

VOCABULARY BUILDER · IELTS

Science

23 high-band words to read, understand,
and actually use – from B2 to C2.

B2

C1

C2

How to use this pack

A word you can only recognise is not yet a word you own. This pack is built to move each term from “I’ve seen it” to “I can use it under exam pressure.” Work through it in order.

1 Test yourself first

Go straight to the **Before** page and write what you think each word means. Don’t look ahead — this is your baseline.

2 Study the word bank

Read each entry: the definition, the example sentence, the collocations and the word family. The example is the most important part — it shows the word alive in context.

3 Do the tasks

Gap-fill, matching, word formation, a full IELTS-style reading, and speaking & writing practice. Use a pencil so you can redo them.

4 Test yourself again

Return to the **After** page and write the meanings from memory. Compare with your baseline — that gap is your progress.

HOW TO READ AN ENTRY

noun / verb / adjective

part of speech

B2 · C1 · C2

CEFR difficulty level

/ˈsɪmbəl/

pronunciation (IPA)

e.g.

example sentence in context

↔

opposite / contrast

What do you already know?

BEFORE

Before you read a single definition, write what you think each word means — even a rough guess or a synonym. Tick how sure you are. This is your honest starting point; you'll come back at the end to measure how far you've moved.

#	WORD	SURE? know · unsure · new	WHAT I THINK IT MEANS
1	hypothesis	☐ ☐ ☐	
2	empirical	☐ ☐ ☐	
3	peer review	☐ ☐ ☐	
4	phenomenon	☐ ☐ ☐	
5	theory	☐ ☐ ☐	
6	genetics	☐ ☐ ☐	
7	genetic engineering	☐ ☐ ☐	
8	clone	☐ ☐ ☐	
9	molecule	☐ ☐ ☐	
10	organism	☐ ☐ ☐	
11	evolution	☐ ☐ ☐	
12	variable	☐ ☐ ☐	
13	correlation	☐ ☐ ☐	
14	replicate	☐ ☐ ☐	
15	observation	☐ ☐ ☐	
16	analysis	☐ ☐ ☐	
17	scepticism	☐ ☐ ☐	
18	quantify	☐ ☐ ☐	
19	specimen	☐ ☐ ☐	
20	verify	☐ ☐ ☐	
21	plausible	☐ ☐ ☐	
22	catalyst	☐ ☐ ☐	
23	ethical	☐ ☐ ☐	

The word bank

Twenty-three words, chosen for how often they earn marks in IELTS Writing Task 2 and Speaking Part 3. Read the example sentence aloud – that is where the meaning sticks.

1 hypothesis /haɪ'pɒθəsɪs/

noun

C1

An idea or explanation that is suggested and then tested to see if it is true. (pl: hypotheses)

e.g. The experiment was designed to test a single **hypothesis**.

COLLOCATIONS

test / support / reject a hypothesis

WORD FAMILY

hypothesise (v), hypothetical (adj)

2 empirical /ɪm'pɪrɪkl/

adjective

C1

Based on observation, experiment or experience rather than theory alone.

e.g. The claim is interesting, but it lacks **empirical** evidence.

COLLOCATIONS

empirical evidence / research / data

WORD FAMILY

empirically (adv)

IELTS A high-band word for “based on real data” – “empirical evidence” strengthens any argument.

3 peer review /ˌpɪə rɪ'vjuː/

noun

C1

The evaluation of scientific work by other experts in the same field before it is published.

e.g. **Peer review** helps to catch errors before a study reaches the public.

COLLOCATIONS

undergo peer review • the peer-review process

WORD FAMILY

peer-reviewed (adj)

4 phenomenon /fə'nomɪnən/

noun

C1

A fact or event that can be observed, especially one that is unusual or hard to explain. (pl: phenomena)

e.g. Scientists are still trying to explain the strange **phenomenon**.

COLLOCATIONS

a natural / rare phenomenon

WORD FAMILY

phenomenal (adj)

5 theory /'θiəri/

noun

B2

A set of ideas intended to explain something, supported by evidence.

e.g. Darwin's **theory** of evolution transformed the study of biology.

