

Colonising Mars — Full Revision

Name:

Date:

INQUIRY

Mars as a planet, challenges, colony design, space race, and ethics — the complete interdisciplinary picture.

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Mars	4th planet. 38% gravity. -60°C. 95% CO ₂ .
MOXIE	Produces O ₂ from CO ₂ .
Hydroponics	Soil-free farming.
Outer Space Treaty	No nation can claim space.

Full Revision (30 marks)

1. Name 3 ways Mars is similar to Earth and 3 ways it is different. [3 marks]

2. A rover weighs 300 kg on Earth. Weight on Mars? ($g_{\text{Mars}} = 3.7 \text{ m/s}^2$) [2 marks]

Show your working:

3. Name the 5 deadly challenges and one solution for each. [5 marks]

4. Explain how a Mars colony could produce: (a) food (b) water (c) oxygen (d) energy. [4 marks]

5. Should Mars colonisation be competitive or collaborative? Justify with 2 arguments. [3 marks]

6. Give one ethical argument FOR and one AGAINST terraforming Mars. [2 marks]