## **ENGLISH**

Chapter 13
Session B

2nd
SECONDARY

EN

A BETTER PLACE



## **HELICOMOTIVATION**



## A newspaper report

- 1 Work in pairs. Look at the photos on pp62–63 and answer the questions.
  - **1** What connects the photos?

The photos are all connected to 3D printing.



# Print your own home

Building a house is often a very long and expensive job. But this might change in the next few years. The reason? 3D printing.

d How did 3D printing start?

A merican engineer Chuck Hull introduced 3D printing in 1986. Now we can build many different things using 3D technology, including bridges and buildings.

**e** What are the advantages of building with 3D printing?

It's quick: in Russia they built one house in just 24 hours. This means it's a very good way to build houses to help people in an emergency situation.

It's more environmentally friendly: you can make 3D houses from **recycled** materials. It's cheap: Chinese company Winsun says 3D houses use 60% fewer materials and 70% less time than traditional buildings.

It's strong: 3D houses are better in a strong wind than many normal houses.

**a** What's happening in the Netherlands?

In the Netherlands, the **architects** at Van Wijnen are working on what they say are the first 3D printed houses that people will actually be able to live in.

The houses will have unusual **shapes**. The first house will be on one **floor**: it won't have any stairs. The other houses will be bigger, with more floors and several bedrooms. If everything goes to plan, people will move into the houses next year. Many people think this will completely change the way we build houses.

**b** How will 3D printing change things in the future?

In the future, people will be able to design their own personalized homes much more cheaply. And some organizations, like charity New Story, think 3D printing might help with housing problems in **the developing world** But 3D technology could also be important in space. The European Space Agency is working on a 3D-printed **space station** and NASA is planning to use 3D technology to build on Mars.

2 How do the photos connect to the title of the text?

The house was built using 3D printing.

**3** Four headings are missing from the text. Match questions a—e with paragraphs 1–4. There is one question you don't need.

- a What's happening in the Netherlands?
- **b** How will 3D printing change things in the future?
- **c** What problems are there with 3D printing?
- **d** How did 3D printing start?
- e What are the advantages of building with 3D printing?

**♦** 24 Read and listen to the text. Find phrases with the same meaning as sentences 1–7.

- 2 Chuck Hull invented 3D printing more than 30 Chuck Hull invented 3D printing in 1986. years ago.
- 3 Russian experts took one day to build a house. In Russia they built one house in just 24 hours.
- 4 3D houses don't take as long to make. 3D houses use 70% less time tan traditional buildings.
- Many normal houses aren't as good in bad weather.
   Many normal houses aren't as good in bad other normal houses.
- 6 The houses in the Netherlands will probably be ready next year.

  If everything goes to plan, people will move into the houses next year.
- 7 A 3D space station could open in the future. The European Space Agency is working on a 3D printed space station..

Work in pairs. What can you remember about the text? Try to answer the questions in exercise 3 in your own words.

# 7 Complete the sentences with words from exercise 6. Change the form if necessary.

- 1 The <u>architects</u> Frank Gehry designed the Guggenheim Museum in Bilbao, Spain. He also designed a hat for Lady Gaga.
- We can use <u>recycled</u> plastic bottles to make T-shirts, sweaters and carpets.
- **3** A **shape** with 16 sides is called a hexakaidecagon.
- 4 With a population of 28 million, Jabodetabek in Indonesia is one of the biggest cities in the developing world
- The Burj Khalifa is one of the tallest buildings in the world. It has over 160 floor.
- 6 The International <u>station</u> travels at 27,724 km per hour.

### **CRITICAL THINKING**



- **1** Remember What were the advantages of using 3D printing?
- **2 Evaluate** Can you think of any disadvantages of this change in building?
- 3 Create Imagine you can build your own 3D home. What does it look like?





#### CELEBRITY CORNER

Adele's house in England is eco-friendly because it has solar panels. Find another celebrity with an eco-friendly house.

### **HOMEWORK**

6 Word work Match the definitions to the words in bold in the text.

- **1** a level in a building
- 2 used again, often to make something different
- 3 people who design houses and buildings
- 4 place where astronauts work \_\_\_\_\_
- 5 countries where people have less money and fewer public services
- 6 the physical forms of things

shapes