

3 SCIENCE AND TECHNOLOGY

LESSON A • Good science, bad science

1 Grammar

1. For some people, using an abacus is an alternative to using a calculator.
2. The abacus is the earliest form of mechanical computing.
3. *Correct as is.*
4. It consists of wires strung across a wooden frame.
5. ... On the wires are beads, which represent units.
6. *Correct as is.*
7. A skilled operator can make calculations on it very quickly.

2 Vocabulary

- | | |
|-----------------|--------------|
| 1. frivolous | 5. unethical |
| 2. problematic | 6. audacious |
| 3. confidential | 7. prudent |
| 4. hazardous | |

3 Grammar

- | | | |
|-------------|------|-------------|
| 1. the | 5. a | 9. X / the |
| 2. X | 6. a | 10. X / the |
| 3. an / the | 7. X | 11. an |
| 4. the | 8. a | 12. a |

4 Grammar

Answers will vary.

5 Writing

A Possible answers

Paragraph 1: One day in the not-so-distant future, small robotic spaceships will search the inner solar system mapping asteroids and determining which to harvest.

Paragraph 2: Robotically controlled factories built on asteroids will turn space rock water into rocket fuel and asteroid metals into everything needed for space-based manufacturing.

Paragraph 3: ... big investors are already taking such ideas seriously enough to put substantial money into asteroid mining and space exploration companies.

By locating manufacturing facilities and rocket fueling stations on asteroids already in space, costs will be reduced and long journeys into space will become possible.

Paragraph 4: ... most of the technology needed to mine asteroids and build orbital factories doesn't exist yet.

Still, early investors and the companies they're investing in believe they will be successful and that along the way the asteroid-mining technologies they develop will help bring about a new age.

- B**
1. There is a great deal of serious interest in mining asteroids for their valuable resources.
 2. Asteroid mining could lead to a new era of space exploration and colonization.
- C** *Answers will vary.*

LESSON B • Technology and you

1 Grammar

- | | |
|---------------------------|---------------------------|
| 1. different time, reason | 5. different time, reason |
| 2. reason | 6. same time |
| 3. same time | 7. different time, reason |
| 4. different time, reason | |

2 Grammar

Possible answers

1. Lily broke her digital camera taking a picture. / Taking a picture, Lily broke her digital camera.
2. Having watched a show about alternative energy, Diego bought an electric car.
3. Being a resourceful person, Bella built her own computer.
4. Having injured his arm, Dan received a bone scan.
5. Celia is in her car listening to satellite radio.
6. Being an eco-conscious person, Ken always recycles his old electronics.

3 Vocabulary

- | | | | |
|------|------|------|------|
| 1. c | 3. a | 5. g | 7. d |
| 2. f | 4. h | 6. e | 8. b |

4 Grammar

Answers will vary.

5 Reading

A unsurprisingly common

- B**
- | | | | |
|------|------|------|------|
| 1. a | 2. b | 3. b | 4. a |
|------|------|------|------|