

Dead satellites are filling space with trash. That could affect Earth's magnetic field

Level 2: Intermediate

Article summary: The article discusses the rubbish produced by satellites and its potential effect on Earth's magnetic field.

Time: 60 minutes

Skills: Reading, Speaking, Writing

Language focus: Prepositions

Materials needed: One copy of the worksheet per student

1. Warmer

- a. Ask students to work in pairs and discuss the questions. Encourage them to give reasons for their opinions. After a couple of minutes, hold a brief discussion with the whole group so every pair can share their views.

2. Key words

- a. Ask students to work individually or in pairs and complete the sentences using the words given. Tell them all the words appear in the article, so they can see them in context if they are unsure about their meaning. Allow some minutes for students to check answers in pairs or groups of three before checking with the whole group.

Key:

- | | |
|----------------------|-----------------------|
| 1. <i>compromise</i> | 6. <i>rubbish</i> |
| 2. <i>disposable</i> | 7. <i>disrupt</i> |
| 3. <i>wealth</i> | 8. <i>intertwined</i> |
| 4. <i>currently</i> | 9. <i>ventures</i> |
| 5. <i>vast</i> | 10. <i>perturb</i> |

- b. Ask students to work in pairs again, this time to complete the sentences using words from the previous task.

Key:

- | | |
|-----------------------|-----------------------|
| 1. <i>compromised</i> | 5. <i>vast</i> |
| 2. <i>disposable</i> | 6. <i>intertwined</i> |
| 3. <i>wealth</i> | 7. <i>ventures</i> |
| 4. <i>currently</i> | 8. <i>perturbed</i> |

3. Comprehension check

- a. Students first read the statements and decide whether they are true or false according to the article. Students correct the false sentences to make them true. They may do this in different ways, e.g., in item 1, they may say, 'There are currently nearly 10,000 active satellites,' or similar.

Key:

1. *False. There are currently nearly 10,000 active satellites and companies are working as fast as possible to get tens of thousands more into orbit.*
2. *True*
3. *False The problem is that space, contrary to popular belief, isn't really a giant, self-cleaning void.*
4. *False. I'm a plasma physicist and the author of recent research that found that the space debris generated by dead and dying commercial satellites could compromise our ionosphere or magnetosphere, also known as our planet's plasma environment.*
5. *True*
6. *True*
7. *False. What if space activities cause our planet's end?*
8. *True*

4. Key language

- a. Ask students to work in pairs and complete the sentences from the article by using the correct prepositions.

Key:

- | | |
|----------------|--------------|
| 1. <i>in</i> | 5. <i>on</i> |
| 2. <i>in</i> | 6. <i>in</i> |
| 3. <i>into</i> | 7. <i>at</i> |
| 4. <i>to</i> | 8. <i>of</i> |

5. Discussion

- a. Students discuss the statements related to the article and give their reasons and justifications for each answer, referring to their own experiences or knowledge wherever possible.

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6. In your own words

- a. In pairs, students make a list of the pros and cons of using disposable satellites.
- b. Give students some time to do some online research and check their ideas.
- c. Students prepare a presentation about disposable satellites, the pros, the cons and what may happen in the future. Students can present their findings and ideas to the whole class or in smaller groups.