IELTS Mock Test 2023 August

Reading Practice Test 1

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READING PASSAGE 1

You should spend about 20 minutes on ***Questions 1-13****, which are based on Reading Passage 1 below.*

Fossil Files "The Paleobiology Database"

A. Are we now living through the sixth extinction as our own activities destroy ecosystems and wipe out diversity? That's the doomsday scenario painted by many ecologists, and they may well be right. The trouble is we don't know for sure because we don't have a clear picture of how life changes between extinction events or what has happened in previous episodes. We don't even know how many species are alive today, let alone the rate at which they are becoming extinct. A new project aims to fill some of the gaps. The Paleobiology Database aspires to be an online repository of information about every fossil ever dug up. It is a huge undertaking that has been described as biodiversity's equivalent of the Human Genome Project. Its organizers hope that by recording the history of biodiversity they will gain an insight into how environmental changes have shaped life on Earth in the past and how they might do so in the future. The database may even indicate whether life can rebound no matter what we throw at it, or whether a human induced extinction could be without parallel, changing the rules that have applied throughout the rest of the planet's history.

B. But already the project is attracting harsh criticism. Some experts believe it to be seriously flawed. They point out that a database is only as good as the data fed into it, and that even if all the current fossil finds were catalogued, they would provide an incomplete inventory of life because we are far from discovering every fossilised species. They say that researchers should get up from their computers and get back into the dirt to dig up new fossils. Others are more sceptical still, arguing that we can never get the full picture because the fossil record is riddled with holes and biases.

C. Fans of the Paleobiology Database acknowledge that the fossil record will always be incomplete. But they see value in looking for global patterns that show relative changes in biodiversity. "The fossil record is the best tool we have for understanding how diversity and extinction work in normal times," says John Alroy from the National Center for Ecological Analysis and Synthesis in Santa Barbara. "Having a background extinction estimate gives US a benchmark for understanding the mass extinction that's currently under way. It allows us to say just how bad it is in relative terms."

D. To this end, the Paleobiology Database aims to be the most thorough attempt yet to come up with good global diversity curves. Every day between 10 and 15 scientists around the world add information about fossil finds to the database. Since it got up and running in 1998, scientists have entered almost 340,000 specimens, ranging from plants to whales to insects to dinosaurs to sea urchins. Overall totals are updated hourly at www.paleodb.org. Anyone can

download data from the public part of the site and play with the numbers to their heart's content. Already, the database has thrown up some surprising results. Looking at the big picture, Alroy and his colleagues believe they have found evidence that biodiversity reached a plateau long ago, contrary to the received wisdom that species numbers have increased continuously between extinction events. "The traditional view is that diversity has gone up and up and up," he says. "Our research is showing that diversity limits were approached many tens of millions of years before the dinosaurs evolved, much less suffered extinction." This suggests that only a certain number of species can live on Earth at a time, filling a prescribed number of niches like spaces in a multi-storey car park. Once it's full, no more new species can squeeze in, until extinctions free up new spaces or something rare and catastrophic adds a new floor to the car park.

E. Alroy has also used the database to reassess the accuracy of species names. His findings suggest that irregularities in classification inflate the overall number of species in the fossil record by between 32 and 44 per cent. Single species often end up with several names, he says, due to misidentification or poor communication between taxonomists in different countries. Repetition like this can distort diversity curves. "If you have really bad taxonomy in one short interval, it will look like a diversity spike—a big diversification followed by a big extinction-when all that has happened is a change in the quality of names," says Alroy. For example, his statistical analysis indicates that of the 4861 North American fossil mammal species catalogued in the database, between 24 and 31 per cent will eventually prove to be duplicates.

F. Of course, the fossil record is undeniably patchy. Some places and times have left behind more fossil-filled rocks than others. Some have been sampled more thoroughly. And certain kinds of creatures—those with hard parts that lived in oceans, for example–are more likely to leave a record behind, while others, like jellyfish, will always remain a mystery. Alroy has also tried to account for this. He estimates, for example, that only 41 per cent of North American mammals that have ever lived are known from fossils, and he suspects that a similar proportion of fossils are missing from other groups, such as fungi and insects.

