TOEFL READING PRACTICE PAPER 17

SET 1

"After Review, Giant Sequoia Beats Neighbor"
The ranks of the world's biggest trees have changed, with The President now edging out its neighbor for the No. 2 spot.
By Tracie Cone

Deep in the Sierra Nevada, the famous General Grant giant sequoia tree is suffering its loss of stature in silence. What once was the world's No. 2 biggest tree has been supplanted thanks to the most comprehensive measurements taken of the largest living things on Earth.

The new No. 2 is The President, a 54,000-cubic-foot gargantuan not far from the Grant in Sequoia National Park. After 3,240 years, the giant sequoia still is growing wider at a consistent rate, which may be what most surprised the scientists examining how the sequoias and coastal redwoods will be affected by climate change and whether these trees have a role to play in combating it.

"I consider it to be the greatest tree in all of the mountains of the world," said Stephen Sillett, a redwood researcher whose team from Humboldt State University is seeking to mathematically assess the potential of California's iconic trees to absorb planet-warming carbon dioxide.

The researchers are a part of the 10-year Redwoods and Climate Change Initiative funded by the Save the Redwoods League in San Francisco. The measurements of The President, reported in the current National Geographic, dispelled the previous notion that the big trees grow more slowly in old age.

It means, the experts say, the amount of carbon dioxide they absorb during photosynthesis continues to increase over their lifetimes.

In addition to painstaking measurements of every branch and twig, the team took 15 half-centimeter-wide core samples of The President to determine its growth rate, which they learned was stunted in the abnormally cold year of 1580 when temperatures in the Sierra hovered near freezing even in the summer and the trees remained dormant.

But that was an anomaly, Sillett said. The President adds about one cubic meter of wood a year during its short six-month growing season, making it one of the fastest-growing trees in the world. Its 2 billion leaves are thought to be the most of any tree on the planet, which would also make it one of the most efficient at transforming carbon dioxide into nourishing sugars during photosynthesis.

"We're not going to save the world with any one strategy, but part of the value of these great trees is this contribution and we're trying to get a handle on the math behind that," Sillett said.

After the equivalent of 32 working days dangling from ropes in The President, Sillett's team is closer to having a mathematical equation to determine its carbon conversion potential, as it has done with some less famous coastal redwoods. The team has analyzed a representative sample that can be used to model the capacity of the state's signature trees.

More immediately, however, the new measurements could lead to a changing of the guard in the land of giant sequoias. The park would have to update signs and brochures - and someone is going to have to correct the Wikipedia entry for "List of largest giant sequoias," which still has The President at No. 3.

Now at 93 feet in circumference and with 45,000 cubic feet of trunk volume and another 9,000 cubic feet in its branches, the tree named for President Warren G. Harding is about 15 percent larger than Grant, also known as America's Christmas Tree. Sliced into one-foot by one-foot cubes, The President would cover a football field.

Giant sequoias grow so big and for so long because their wood is resistant to the pests and disease that dwarf the lifespan of other trees, and their thick bark makes them impervious to fast-moving fire.

It's that resiliency that makes sequoias and their taller coastal redwood cousin worthy of intensive protections and even candidates for cultivation to pull carbon from an increasingly warming atmosphere, Sillett said. Unlike white firs, which easily die and decay to send decomposing carbon back into the air, rot-resistant redwoods stay solid for hundreds of years after they fall.

Though sequoias are native to California, early settlers traveled with seedlings back to the British Isles and New Zealand, where a 15-foot diameter sequoia that is the world's biggest planted tree took root in 1850. Part of Sillett's studies involves modeling the potential growth rate of cultivated sequoia forests to determine over time how much carbon sequestering might increase.

All of that led him to a spot 7,000 feet high in the Sierra and to The President, which he calls "the ultimate example of a giant sequoia." Compared to the other giants whose silhouettes are bedraggled by lightning strikes, The President's crown is large with burly branches that are themselves as large as tree trunks.

The world's biggest tree is still the nearby General Sherman with about 2,000 cubic feet more volume than the President, but to Sillett it's not a contest.

"They're all superlative in their own way," Sillett said.

Questions:

1. The word "supplanted" in paragraph 1
A) inquisitive
B) Has a double-meaning both as a pun on the topic of plants and a literal meaning of "to replace"
C) Is a synonym for "to plant again"
D) Has the same meaning as "to plant," with extra emphasis

2. One common myth about trees that The President helps disprove is
A) That giant sequoias are more resilient than other tree species
B) That old trees are as productive at photosynthesis as younger ones
C) That only giant sequoias may be named after historical figures
D) That large trees grow more slowly as they age

3. What is the primary benefit that Sillett and other researchers suggest that giant sequoias may have?
A) Their natural beauty can have health benefits for those who travel to wildlife preserves to see them
B) They represent centuries of natural history that no other living things do
C) Because of their size, they can process more carbon dioxide than other trees, which can have significant benefits for the atmosphere

D) Their resilient bark may have eventual uses in human medicine.

