



TYPE of reading:
TEXT No.:

SKIM-READING
TEXT 3

Choose the correct heading for each paragraph from the list of headings below:

- | | |
|------------------------|--|
| 1) Earth watching | 6) More satellite uses |
| 2) From Sputnik to now | 7) Distant Solar Systems |
| 3) An elaborate hoax | 8) Development and production challenges |
| 4) Man on the Moon | 9) The future and the spiritual |
| 5) Space shuttles | |

Space Travel

➤ *Heading №:*

A) People have always dreamed of leaving planet Earth and exploring outer space. Sputnik, the first artificial satellite, was launched in 1957. A human being went into space in 1961. Nowadays, aided by huge technological advancements, astronauts spend up to a year on orbiting space stations and robotic explorers have visited nearly all the planets in our solar system.

➤ *Heading №:*

B) The first challenge of space exploration was developing rockets powerful enough to escape Earth's gravity, with guidance systems reliable enough to reach their destinations. The next was constructing lightweight, durable satellites and maintaining radio communication with them. Exceptionally high standards of reliability in manufacturing and testing are necessary and a number of product innovations in daily use are a result of attempts to solve specific logistical problems connected with life in space.

➤ *Heading №:*

C) In addition to overcoming the challenges of no atmosphere, extremes of temperature and cosmic radiation, it was necessary to develop tools and techniques for space navigation, scientific observations and experiments and coping with incidental crises as they arose. The Apollo program, which in 1969 sent astronauts to the Moon and back, was a huge achievement watched globally by millions on (pre satellite) TV, although some have subsequently claimed that the whole spectacle was an elaborate hoax.

➤ *Heading №:*

D) Emphasis then shifted to maximizing efficiency and comfort during long-term stays on space stations and developing reusable spacecraft. The latter resulted in the space shuttle fleet but encountered a major setback when the U.S. spaceship Challenger exploded shortly after takeoff in 1986.

➤ *Heading №:*

E) A great advantage of putting satellites into space is the ability to look back at Earth (Landsat1 went into polar orbit in 1972). Large-scale photos enable observation of land masses, oceans and weather patterns, remote regions can be mapped in detail and electromagnetic cameras return a wealth of useful data, for example infrared images which allow researchers to discriminate between healthy crops and diseased ones.

➤ *Heading №:*

F) Objects such as stars emit electromagnetic radiation, different wavelengths of which provide scientists with various types of information about the universe. Infrared radiation reveals objects that are not hot enough to emit visible light, such as dust clouds. X rays can indicate extremely high temperatures caused by violent collisions or other events. Earth's atmosphere absorbs high-energy radiation in order for life to exist on the planet, but it also hides many celestial objects from ground-based telescopes. Satellite data has enabled the first cosmic map and discovered further evidence for the 'Big Bang' theory of the origin of the universe. The Hubble telescope, sent into orbit in 1990, provides astronomers with spectacularly detailed images of space. Satellites are used for political reasons too: the classified 'keyhole' system is reported to be able to read a car



licence plate from 100 miles in orbit, while military uses include detection of missiles and nuclear weapons and the development of the Global Positioning System, extensively used for navigation.

➤ *Heading №:*

G) The future of space exploration depends on many factors: technological evolution, political rivalries and partnerships between nations, and public attitudes to continuing costly space exploration. Human spaceflight in Earth's orbit and unpiloted spaceflight within the solar system will continue. Piloted spaceflight to other planets or any flight to other solar systems remains distant, but advances in space technology could take space exploration into the areas of contemporary science fiction. Despite all this, the Apollo astronauts claimed that their personal greatest discovery from the Moon voyages was an increased spiritual awareness of planet Earth as a small but beautiful oasis of life in an essentially empty and impersonal universe.

Suggested headings:

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