G. Not everyone is impressed with such mathematical **wizardry.** Jonathan Adrain from the University of Iowa in Iowa City points out that statistical **wrangling** has been known to create mass extinctions where none occurred. It is easy to misinterpret data. For example, changes in sea level or inconsistent sampling methods can mimic major changes in biodiversity. Indeed, a recent and thorough examination of the literature on marine bivalve fossils has convinced David Jablonsky from the University of Chicago and his colleagues that their diversity has increased steadily over the past 5 million years.

H. With an inventory of all living species, ecologists could start to put the current biodiversity crisis in historical perspective. Although creating such a list would be a task to rival even the Palaeobiology Database, it is exactly what the San Francisco-based ALL Species Foundation

hopes to achieve in the next 25 years. The effort is essential, says Harvard biologist Edward o. Wilson, who is alarmed by current rates of extinction. “There is a crisis. We’ve begun to measure it, and it’s very high,” Wilson says. “We need this kind of information in much more detail to protect all of biodiversity, not just the ones we know well.” Let the counting continue.

Questions 1-6

The reading passage has seven paragraphs, **A-F**

Choose the correct heading for paragraphs **A-F** *from the list below. Write the correct number,* ***i-xi****, in boxes* ***1-6*** *on your answer sheet.*

	List of Headings
i	Potential error exists in the database
ii	Supporter of database recleared its value
iii	The purpose of this paleobiology data
iv	Reason why some certain species were not included in it
v	Duplication of breed but with different names
vi	Achievement of Paleobiology Databasesince
vii	Criticism on the project which is waste of fund

1 [ ] Paragraph A

2 [ ] Paragraph B

3 [ ] Paragraph C

4 [ ] Paragraph D

5 [ ] Paragraph E

6 [ ] Paragraph F

Questions 7-9

Use the information in the passage to match the people (listed **A-D***) with opinions or deeds below. Write the appropriate letters* **A-D** *in boxes* ***7-9*** *on your answer sheet.*

A	Jonathan Adrain
B	John Alroy
C	David Jablonsky
D	Edward O. Wilson

7 [ ] Creating the Database would help scientist to identify connections of all species

8 [ ] Believed in contribution of detailed statistics should cover beyond the known species

9 [ ] reached a contradictory finding to the tremendous species die-out

Questions 10-11

Choose the **TWO** correct letter following

Write your answers in boxes **10-11** on your answer sheet.

*Please choose TWO CORRECT descriptions about the **The Paleobiology Database** in this passage:*

- A ☐ almost all the experts welcome this project
- B ☐ intrigues both positive and negative opinions from various experts
- C ☐ all different creature in the database have unique name
- D ☐ aims to embrace all fossil information globally
- E ☐ get more information from record rather than the field

Question 12-13

*Choose the correct letter, **A, B, C or D**.*

*Write your answers in boxes **12-13** on your answer sheet.*

12 According to the passage, jellyfish belongs to which category of **The Paleobiology Database?**

- A ○ repetition breed
- B ○ untraceable species

C specifically detailed species

D currently living creature

13 What is the author's suggestion **according to the end of passage?**

A continue to complete counting the number of species in the Paleobiology Database

B stop contributing The Paleobiology Database

C try to create a database of living creature

D study more in the field rather than in the book

READING PASSAGE 2

*You should spend about 20 minutes on **Questions 14-26**, which are based on Reading Passage 2 below.*

Longaeva: Ancient Bristlecone Pine

A

To understand more about the earth's history, humans have often looked to the natural environment for insight into the past. The bristlecone pine (Pinus longaeva), of the White Mountains in California, has served this purpose greater than any other species of tree on the planet. Conditions here are brutal: scant precipitation and low average temperatures mean a short growing season, only intensified by ferocious wind and mal-nutritious rocky. Nevertheless, bristlecone pines have claimed these barren slopes as their permanent home. Evolving here in this harsh environment, super-adapted and without much competition, bristlecones have earned their seat on the longevity throne by becoming the oldest living trees on the planet. Results of extensive studies on bristlecone pine stands have shown that in fact such, environmental limitations are positively associated with the attainment of great age. This intriguing phenomenon will be discussed further on.