4. The giant sequoias are compared to white firs to demonstrate that?
A) Even when the sequoias fall, they do not decay and so send less carbon into the air
B) White firs are more plentiful because they grow and decay more quickly than sequoias
C) The giant sequoias are completely resistant to death
D) White firs are essential because when they decompose they emit necessary nutrients

5. The President has grown every year EXCEPT
A) 1850
B) 2012
C) 1580
D) The President has grown every year of its life

6. All of the following contribute to the lifespan of the giant sequoia EXCEPT
A) They are resistant to diseases that can affect other tree species
B) Their size makes them less vulnerable to animal attacks
C) They are resistant to pests that commonly inhabit trees
D) Their thick bark protects them from wildfires.

7. The term "changing of the guard" in Paragraph 10 means
A) The size rankings of various large sequoias is being reevaluated
B) Human security will be employed to protect these valuable trees
C) Wildlife parks will bring in new equipment to ensure the safety of the trees
D) A new schedule of shifts will be made for studying the trees

8. What does the term "cultivated sequoia forests" in Paragraph 14 imply?
A) Current sequoia reserves will be altered to grow in particular patterns
B) That sequoias may be specially grown in the future for the sole purpose of filtering carbon from the air
C) New forests may be grown globally to promote the beauty of the species
D) Wildlife parks will make more of an effort in the future to direct visitors to the sequoia forests

9. Giant sequoias are native to California, but can also be found in

A) New Zealand
B) France
C) South America
D) Australia

10. In the final sentence, the word "superlative" is closest in meaning to
A) Best of a species
B) Most beautiful
C) The winner of a contest
D) Having individual, unique merit

SET 2

"The evolution of the banana, star of the Western fruit bowl" By Rosie Mestel
Source
Did you hear? The genome of the banana has been sequenced, an important development in scientist's efforts to produce better bananas.

A look at that genome has revealed curious things, said Pat Heslop-Harrison, a plant geneticist at the University of Leicester in England who was a coauthor of the report published this week in the journal Nature.

For example, there are regions of the banana genome that don't seem to be involved in making proteins but are shared by many different species of plants, far beyond bananas. What, he wonders, are they doing?

There are remnants of bits of banana streak virus spliced into the banana genome (too broken-up to cause disease, however).

There are whole sets of DNA repeats that plants normally have but bananas do not. And, intriguingly, three times since this genus of giant herbs took an evolutionary turn away from its relatives -- the grasses -- it has duplicated its entire set of chromosomes.

Two of the doublings took place at the Cretaceous-Tertiary boundary 65 million years ago, back when the dinosaurs and lots of other species went extinct, Heslop-Harrison noted.

Duplications like this are known to have happened in other plant groups at this same time but haven't occurred since, Heslop-Harrison said. Scientists don't know why, but they believe having extra copies of genes may have imparted some stability to plants during a time of rapid climate change after an asteroid hit Earth.

Having more than one gene of each type means that if one gene of a set loses function, the plant still has another one that works. And there's more room for adaptability to new circumstances, because one gene could be altered and co-opted for new purposes and there would still be the other one left to perform the original job.

"Perhaps it's the reason [bananas have] done so well in the subsequent millions of years," Heslop-Harrison said. "One can ask, will changes occurring in the world's climate now mean there's going to be a whole set of new genome duplications that will enable plants to survive? We don't know that, but it's interesting to consider."

The banana genome sequenced by the French scientists was from the Pahang, a wild Malaysian banana of the species Musa acuminata. It's a key species in the complicated evolution of the bananas and plantains people eat around the world, including the Cavendish banana that we buy at the supermarket.

The sterile Cavendish is a so-called triploid: It has three sets of chromosomes instead of the normal two. One of those genomes came from Pahang. The others came from other subspecies of Musa acuminata.

The changes occurred stepwise, and went something like this:

- Thousands of years ago, two wild banana species from different parts of the islands of Southeast Asia were brought into the same range by people. They formed hybrids. A bit like mules, the hybrids were vigorous but fairly sterile.

- The hybrids were kept going without sex through propagation of their shoots.
- At some point, the hybrids developed the ability to set fruit without being fertilized.
- Then (for most bananas, including the Cavendish) came another chance event that caused the hybrids to end up with three sets of chromosomes. Every now and again, the few viable eggs and pollen that they made would mistakenly contain two sets of chromosomes instead of just one.

When a double-chromosome pollen combined with a single-chromosome egg (or vice versa), the result was a hopelessly sterile plant with even more vigorous fruit.

