

## Reading Gap text

1 Read the definition. Do you think it is possible to change our genes? Read through to find out.

**gene** /dʒi:n/ (C n) part of a cell in a living thing which controls its physical characteristics, growth and development

2 **RNE** Read the text and complete gaps A-F with the parts of sentences 1-7. One part is extra.

- such as Huntington's and other devastating conditions
- or find a way to block a **faulty gene**.
- from over 20 universities around the world
- which will mean drugs can be tailor-made for each patient
- and each gene contains anything up to several million letters
- which has been developed into it.
- can turn them up or down like the dimmer on a lamp

# It's all in the Genes

DNA is made up of four amino acids, which are represented by the initials A, G, T and C. These four letters are arranged in different patterns to make genes **A**  . Our genes are instructions that determine everything from our physical appearance to how we behave. They also play a part in how **susceptible** to certain disease we are and how well we **respond to** medicines.

In 1990, scientists **B**  embarked on a project to sequence the 20,500 or so genes that make up the human genome\*. The Human Genome Project was finally completed in 2003 and has brought scientists closer to developing effective treatments for hundreds of illnesses. Scientists are confident that they will be able to cure diseases, **C**  , using a process called gene therapy. Instead of prescribing drugs or surgery, they will use genes themselves. There are several possible approaches to this. For instance, they may be able to replace a diseased gene with a healthy copy of the gene **D**  . Eventually, they may even be able to introduce a totally new, man-made gene into the body to fight a disease.

However, this day is still a long way off as there are tremendous technical difficulties to overcome. Every gene in the body effects every other gene in complicated and unpredictable ways. Also genes are not always simply turned on or off, they can also behave in other ways. Things in the environment, for example, **E**  . Until we can better understand how genes work doctors will have to continue to treat diseases with **conventional** medicines. But here again the Genome Project can help doctors identify the right medicines for individual people, **F**  . Hopefully, medicines that do not work as expected, or cause serious **side effects**, will soon be a thing of the past.

\* **genome**: all the DNA in an organism including its genes

3 Explain the words in bold.

4 Complete the sentences with the correct form of the verbs in the list: *cure, develop, respond, embark, carry, treat, determine*.

- 1 The patient seems to ..... well to the new medicine.
- 2 The doctor recommended I do a test to ..... which food I was allergic to.
- 3 Scientists believe they will ..... most major diseases someday.
- 4 You should have your skin rash ..... straightaway, before it gets any worse.
- 5 He didn't know he ..... a faulty gene until it showed up on a test.
- 6 It's believed that people living in a damp climate can easily ..... aches and pains.
- 7 Before ..... on such a lengthy project, scientists should count the cost.

5 **Think!** Imagine you could do genetic testing to see if you were susceptible to a serious disease. Would you want to find out or not? In three minutes write a few sentences. Tell the class.

### Listening Multiple choice

6 **RNE** You will hear an interview. For task 1-7, choose the correct answer 1, 2 or 3. You will hear the recording twice.

- 1 The 3D printer ...
  - 1 can print with ink on paper.
  - 2 has got an accurate name.
  - 3 prints quickly.
- 2 Describing the technique of 3D printing Dr Hunt stresses that ...
  - 1 it is not as complicated as it seems.
  - 2 it's too complex to explain in detail.
  - 3 it is essential to know different techniques.
- 3 What does Dr Hunt say about the resin?
  - 1 It is all the same.
  - 2 It is a kind of ink.
  - 3 Light causes it to change.

4 Dentists were mentioned to give an example of

- 1 something people don't like.
- 2 a well-known use of resin.
- 3 an application of 3D printers.

5 What is said about the equipment that is needed to 3D print?

- 1 It is not very expensive.
- 2 It will soon be widely available.
- 3 All you need to do is take a photo.

6 Speaking about what items people print, Dr Hunt suggests that

- 1 the majority are for the medical field.
- 2 they are never ordinary items.
- 3 they are incredibly accurate.

7 Dr Hunt says that in the future 3D printers ...

- 1 will change the way we shop.
- 2 will be used mostly in factories.
- 3 will be used to print homes.

### Speaking Asking questions

7 **RNE** Study the advertisement.

You are considering buying a new mobile phone and now you'd like to get more information. In 1.5 minutes, you are to ask five direct questions to find out about the following

- 1 models available
- 2 features
- 3 price
- 4 if there is a guarantee
- 5 length of sale

You have 20 seconds to ask each question.