B

But exactly how old is old? Sprouted before the invention of Egyptian hieroglyphs and long before the teachings of Jesus of Nazareth, Methuselah is the oldest bristlecone alive at roughly 4,700 years. Although specimens of this age do not represent the species' average, there are 200 trees more than 3,000 years old, and two dozen more than 4,000. Considering that these high ages are obtained in the face of such remarkable environmental adversity, the bristlecone pines have become the focus of much scientific examination over the past half-century.

C

Perhaps most interested in the bristlecone pine are dendrochronologists or tree-ring daters. With every strenuous year that passes in the While Mountains, each bristlecone grows and forms a new outer layer of cambium that reflects a season's particular ease or hardship. So while growing seasons may expand or shrink, the trees carry on, their growth rings faithfully recording the bad years alongside the goods. Through examining the annual growth rings of both living and dead specimens, taking thousands of core samples, and by processes of cross-dating between trees and other qualitative records, scientists have compiled a continuous tree-ring record that dates back to the last Ice Age between eight and ten thousand years ago. Among other linked accomplishments, this record has enhanced the dating process, helping to double-check and correct the radiocarbon-14 method to more accurately estimate the age of organic material.

D

Now more than ever the importance of monitoring the bristlecone is being realized. As our global climate continues to undergo its most recent and abrupt atmospheric change, these ancient scribes continue to respond. Since, the rings of wood formed each year reveal the trees' response to climatic conditions during a particular growing season, in their persistence they have left us natural recordings of the past, markers of the present, and clues to the future.

E

The species' name originates from the appearance of its unusual cones and needles. The bristlecone's short, pale needles are also trademarks, bunching together to form foxtail-like bundles. As is the case of most conifer needles, these specialized leaves cluster together to shelter the stomata so very little moisture is lost through them. This adaptation helps the bristlecone photosynthesize during particularly brutal months. Saving the energy of constant needle replacement and providing a stable supply of chlorophyll. For a plant trying to store so much energy, bristlecone seeds are relatively large in size. They are first reproduced when trees reach ages between thirty and seventy-five years old. Germination rates are generally high, in part because seeds require little to no initial stratification. Perhaps the most intriguing physical characteristic of a mature bristlecone, however, is its ratio of living to deadwood on harsh sites and how this relates to old age. In older trees, however, especially in individuals over 1,500 years, a strip-bark trait is adaptive. This condition occurs as a result of cambium dieback, which erodes and thereby exposes certain areas of the bole, leaving only narrow bands of bark intact.

F

The technique of cambial edge retreat has helped promote old age in bristlecone pine, but that certainly is no the only reason. Most crucial to these trees' longevity is their compact size and slow rates of growth. By remaining in most cases under ten meters tall, bristlecones stay close to the limited water supply and can hence support more branches and photosynthesizing. Combined with the dry, windy, and often freezing mountain air, slow growth guarantees the bristlecones tight, fibrous rings with a high resin content and structural strength. The absence of natural disaster has also safeguarded the bristlecone's lengthy lifespan. Due to a lack of ground cover vegetation and an evenly spaced layout, bristlecone stands on the White Mountain peaks have been practically unaffected by the fire. This lack of vegetation also means a lack of competition for the bristlecones.

G

Bristlecone pines restricted to numerous, rather isolated stands at higher altitudes in the southwestern United States. Stands occur from the Rocky Mountains, through the Colorado Plateau, to the western margin of the Great Basin. Within this natural range, the oldest and most widely researched stands of bristlecones occur in California's the White Mountains. Even

just 200 miles away from the Pacific Ocean, the White Mountains are home to one of this country's few high-elevation deserts. Located in the extreme eastern rain shadow of the Sierra Nevada, this region receives only 12.54 inches of precipitation per year and experiences temperatures between -20F and +50F. The peaks south of the Owens Valley, are higher up than they might appear from a distance. Although most summits exist somewhere around 11,000 feet, snow-capped White Mountain Peak, for which the range is named, stands at 14,246 feet above sea level. That said, to reach areas of a pure bristlecone is an intense journey all to itself.