COLLOCATIONS

develop / test a theory • in theory

WORD FAMILY

theoretical (adj), theorise (v)

6 genetics /dʒə'netɪks/

noun

C1

The scientific study of genes and how characteristics are passed from parents to offspring.

e.g. Advances in **genetics** have revolutionised modern medicine.

COLLOCATIONS

the field of genetics • human genetics

WORD FAMILY

genetic (adj), gene (n)

7 genetic engineering /dʒəˌnetɪk ˌendʒɪˈnɪərɪŋ/

noun

C1

The deliberate changing of the genes of a living thing to alter its characteristics.

e.g. Genetic engineering has produced crops that resist disease.

COLLOCATIONS

the ethics of genetic engineering

WORD FAMILY

—

IELTS A major essay topic — pair it with “ethical” to weigh its risks and benefits.

8 clone /klɒn/

verb / noun

C1

To produce an exact genetic copy of a living thing; (n) such a copy.

e.g. Scientists first **cloned** a mammal in the 1990s.

COLLOCATIONS

clone an animal / a cell

WORD FAMILY

cloning (n)

9 molecule /ˈmɒlɪkjʊːl/

noun

C1

The smallest unit of a substance that still has all the properties of that substance.

e.g. A water **molecule** is made of two hydrogen atoms and one of oxygen.

COLLOCATIONS

a water / DNA molecule

WORD FAMILY

molecular (adj)

10 organism /'ɔːɡənɪzəm/

noun

C1

A living thing, such as an animal, plant or single-celled form of life.

e.g. The pond is home to thousands of microscopic **organisms**.

COLLOCATIONS

a living / single-celled organism

WORD FAMILY

organic (adj)

11 evolution /ˌiːvəˈluːʃn/

noun

B2

The gradual process by which living things change and develop over many generations.

e.g. The **evolution** of resistance to antibiotics is a serious concern.

COLLOCATIONS

the theory of evolution • human evolution

WORD FAMILY

evolve (v), evolutionary (adj)

12 variable /'veəriəbl/

noun

C1

A factor or quantity that can change and may affect the result of an experiment.

e.g. A good experiment controls every **variable** except the one being tested.

COLLOCATIONS

an independent / dependent variable • control a variable

WORD FAMILY

vary (v), variation (n)

13 correlation /ˌkɒrəˈleɪʃn/

noun

C1

A connection or relationship between two or more things that change together.

e.g. The study found a strong **correlation** between diet and health.

COLLOCATIONS

a strong / weak correlation • correlation between (A and B)

WORD FAMILY

correlate (v)

IELTS Remember the classic warning – “correlation does not imply causation”.

14 replicate /ˈreplɪkeɪt/

verb

C1

To repeat a study or experiment exactly, in order to check the results.

e.g. Other laboratories were unable to **replicate** the original findings.

COLLOCATIONS

replicate a study / an experiment / results

WORD FAMILY

replication (n)

15 observation /ˌɒbzəˈveɪʃn/

noun

B2

The act of watching something carefully to gain information.

e.g. The conclusions are based on years of careful **observation**.

COLLOCATIONS

close / careful observation • make an observation

WORD FAMILY

observe (v), observant (adj)

16 analysis /əˈnæləsɪs/

noun

B2

The detailed examination of something in order to understand it. (pl: analyses)

e.g. **Analysis** of the samples revealed traces of the chemical.

COLLOCATIONS

careful / detailed analysis • data analysis

WORD FAMILY

analyse (v), analytical (adj)

17 scepticism /ˈskeptɪsɪzəm/

noun

C1

An attitude of doubting or questioning claims until there is enough evidence. (US: skepticism)

e.g. Healthy **scepticism** is essential to good science.

COLLOCATIONS

express / greet with scepticism

WORD FAMILY

sceptical (adj), sceptic (n)

18 quantify /ˈkwɒntɪfaɪ/

verb

C1

To measure or express something as a quantity or number.

e.g. The benefits are real, even if they are hard to **quantify**.

COLLOCATIONS

quantify the effect / risk / impact

WORD FAMILY

quantifiable (adj), quantitative (adj)

19 specimen /'spesɪmɪn/

noun

C1

A single example of something, such as a plant or animal, used for study.

e.g. The museum holds thousands of preserved **specimens**.

