

# Space Exploration

## Is It Worth the Cost?

*The debate over space spending.*

B2 Reading - 35 min - Science

### 1 Before You Read — Reflect & Discuss

Consider the following questions and discuss with a partner or your teacher:

1. Would you travel to space if you could?
2. Should governments spend billions on space while poverty exists?
3. What is the greatest achievement of space exploration?

### 2 Reading

#### To the Stars — or Back to Earth?

In 1969, Neil Armstrong walked on the Moon. Today NASA, ESA, SpaceX pursue lunar bases, Mars missions, and **colonisation**. NASA spends \$25 billion annually. Is it worth the **expenditure**?

#### The Case For

The **technological** spin-off argument: GPS, water **purification**, medical imaging originated from space. **Intangible** benefits include **invaluable** scientific knowledge — Mars rovers found water, with implications for **extraterrestrial** life. The **pragmatic** survival argument: becoming **multi-planetary** is insurance against existential threats.

#### The Case Against

Critics call it a **misallocation**. With 700 million in poverty, money could go to Earth. Environmental costs are **scrutinised**: rocket emissions and **proliferation** of satellites threaten **infrastructure**. **Equity** questions arise: space tourism embodies **inequality**.

#### Finding a Balance

The either/or framing is **misleading**. **Policymakers** argue for both. Space tech may prove essential for a **sustainable** future.

### 3 Key Vocabulary

Word / Phrase	Definition	Example Sentence
<b>colonisation</b>	establishing settlements in new territory	Mars colonisation is discussed.
<b>expenditure</b>	money spent	Is the expenditure justified?
<b>intangible</b>	abstract	Benefits are tangible and intangible.
<b>technological</b>	relating to technology	Spin-offs benefit daily life.
<b>purification</b>	making pure	Water purification came from space.
<b>invaluable</b>	priceless	Space provides invaluable knowledge.
<b>extraterrestrial</b>	outside Earth	Mars has extraterrestrial implications.
<b>pragmatic</b>	practical	The pragmatic argument is survival.
<b>multi-planetary</b>	on multiple planets	Becoming multi-planetary is insurance.
<b>misallocation</b>	wrong resource distribution	Critics call it misallocation.
<b>scrutinised</b>	examined critically	Costs are scrutinised.
<b>proliferation</b>	rapid increase	Satellite proliferation poses risks.
<b>infrastructure</b>	basic systems	Debris threatens infrastructure.
<b>equity</b>	fairness	Equity questions arise.
<b>inequality</b>	unfair differences	Tourism embodies inequality.
<b>misleading</b>	false impression	The framing is misleading.
<b>policymakers</b>	government rule-makers	Policymakers argue for both.
<b>sustainable</b>	maintainable	We need a sustainable future.

### 4 Useful Collocations

space programme · rocket launch · asteroid mining · lunar base · carbon emissions · satellite technology · space debris · space tourism · scientific discovery · federal budget · climate change · existential threat · medical innovation · solar energy · environmental monitoring · global cooperation

## 5 Reading Comprehension

### 1. What is the spin-off argument?

- a) Keep tech secret
- b) Space tech produces innovations for Earth ✓**
- c) All tech from space
- d) Space tech is superior

### 2. What survival argument do supporters make?

- a) Housing shortage
- b) Multi-planetary protects against existential threats ✓**
- c) Colonists live longer
- d) Mars better weather

### 3. Main criticism?

- a) Too many jobs
- b) Billions could address poverty and climate ✓**
- c) Always fail
- d) Overpaid astronauts

**4. Why environmental concern?**

- a) Water use
- b) Emissions may damage ozone ✓**
- c) Earthquakes
- d) Block sunlight

**5. Why inequality label?**

- a) Tax breaks
- b) Priced only for ultra-wealthy ✓**
- c) Men only
- d) Underpay staff

**6. Why is either/or misleading?**

- a) Free
- b) Space budgets tiny vs total spending ✓**
- c) No social spending
- d) Scientists agree

**7. What perspective from space?**

- a) Earth insignificant
- b) Earth as fragile shared home ✓**
- c) Abandon Earth
- d) Too dangerous

**6****Vocabulary Exercise — Fill in the Blanks**

**expenditure · intangible · invaluable · extraterrestrial · pragmatic · misallocation · scrutinised · proliferation · equity · sustainable**

1. Enormous \_\_\_\_\_ raises questions.
2. Benefits are measurable and \_\_\_\_\_.
3. Space provides \_\_\_\_\_ knowledge.
4. Water on Mars implies \_\_\_\_\_ life.
5. The \_\_\_\_\_ argument is survival.
6. Critics say \_\_\_\_\_ of resources.
7. Impact is increasingly \_\_\_\_\_.
8. \_\_\_\_\_ of satellites poses risks.
9. \_\_\_\_\_ questions about who benefits.
10. We need a \_\_\_\_\_ future.

**7****Answer Key****Vocabulary Exercise Answers**

1. expenditure
2. intangible
3. invaluable
4. extraterrestrial
5. pragmatic
6. misallocation
7. scrutinised
8. Proliferation
9. Equity
10. sustainable

**8****Grammar Focus — Key Structures in the Text**

## B2 Grammar: Rhetorical Questions & Balance

**Rhetorical:** How **can** we justify rockets?

**Conditional:** **If** humanity does not spread, it **may not** survive.

**Balance:** Not a choice **but** a commitment to both.

**Passive:** Ventures **funded by** the wealthy.

**Concessive:** **While** costly, technologies **may prove** essential.

## 9

## Speaking & Writing Tasks

### Speaking Task

Discuss these questions with a partner or your teacher:

- How much would you allocate to space?
- Must humanity spread beyond Earth?
- Should companies colonise planets?
- Climate or Mars — which matters more?

### Writing Task

Write a structured essay (180–230 words):

"Governments should reduce space spending and redirect to Earth." Discuss both sides.

Introduction, both sides, your conclusion. Use vocabulary from the text.