H

With seemingly endless areas of wonder and interest, the bristlecone pines have become subject to much research over the past half-century. Since the annual growth of these ancient organisms directly reflects the climatic conditions of a particular time period, bristlecones are of greatest significance to dendrochronologists or tree-ring specialists. Dating any tree is simple and can be done within reasonable accuracy just by counting out the rings made each year by the plant's natural means of growth. By carefully compiling a nearly 10,000-year-old bristlecone pine record, these patient scientists have accurately corrected the carbon-14 dating method and estimated ages of past periods of global climate change. What makes this record so special to dendrochronologists, too, is that, nowhere, throughout time, is precisely the same long-term sequence of wide and narrow rings repeated, because year-to-year variations in climate are never exactly the same.

I

Historically the bristlecone's remote location and gnarled wood have deterred commercial extraction, but nothing on earth will go unaffected by global warming. If temperatures rise by only 6 degrees F, which many experts say is likely this century, about two-thirds of the bristlecones' ideal habitat in the White Mountains effectively will be gone. Almost 30,000 acres of National Forest now preserves the ancient bristlecone, but paved roads, campsites, and self-guided trails have led only to more human impact. In 1966, the U.S.F.S reported over 20,000 visitors to the Ancient Bristlecone Pine Forest, a figure which could exceed 40,000 today. Over the past hundreds of thousands of years, this species has endured in one of the earth's most trying environments; they deserve our respect and reverence. As global climate change slowly alters their environment, we as humans must do our part to raise awareness and lower our impact.

Questions 14-17

The Reading Passage has nine paragraphs **A-I**

Which paragraph contains the following information?

Write the correct letter ***A-I****, in boxes* ***14-17*** *on your answer sheet.*

14 [ ] Human activity threats bristlecone pines habitat

15 [ ] Explanations for a ring of bristlecone pines

16 [ ] An accountable recording provided from the past until now

17 [ ] Survived in a hostile environment

Questions 18-20

Choose the correct letter, **A**, **B**, **C** or **D**.

*Write your answers in boxes **18-20** on your answer sheet.*

18 According to passage A, what aspect of bristlecone pines attracts author's attention?

- **A** Brutal environment they live
- **B** Remarkable long age
- **C** They only live in California
- **D** Outstanding height

19 Why do we investigate Bristlecone pines in higher altitudes of California's the White Mountains?

- **A** Because of the oldest ones researched in this region
- **B** Because most bizarre ones are in this region
- **C** Because precipitation is rich in this region
- **D** Because sea level is comparatively high in this region

20 Why there are repeated patterns of wide and narrow rings?

- **A** Because sea level rises which affect tree ring
- **B** Because tree ring pattern is completely random
- **C** Because ancient organisms affect their growth
- **D** Because the variation of climate change is different

Questions 21-26

Complete the following summary of the paragraphs of Reading Passage

Using **NO MORE THAN THREE WORDS** from the Reading Passage for each answer.

Write your answers in boxes **21-26** *on your answer sheet.*

The bristlecone's special adaptation is a benefit for photosynthesizing, and reserving the 21 _____ of leave replacement and providing sufficient chlorophyll. Probably because seeds do not rely on primary 22 _____ , Germination rate is high. Because of cambium dieback, only narrow 23 _____ remain complete. Due to multiple factors such as windy, cold climate and 24 _____ , bristlecones' rings have a tight and solid structure full of resin. Moreover, bristlecone stands are safe from the fire because of little 25 _____ plants spread in this place. The summits of Owens Valley is higher than they emerge if you observe from a 26 _____ .

READING PASSAGE 3

You should spend about 20 minutes on ***Questions 27-40****, which are based on Reading Passage 3 below.*

Biology of Bitterness

To many people, grapefruit is palatable only when doused in sugar. Bitter Blockers like adenosine monophosphate could change that.

A.

