



# **Academic Reading Practice Test 27**

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# Instructions for Taking the Test

Read the rules and regulations carefully before the test:

- **1.** Switch off your mobile phone and electronic devices.
- 2. Manage your time strictly to 20 minutes per passage, reading questions first to guide your skimming and scanning for answers, always paying close attention to word limits and matching synonyms.
- **3.** Read the instructions thoroughly before answering the questions.
- **4.** Read the questions carefully to avoid silly mistakes.

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### **Research Using Twins**

Researchers in the biomedical field across the globe consider twins as a golden opportunity to unearth the interconnection between genes and the environment - of nature and nurture. Since identical twins happen from a single fertilised egg that diverts it into two separate parts, they will have the exact same code of genetics. They might have any variations, like one of the twins having younger-looking skin. For instance, it must have been because of environmental aspects like absorbing fewer sun rays.

On the other hand, when we compare the experiences of identical twins with those of fraternal twins, who are from different eggs and have almost half of their DNA, it is quantifiable by researchers to what extent our genes impact our entire lives. When the identical twins are more similar compared to fraternal twins in terms of an ailment, they become more vulnerable to any disease as it becomes a part of their heredity.

These two different research - understanding the differences between identical twins to highlight the impact of environment, and making comparison of identical twins and fraternal ones to determine the influence of inheritance - being critical to know the inter-relation between nature and nurture in order to find out our personalities, behaviour, and amount of vulnerability to any infection or disease.

The concept behind using twins to determine the impact of heredity goes back to 1875 when the English scientist Francis Galton first recommended that idea (and invented the phrase 'nature and nurture'). However studies on twins lead to an astonishing twist during the 1980s, after introducing various studies into identical twins who were living separately after birth and reunited when they reached adulthood. For more than two decades, almost 137 twin people visited Thomas Bouchard's research place. which later became known as the Minnesota Study of Twins Reared Apart. Besides that, many experiments were conducted on the twins, and each of them were asked more than 15,000 questions.



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Bouchard and his associates made use of these tons of information to examine how far twins were impacted due to their genetic conditions. They handled a statistical concept known as heritability for their approach. Generally, the heritability trait calculates the differences between the population members and differences in their genetic background and illustrates it accordingly. At last, Bouchard and his coworkers found the unseen side of genetic influence that is useful for us to shape our lives genetically.

Twin studies have been a fortune for famous scientists to a radical new concept: that nature and nurture are not the only sources during the work. Recently, a research study called epigenetics found that there's another factor that comes into play. Previously, one found that in some cases it serves as a connecting bridge between our genes and the environment. The second is that it performs on its own to be who we are.

In this epigenetic process, chemical reactions lead to neither nature nor nurture, but it reflects as a 'third component' as mentioned by researchers. Such reactions impact how our human genetics is represented: how each gene is enhanced or weakened, sometimes becoming on or off, to develop our brains, bones and other vital parts of the body.

If you imagine our DNA system as a piano keyboard, while the genes are keys, then each key will assign a separate segment of DNA in charge of a particular note, or trait, and all the keys join to get to know who we are all about. Based on that, epigenetic work helps us determine how and when each assigned key can be struck, and alter the rhythm that has been playing for a long time.

On one hand, the research on epigenetics has newly evolved our basic understanding of science, especially Biology by exhibiting a system through which the environment has a direct consequence on genes. Similarly, further study on animals, for instance, revealed that when a rat feels stressed at the time of pregnancy, it can lead to epigenetic changes in a foetus that causes behavioural issues since the mice develop. There are also other epigenetic processes that come at any time, whereas others have been normal, like those that guide embryonic cells as they later develop into different parts like a heart, brain, liver cells, etc.



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There was a famous geneticist, Danielle Reed who conducted research with more twin people and analysed deeply based on the inferences. However, it's crystal clear when you learn what twins have shared with us until now. It was observed that numerous things are similar in nature and cannot be changed. Moreover, it's clear that when you understand deeper, certain things are different between them. Epigenetics is the pioneer for a lot of these contradictions, according to the researcher.

Another researcher Reed gives credit to Thomas Bouchard's contribution to the present rise in studies related to twins. 'He was the trailblazer', she said. We did not remember 50 years ago components like various diseases were caused by poor lifestyle. Likewise, Schizophrenia was due to poor mothering and lack of nurturing. Twin studies opened new horizons that are more reflective of what people have inherently and what is developed based on experience.

In addition to that, Reed explains the recent work in epigenetics guarantees to take our capacity of understanding to the next level. She said that nature determines some things in pencil and some things in pen. Whatever is written in pen can't be changed. And that's our DNA. But whatever is written in pencil can be changed. And that's called epigenetics. Now we can review the DNA and find out where the pencil writings are, that seems to be a whole new entity.

### **Research Using Twins Reading Questions**

#### Questions 1 - 5

#### Answer the questions below.

Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage for each answer.

- 1. Identical twins come from?
- 2. Who was the famous geneticist conducting research with many twins?
- 3. What Reed said about Thomas Bouchard?
- 4. With twins, many things were similar and whether it is changeable or not?
- 5. Schizophrenia is due to?







#### Questions 6 - 10

#### Complete each sentence with the correct ending

Write the correct letter A - E in boxes

- 6. Twin studies opened new horizons that are
- 7. Bouchard and his coworkers found the unseen side of genetic
- 8. 137 twins visited Thomas Bouchard's place
- 9. In this epigenetic process
- 10. If you imagine our DNA system as a piano keyboard
- A. known as the Minnesota Study of Twins Reared Apart.
- B. Chemical reactions lead to neither nature nor nurture.
- C. genes are keys.
- D. More reflective of what people have inherently.
- E. Useful for us to shape our lives genetically.

#### **Questions 11 - 13**

#### Complete the flowchart below.

Choose NO MORE THAN THREE WORDS for each answer.

Embryonic cells later develop into 11, brain.
Various diseases caused by poor 12
Whatever is written in pencil can be changed. That's our
13

**Click Here to Check Answers** 



## **Answers for IELTS Academic Reading Practice Test 27**

1.Same fertilised-egg	2. Danielle Reed	3. <b>Trailblazer</b>	4. Not changed
5. <b>Poor mothering</b>	6. <b>D</b>	7. <b>E</b>	8. <b>A</b>
9. <b>B</b>	10. <b>C</b>	11. <b>Heart</b>	12. <b>Lifestyle</b>
13. <b>Epigenetics</b>			

# How many questions did you get right?

Correct Answers (Out of 13)	Your Next Step	
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#### **POWER AHEAD!**

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