Events like this happened more than once and sometimes included other types of ancestral banana species.

Some scientists, in fact, have made a whole study of banana domestication and movement around the world. They've pieced the story together using quite different strands of information, including the genomes of wild and cultivated bananas, the microscopic relics of banana leaf material found at archaeological sites, and even the word for "banana" in different languages.

1. In paragraph 2, the word "curious" is closest in meaning to
A) inquisitive
B) peculiar
C) nosy
D) intricate

2. What does paragraph 5 suggest about bananas?
A)The banana genus may not yet be classifiable into a traditional category
B)Bananas are actually a species of grass
C)Bananas may now be categorized as "herbs" in supermarkets
D)Because banana chromosomes duplicate themselves, they have better potential for successful cloning

3. Why does the author use "intriguingly" to describe the phenomenon in paragraph 5?
A) To imply that bananas are far more interesting than other fruits
B) To make readers doubt the claims scientists are making about bananas
C) To suggest that duplication of chromosomes is a rare and interesting occurrence in the plant world
D) To encourage questions about whether bananas are grasses or herbs

4. Why is the observation in paragraph 6 important?
A) It suggests that the banana mutated its genetic structure for survival
B) It shows that bananas can be traced as far back as dinosaurs
C) It suggests that bananas were fatal to dinosaurs and other species
D) It proves that bananas are immune to atmospheric changes

5. The word "co-opted" in paragraph 8 is closest in meaning to
A) decided upon together
B) argued against
C) removed from the study
D) adopted

6.The quote in paragraph 9 most closely suggests
A) Bananas may be an example of ways that species might alter their genetics to survive changes in the earth's climate and atmosphere
B) That the genetic mutations of bananas have no implications for other species
C) That genetic structure is the only factor that should be considered when predicting survival
D) Though bananas have made it this far, there is no proof that they will survive the next wave of significant atmospheric changes.

7. According to the article, all are steps in the evolution of the banana EXCEPT
A) Some banana hybrids began to develop three sets of chromosomes
B) The merging of two different banana species
C) Bananas reproduced widely and easily through fertilization
D) Bananas developed the ability to develop fruit without fertilization

8.The word "chance" in paragraph 16 is closest in meaning to
A) random

B) gamble
C) risky
D)opportune

9. All are variations of banana mentioned in the article EXCEPT
A) the Cavendish
B) Dolus mundi
C) Musa acuminata
D) plantains

10. The word "domestication" in the final paragraph is closest in meaning to>
A) housebroken
B) well-controlled
C) adapted for human consumption
D) accepted within the culture

SET 3

Question 21

Technology is rapidly expanding the scope of capabilities for both professional and personal use; such is the case with smart phones. Professionals now have devices available to them capable of digital media, internet access, phone communication, multi-person scheduling and office tools for documents and presentations. Businesspeople that are often mobile may maximize the use of these critical features on smart phones. Individuals who simply enjoy the luxury of multi-function devices often use these devices for frivolous pursuits such as downloading catchy ring tones, instant messaging about the latest gossip and looking up the world record for most cans crushed on one's head during the Superbowl. This fusion of capabilities and increased availability of such devices could be a sign of a growing blend in society between work and personal life, or individuals could simply be taking a luxurious approach to their connectivity in personal lives.

The term "frivolous" implies that the author

A is fascinated by the endless capabilities on smart phones.

B hopes that technology ceases to expand its scope.

C believes that the average individual does not need a smartphone.

D has a smartphone.

E wants to see more developments added to smart phone technology.

Question 22

Greek mythology is a vehicle that uses mythological characters and creatures to teach people about the dangers, beauties and possible outcomes of life. In many myths, characters face moral dilemmas involving honor and practicality. The protagonists of epics face creatures that represent values and challenges such as respect, temptation and redemption. How has Greek mythology inevitably evolved with time and new story tellers? Scholars that have interpreted Greek mythology seek to maintain the universal values conveyed in these stories, while ensuring the validity of adapting these stories to their own distinct cultures. It is up to each reader to seek their own truths and learn from epic Greek mythology as best they can.

According to the author's description, which of the following is most likely to be a message from Greek mythology?

A Love is difficult, but it will last if the lovers are meant to be together.

B Resisting temptation and immediate gratification will lead to ultimate success.

C It is important to keep track of your personal history.

D Passing down Greek mythology has taken on a new form since oral records faded.

E It is not the fastest, but the longest lasting that wins the race.

Question 23

Please take a moment to complete this quiz.