There is a reason why grapefruit juice is served in little glasses: most people don't want to drink more than a few ounces at a time. aringin, a natural chemical compound found in grapefruit, tastes bitter. Some people like that bitterness in small doses and believe it enhances the general flavor, but others would rather avoid it altogether. So juice packagers often select grapefruit with low naringin though the compound has antioxidant properties that some nutritionists contend may help prevent cancer and arteriosclerosis.

B.

It is possible, however, to get the goodness of grapefruit juice without the bitter taste. I found that out by participating in a test conducted at the Linguagen Corporation, a biotechnology company in Cranbury, New Jersey. Sets of two miniature white paper cups, labeled 304and 305, were placed before five people seated around a conference table. Each of us drank from one cup and then the other, cleansing our palates between tastes with water and a soda cracker. Even the smallest sip of 304 had grapefruit 's unmistakable bitter bite. But 305 was smoother; there was the sour taste of citrus but none of the bitterness of naringin. This juice had been treated with adenosine monophosphate, or AMP, a compound that blocks the bitterness in foods without making them less nutritious.

C.

Taste research is a booming business these days, with scientists delving into all five basics-sweet, bitter, sour, salty, and umami, the savory taste of protein. Bitterness is of special interest to industry because of its untapped potential in food. There are thousands of bitter -tasting compounds in nature. They defend plants by warning animals away and protect animals by letting them know when a plant may be poisonous. But the system isn't foolproof. Grapefruit and cruciferous vegetable like Brussels sprouts and kale are nutritious despite-and sometimes because of-their bitter-tasting components. Over time, many people have learned to love them, at least in small doses. "Humans are the only species that enjoys bitter taste," says Charles Zuker, a neuroscientist at the University of California School of Medicine at San Diego. "Every other species is averse to bitter because it means bad news. But we have learned to enjoy it. We drink coffee, which is bitter, and quinine [in tonic water] too. We enjoy having that spice in our lives." Because bitterness can be pleasing in small quantities but repellent when intense,

bitter blockers like AMP could make a whole range of foods, drinks, and medicines more palatable-and therefore more profitable.

D.

People have varying capacities for tasting bitterness, and the differences appear to be genetic. About 75 percent of people are sensitive to the taste of the bitter compounds phenylthiocarbamide and 6-n-propylthiouracil. and 25 percent are insensitive. Those who are sensitive to phenylthiocarbamide seem to be less likely than others to eat cruciferous vegetables, according to Stephen Wooding, a geneticist at the University of Utah. Some people, known as supertasters, are especially sensitive to 6-n-propylthiouraci because they have an unusually high number of taste buds. Supertasters tend to shun all kinds of bitter-tasting things, including vegetable, coffee, and dark chocolate. Perhaps as a result, they tend to be thin. They're also less fond of alcoholic drinks, which are often slightly bitter. Dewar's scotch, for instance, tastes somewhat sweet to most people. " But a supertaster tastes no sweetness at all, only bitterness," says Valerie Duffy, an associate professor of dietetics at the University of Connecticut at Storrs.

E.

In one recent study, Duffy found that supertasters consume alcoholic beverages, on average, only two to three times a week, compared with five or six times for the average nontasters. Each taste bud, which looks like an onion, consists of 50 to 100 elongated cells running from the top of the bud to the bottom. At the top is a little clump of receptors that capture the taste molecules, known as tastants, in food and drink. The receptors function much like those for sight and smell. Once a bitter signal has been received, it is relayed via proteins known as G proteins. The G protein involved in the perception of bitterness, sweetness, and umami was identified in the early 1990s by Linguagen's founder, Robert Margolskee, at Mount Sinai School of Medicine in New York City. Known as gustducin, the protein triggers a cascade of chemical reactions that lead to changes in ion concentrations within the cell. Ultimately, this delivers a signal to the brain that
registers as bitter. "The signaling system is like a bucket brigade," Margolskee says. "It goes from the G protein to other proteins."

F.

In 2000 Zuker and others found some 30 different kinds of genes that code for bitter-taste receptors. "We knew the number would have to be large because there is such a large universe of bitter tastants," Zuker says. Yet no matter which tastant enters the mouth or which receptor it attaches to, bitter always tastes the same to us. The only variation derives from its intensity and the ways in which it can be flavored by the sense of smell. "Taste cells are like a light switch," Zuker says. "They are either on or off."

