4. The first living organism in launched into Earth orbit was Laika. He survived for seven days. Laika was a ...
  - A. dog
  - B. cat
  - C. monkey
  - D. mouse
5. The three basic parts to a rocket are the structural and mechanical elements, the fuel and the ...
  - A. oxidizer
  - B. combustion chamber
  - C. nozzle
  - D. payload
6. There are different alternative ways to power spacecraft. One of these alternatives is solar power. It is estimated that spacecraft with solar sails could travel 5 times faster than the conventional spacecraft. What do solar sails use for their propulsion?
  - A. wind
  - B. heat
  - C. magnets
  - D. light
7. The International Space Station is a joint venture of 16 countries. Private companies as well are planning to develop these in space, or on the Moon.
  - A. Research centers
  - B. Resorts and historical holidays
  - C. Hotels and amusement parks
  - D. Construction and mining sites

**2.2 Surviving There: Technologies for Living In Space**

8. All of the following are hazards of living in space, EXCEPT ...
- A. Environmental hazards
  - B. Psychological challenges to confinement
  - C. The body and microgravity
  - D. Food consumption and exercise
9. In the condition of **weightlessness** the body undergoes many changes. Because bones have less pressure on them in this type of gravity, they ...
- A. expand
  - B. shrink
  - C. get soft
  - D. become porous
10. Almost 100% of all materials used on the International Space Station are recycled. The primary reason for this is because of ...
- A. storage space
  - B. cost
  - C. energy use
  - D. time saving

**2.3 Using Space Technology to Meet Human Needs on Earth**

11. Satellites are used for numerous purposes. A 'natural' satellite is any ...
- A. thing orbiting the Earth
  - B. small body orbiting a larger body
  - C. large object that is put into orbit with rockets
  - D. Object that communicates information back to Earth
12. LANDSAT and RADARSAT are Canadian satellites that monitor ships at sea, soil quality, track forest fires, report on environmental change & search for natural resources. These satellites are **NOT** in ...
- A. Earth orbit
  - B. geosynchronous orbit
  - C. use 24 hours a day
  - D. alignment with radar stations on the Earth
13. Observation & research satellites are put into **geosynchronous** orbit. This means that they move ...
- A. faster than the Earth spins
  - B. slower than the Earth spins
  - C. at the same rate as the Earth spins
  - D. twice as fast as the Earth spins
14. GPS satellites enable you to find out your exact position on the Earth at any time. 24 GPS satellites are orbiting the Earth at all times. To use the GPS system you need to get a signal from ...
- A. 2 of them
  - B. 3 of them
  - C. 4 of them
  - D. 6 of them
15. Space Age materials are used on the Earth as well as in space. The improvement of traction on car winter tires is the result of an application that was originally developed for ...
- A. parachute material for the Viking space mission
  - B. voice-controlled wheelchairs
  - C. structural analysis of a spacecraft
  - D. microlasers for communication