The Bill & Melinda Gates Foundation has a clear ___ mission to assist less fortunate people suffering from health and education problems.

philanthropic

miserly

lucrative

financial

iniquitous

Question 24

Cities across the world are essentially blends of smaller cultural environments that lead people to have vastly different experiences. Each city typically contains a broad spectrum of dining establishments along with various art institutions like museums and theatres. Yet with all these blends of dining, art and night lives, what is the one characteristic that can distinguish a city? History. The undeniably unique history of each city provides rich traditions and a bond between the local people that overshadows any other city's mélange of dining and art institutions.

In context, which word most closely defines mélange?

A frivolous

B tradition

C assortment

D opportunity

E brochure

Question 25

The following passage is from a discussion of various ways that living creatures have been classified over the years.

	The world can be classified in different ways,
	depending on one's interests and principles of clas-
	sification. The classifications (also known as

Line	taxonomies) in turn determine which comparisons
5	seem natural or unnatural, which literal or analog-
	ical. For example, it has been common to classify
	living creatures into three distinct groups—plants,
	animals, and humans. According to this classifica-
	tion, human beings are not a special kind of
10	animal, nor animals a special kind of plant. Thus
	any comparisons between the three groups are
	strictly analogical. Reasoning from inheritance in
	garden peas to inheritance in fruit flies, and from
	these two species to inheritance in human beings,
15	is sheer poetic metaphor.

	Another mode of classifying living creatures is
	commonly attributed to Aristotle. Instead of treat-
	ing plants, animals, and humans as distinct
	groups, they are nested. All living creatures
20	possess a vegetative soul that enables them to
	grow and metabolize. Of these, some also have a
	sensory soul that enables them to sense their envi-
	ronments and move. One species also has a
	rational soul that is capable of true understanding.
25	Thus, human beings are a special sort of animal,
	and animals are a special sort of plant. Given this
	classification, reasoning from human beings to all
	other species with respect to the attributes of the

	vegetative soul is legitimate, reasoning from
30	human beings to other animals with respect to the
	attributes of the sensory soul is also legitimate,
	but reasoning from the rational characteristics of
	the human species to any other species is merely
	analogical. According to both classifications, the
35	human species is unique. In the first, it has a king-
	dom all to itself; in the second, it stands at the
	pinnacle of the taxonomic hierarchy.

	Homo sapiens is unique. All species are. But
	this sort of uniqueness is not enough for many
40	(probably most) people, philosophers included. For
	some reason, it is very important that the species
	to which we belong be uniquely unique. It is of
	utmost importance that the human species be
	insulated from all other species with respect to
45	how we explain certain qualities. Human beings
	clearly are capable of developing and learning
	languages. For some reason, it is very important
	that the waggle dance performed by bees * not
	count as a genuine language. I have never been
50	able to understand why. I happen to think that the
	waggle dance differs from human languages to
	such a degree that little is gained by terming them
	both "languages," but even if "language" is so

	defined that the waggle dance slips in, bees still
55	remain bees. It is equally important to some that
	no other species use tools. No matter how inge-
	nious other species get in the manipulation of
	objects in their environment, it is absolutely
	Essentially, nothing they do count as "tool use."
60	I, however, fail to see what difference it makes
	whether any of these devices such as probes and
	anvils, etc. are really tools. All the species
	involved remain distinct biological species no
	matter what decisions are made. Similar observa-
65	tions hold for rationality and anything a computer
	might do.

According to the author, what is most responsible for influencing our perception of a comparison between species?

A The behavior of the organisms in their natural environment

B The organizational scheme imposed on the living world by researchers and philosophers

C The style of language used by scientists in presenting their research

D The sophistication of the communication between organisms

E The magnitude of hierarchical distance between a species and Homo sapiens

Question 26

Which of the following is NOT possible within an Aristotelian classification scheme?

Two species that are alike in having sensory souls but differ in that one lacks a rational soul

Two species that are alike in having vegetative souls but differ in that only one has a sensory soul

A species having a vegetative soul while lacking sensory and rational souls

A species having vegetative and rational souls while lacking a sensory soul

A species having vegetative and sensory souls while lacking a rational soul

Question 27

Which of the following comparisons would be "legitimate" for all living organisms according to the Aristotelian scheme described in paragraph two?

I. Comparisons based on the vegetative soul

II. Comparisons based on the sensory soul

III. Comparisons based on the rational soul

A I only

B II only

C III only

D II and III only

E I, II, and III

Question 28

If the author had wished to explain why "most" people (line 40) feel the way they do, the explanation would have probably focused on the

reality of distinct biological species

most recent advances in biological research

behavioral similarities between Homo sapiens and other species

role of language in the development of technology

lack of objectivity in the classification of Homo sapiens

Question 29

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Question 30

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C behavioral similarities between Homo sapiens and other species

D role of language in the development of technology

E lack of objectivity in the classification of Homo sapiens