G.

Once they figured put the taste mechanism, scientists began to think of ways to interfere with

it. They tried AMP, an organic compound found in breast milk and other substances, which is created as cells break down food. Amp has no bitterness of its own, but when put it in foods, Margolskee and his colleagues discovered, it attaches to bitter-taste receptors. As effective as it is, AMP may not be able to dampen every type pf bitter taste, because it probably doesn't attach to all 30 bitter-taste receptors. So Linguagen has scaled up the hunt for other bitter blockers with a technology called high-throughput screening. Researchers start by coaxing cells in culture to activate bitter-taste receptors. Then candidate substances, culled from chemical compound libraries, are dropped onto the receptors, and scientists look for evidence of a reaction.

H.

Tin time, some taste researchers believe, compounds like AMP will help make processed foods less unhealthy. Consider, for example, that a single cup of Campbell's chicken noodle soup contains 850 milligrams of sodium chloride, or table salt-more than a third of the recommended daily allowance. The salt masks the bitterness created by the high temperatures used in the canning process, which cause sugars and amino acids to react. Part of the salt could be replaced by another salt, potassium chloride, which tends to be scarce in some people's diets. Potassium chloride has a bitter aftertaste, but that could be eliminated with a dose of AMP. Bitter blockers could also be used in place of cherry or grape flavoring to take the harshness out of children's cough syrup, and they could dampen the bitterness of antihistamines, antibiotics, certain HIV drugs, and other medications.

I.

A number of foodmakers have already begun to experiment with AMP in their products, and other bitter blockers are being developed by rival firms such as Senomyx in La Jolla, California. In a few years, perhaps, after food companies have taken the bitterness from canned soup and TV dinners, they can set their sights on something more useful: a bitter blocker in a bottle that any of us can sprinkle on our brussels sprouts or stir into our grapefruit juice.

Questions 27-34

The reading Passage has seven paragraphs **A-I**.

Which paragraph contains the following information?

Write the correct letter **A-I**, in boxes **27-34** on your answer sheet.

27 [ ] Experiment on bitterness conducted

28 [ ] Look into the future application

29 [ ] Bitterness means different information for human and animals

30 [ ] Spread process of bitterness inside of body

31 [ ] How AMP blocks bitterness

32 [ ] Some bitterness blocker may help lower unhealthy impact

33 [ ] Bitterness introduced from a fruit

34 [ ] Genetic feature determines sensitivity

Question 35-38

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than two words from the Reading Passage for each answer.

Write your answers in boxes **35-38** on your answer sheet.

The reason why grapefruit tastes bitter is because a substance called 35 _____ contained in it. However, bitterness plays a significant role for plants. It gives a signal that certain plant is 36 _____ .For human beings, different person carries various genetic abilities of tasting bitterness. According to a scientist at the University of Utah, 37 _____ have exceptionally plenty of 38 _____ , which allows them to perceive bitter compounds.

Questions 39-40

Choose the correct letter, **A, B, C or D.**

Write your answers in boxes **39-40** on your answer sheet.

39 What is the main feature of AMP according to this passage?

A ○ offset bitter flavour in food

B ○ only exist in 304 cup

C ○ tastes like citrus

D ○ chemical reaction when meets biscuit

40 What is the main function of G protein?

A ○ collecting taste molecule

B ○ identifying different flavors elements

C resolving large molecules

D transmitting bitter signals to the brain

Solution:

Part 1: Question 1 - 13

1. iii
2. i
3. ii
4. vi
5. v
6. iv
7. B
8. D
9. C
10/11. B,D
12. B
13. C

Part 2: Question 14 - 26

14. I
15. C
16. D
17. A
18. B
19. A
20. D
21. energy
22. stratification
23. bark
24. air
25. ground cover

26 distance

Part 3: Question 27 - 40

27 B

28 I

29 C

30 E

31 G

32 H

33 A

34 D

35 naringin

36 poisonous

37 supertasters

38 tastebuds

39 A

40 D