COLLOCATIONS

a rare / preserved specimen • a blood specimen

WORD FAMILY

—

20 verify /'verɪfaɪ/

verb

C1

To check or prove that something is true or accurate.

e.g. Independent tests were carried out to **verify** the results.

COLLOCATIONS

verify a claim / the accuracy of

WORD FAMILY

verification (n), verifiable (adj)

21 plausible /'plɒːzəbl/

adjective

C1

Seeming reasonable or likely to be true.

e.g. The theory offers a **plausible** explanation for the animals' behaviour.

COLLOCATIONS

a plausible explanation / theory

WORD FAMILY

plausibility (n) · opp. implausible

IELTS A precise word for "believable" — "a plausible argument".

22 catalyst /'kætəlist/

noun

C1

A substance that speeds up a chemical reaction; (figuratively) something that causes change.

e.g. The discovery acted as a **catalyst** for a whole new field of research.

COLLOCATIONS

a catalyst for change

WORD FAMILY

catalyse (v)

23 ethical /'eθɪkl/

adjective

B2

Relating to what is morally right and wrong.

e.g. Cloning raises difficult **ethical** questions.

COLLOCATIONS

ethical concerns / issues / standards

WORD FAMILY

ethics (n), ethically (adv) · opp. unethical

Task 1 · Gap-fill

Complete each sentence with a word from the bank. You may need to change the form (tense, ending). Each word is used once.

catalyst

correlation

empirical

ethical

evolution

hypothesis

phenomenon

plausible

quantify

replicate

scepticism

verify

1. A scientific claim must be supported by _____ evidence.
2. The results did not support the team's original _____.
3. Other researchers tried, but failed, to _____ the experiment.
4. Genetic research raises serious _____ questions.
5. Researchers found a clear _____ between exercise and mood.
6. Independent scientists were asked to _____ the findings.
7. Lightning is a natural _____ that puzzled people for centuries.
8. The _____ of the species took millions of years.
9. It is a _____ theory, but it still needs to be tested.
10. The economic damage is difficult to _____ precisely.
11. The invention was a _____ for rapid technological change.
12. The bold claim was met with widespread _____.

Task 2 · Match the meaning

Write the letter of the correct definition next to each word.

1 peer review	☐	a to make an exact genetic copy
2 theory	☐	b a set of ideas that explains something
3 genetics	☐	c a factor that can change in an experiment
4 genetic engineering	☐	d evaluation of research by other experts
5 clone	☐	e a single example used for study
6 molecule	☐	f the study of genes and inheritance
7 organism	☐	g a living thing
8 variable	☐	h deliberately changing a living thing's genes
9 observation	☐	i watching something carefully to gain information
10 specimen	☐	j the smallest unit of a substance

Task 3 · Word formation

Change the word in **CAPITALS** into the correct form to complete each sentence.

1. **SCIENCE** The findings were confirmed by rigorous _____ testing.
2. **HYPOTHESIS** The team _____ that the drug would reduce inflammation.
3. **GENETIC** The crop was _____ modified to resist pests.
4. **OBSERVE** The conclusions rest on years of careful _____.
5. **ANALYSE** The _____ of the data took several months.
6. **THEORY** The idea is sound at a _____ level, but untested in practice.
7. **ETHICS** The experiment was judged to be entirely _____.
8. **VERIFY** The results still await independent _____.

Task 4 · Reading in context

Read the passage, then answer the questions. This mirrors an IELTS reading set – notice how many of your new words appear naturally.

Knowledge for Its Own Sake?

Every year, governments spend enormous sums on scientific research, from exploring distant planets to studying the smallest building blocks of matter. In difficult economic times, some question whether this money is well spent. Why fund a costly space mission, they ask, when the same resources could build hospitals or schools?

Defenders of research point out that many of the technologies we now depend on began as pure science, driven only by curiosity. When scientists first investigated a strange phenomenon such as electricity, they had no idea it would one day power the modern world. Because it is impossible to predict which theory or discovery will prove valuable, they argue, a wise society supports a broad range of research. Time and again, a single breakthrough has acted as a catalyst for whole new industries.

Others insist that funding should be guided by need. With limited budgets, they say, priority should go to research that promises clear benefits, such as new treatments for disease. Some also raise ethical concerns, arguing that certain experiments should not be pursued simply because they are possible.

Perhaps the wisest approach lies between these positions. Curiosity-driven science and problem-solving research each have their place, and the two often feed one another. What is certain is that a society which stops asking questions about the world will, in the long run, understand it far less well.

Questions 1–5 · True / False / Not Given

TRUE = the passage says so. **FALSE** = the passage says the opposite. **NOT GIVEN** = the passage doesn't say.

- | | | |
|----------|---|-------------------|
| 1 | Governments spend large amounts on scientific research each year. | T / F / NG |
| <hr/> | | |
| 2 | The writer states that space missions are a waste of money. | T / F / NG |
| <hr/> | | |
| 3 | Some technologies we rely on today began as pure science. | T / F / NG |
| <hr/> | | |
| 4 | The passage states how much money is spent on space exploration. | T / F / NG |
| <hr/> | | |
| 5 | The writer believes only research with immediate benefits should be funded. | T / F / NG |

Questions 6–9 · Vocabulary in context

- | | | |
|----------|---|-------|
| 6 | Find a word/phrase meaning: an observable event that is hard to explain | <hr/> |
| <hr/> | | |
| 7 | Find a word/phrase meaning: a set of ideas that explains something | <hr/> |
| <hr/> | | |
| 8 | Find a word/phrase meaning: something that causes or speeds up change | <hr/> |
| <hr/> | | |
| 9 | Find a word/phrase meaning: relating to what is morally right and wrong | <hr/> |

Task 5 · Use it yourself

Recognising a word is easy; producing it is what raises your band. Answer out loud, then in writing.

SPEAK Speaking — Part 3 style

Answer each question in 3–4 sentences. Try to use the words in **bold** accurately.

1. Do you think **scientific** research deserves more funding than it receives?
2. Do the benefits of **genetic engineering** outweigh the risks?
3. How important is **scepticism** in science?
4. Are there **ethical** limits to what scientists should study?

WRITE Writing — Task 2 mini

Write an introduction and one body paragraph (about 80–100 words) for this prompt. Use **at least four** words from this pack.

Advances in areas such as **genetic engineering** could transform our lives, but they also raise serious **ethical** concerns. Do the benefits of such research outweigh the risks?

Now, from memory

AFTER

Cover the word bank. Write each meaning from memory and tick the box only if you could also use the word in your own sentence. Compare this page with your **Before** page – every word you can now explain is a mark you've earned.

#	WORD	MEANING (FROM MEMORY)	CAN USE IT
1	hypothesis		☐
2	empirical		☐
3	peer review		☐
4	phenomenon		☐
5	theory		☐
6	genetics		☐
7	genetic engineering		☐
8	clone		☐
9	molecule		☐
10	organism		☐
11	evolution		☐
12	variable		☐
13	correlation		☐
14	replicate		☐
15	observation		☐
16	analysis		☐
17	scepticism		☐
18	quantify		☐
19	specimen		☐
20	verify		☐
21	plausible		☐
22	catalyst		☐
23	ethical		☐

Answer key

TASK 1 · GAP-FILL

1 empirical 2 hypothesis 3 replicate 4 ethical 5 correlation 6 verify 7 phenomenon 8 evolution 9 plausible
10 quantify 11 catalyst 12 scepticism

TASK 2 · MATCHING

1 d 2 b 3 f 4 h 5 a 6 j 7 g 8 c 9 i 10 e

TASK 3 · WORD FORMATION

1 scientific 2 hypothesised 3 genetically 4 observation 5 analysis 6 theoretical 7 ethical 8 verification

TASK 4 · TRUE / FALSE / NOT GIVEN

1 TRUE 2 FALSE 3 TRUE 4 NOT GIVEN 5 FALSE

TASK 4 · VOCABULARY IN CONTEXT

6 phenomenon 7 theory 8 catalyst 9 ethical



Nicely done. Revisit this pack in a week and again in a month — spaced review is what turns a recognised word into an automatic one. More themed packs at prepex.ai.