

1. - 20. sorularda, cümlede boş bırakılan yerlere uygun düşen sözcük veya ifadeyi bulunuz.

1. An ecosystem is the sum of interactions between plants, animals and microorganisms and also between non-living physical and chemical ---- in a particular natural environment.

A) applications B) exposures
C) observations D) components
E) demonstrations

2. Scientists have been using data gathered from manned flights for decades and more recently, Earth-oriented satellites have become the dominant method in the ---- of aerial data.

A) absence B) accumulation
C) tendency D) stimulus
E) property

3. Artificial intelligence promises certain advantages, but when it comes to its impact on ---- productivity, there are still doubts about how effective it will be.

A) previous B) punctual
C) inspirational D) hazardous
E) overall

4. Rogue planets are elusive cosmic objects that have masses comparable to those of the planets in our Solar System but do not orbit a star, instead roam ---- on their own.

A) independently B) compellingly
C) absolutely D) urgently
E) extremely

5. Microgravity, by conferring a number of very special properties to biological tissues, has the potential to ---- significantly in terms of life-saving advances on Earth as it facilitates the rapid mass production of stem cells.

A) deteriorate B) contribute
C) correspond D) manufacture
E) differentiate

6. The supply chain for vehicles that ---- combustion engines is just so dirty that electric vehicles cannot surpass them, even when indirect emissions are factored in.

A) run on B) wear out
C) take off D) put off
E) break down

7. When hurricanes strike a region, ---- out the vegetation, it ---- three to four years for the vegetation to recover.

A) to wipe / will take
B) having wiped / took
C) wiping / takes
D) being wiped / has taken
E) wiped / had taken

8. Historically, the amount of dichloromethane ---- small enough to not overly worry researchers studying ozone layer recovery, however, the recent rise ---- more carefully in the future.

A) would be / could have been watched
B) is / can be watched
C) was / might have been watched
D) had been / had better be watched
E) has been / should be watched

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

9. Researchers can reveal details ---- the conditions some materials were exposed to during the Solar System's early years ---- studying a meteorite's chemistry and mineralogy.

- A) around / below B) upon / into
C) of / throughout D) about / by
E) across / without

10. Honey has been shown to have many health benefits ---- people both when eaten and when applied ---- the skin.

- A) through / by B) on / with
C) from / beneath D) for / to
E) over / beyond

11. Solar particles, released ---- the Sun, can disrupt satellites and electronic infrastructure as well as pose a radiation risk ---- astronauts and people in aeroplanes.

- A) about / for B) into / on
C) within / among D) against / over
E) from / to

12. ---- human-produced emissions of CO₂ from burning fossil fuels and other activities enter the atmosphere, most of it is immediately taken up by plants and some is absorbed into the ocean.

- A) Although B) Once
C) Just as D) Unless
E) Whether

13. ---- so many major cities are at or near sea level all across the world, the melting of Antarctica due to fossil fuels burned would put more than a billion people at risk.

- A) Because B) As soon as
C) While D) Unless
E) Even though

14. Currently, the memory resistor is the most developed technology that can perform combined processing and memory function, ---- they suffer from energy-costly switching and less biocompatibility.

- A) therefore B) to illustrate
C) yet D) also
E) rather

15. ---- electron precipitation is responsible for the spectacular dancing waves of light around the polar regions, it also causes local ozone layer depletion and has a certain impact on our climate.

- A) When B) Although
C) Whether D) Providing
E) Now that

16. Humanity needs to reduce 'business-as-usual' emissions of carbon dioxide; ----, the impact of climate change on world's life zones will be catastrophic.

- A) rather B) in addition
C) on the contrary D) similarly
E) otherwise

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

17. Any material that the industry extracts from underground ---- what is needed for manufacturing is worse than wasted because of the damage it does to the environment.

- A) in excess of B) in pursuit of
C) at the expense of D) on behalf of
E) in response to

18. Unlike previously believed, carbon, water and nitrogen arrived as Earth was growing and becoming a planet, ---- being delivered by meteorites after the collision that formed the moon.

- A) despite B) in the event of
C) other than D) rather than
E) along with

19. Animals in the Goldilocks zone, ---- too big, ---- too small, but just the right size, face a lower risk of extinction than those in other regions in the world.

- A) both / and B) so / that
C) neither / nor D) as / as
E) whether / or

20. Comets go through a colourful metamorphosis as they cross the sky, with many comets' heads turning a radiant green colour ---- gets brighter as they approach the Sun.

- A) when B) whose
C) whom D) that
E) where

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

21.- 25. sorularda, aşağıdaki parçada numaralanmış yerlere uygun düşen sözcük veya ifadeyi bulunuz.

The way people interact safely with robots is at the forefront of today's research related to automation and manufacturing. It is incredibly important for robots in manufacturing (21) ---- their tasks in the safest and most efficient method possible. In order to make these automated machines as smart as possible, engineers are developing systems that perceive their environments and carry out tasks in a similar manner as their human partners. For this, researchers are (22) ---- artificial intelligence to help guide the machines. However, the process is not as straightforward as it seems. Robots do not think or feel; (23) ---- they need systems that capture and analyze their environment enabling them to respond. Often those responses need to be (24) ---- hundredths of a second to ensure the safety of humans. Traditionally, industrial robots have been programmed to operate at high speeds and perform tasks such as painting and assembly (25) ---- social robots that are built to assist people in service industries. These are typically mobile, lightweight and programmed to work in a variety of environments.

21.

- A) to perform
- B) performing
- C) to be performed
- D) having performed
- E) being performed

22.

- A) eradicating
- B) utilizing
- C) delaying
- D) dividing
- E) concealing

23.

- A) nevertheless
- B) otherwise
- C) therefore
- D) or else
- E) namely

24.

- A) in
- B) on
- C) out
- D) by
- E) at

25.

- A) for the sake of
- B) in place of
- C) owing to
- D) unlike
- E) as well as

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

26. - 30. sorularda, aşağıdaki parçada numaralanmış yerlere uygun düşen sözcük veya ifadeyi bulunuz.

In contrast to common perceptions, plastic is in no way near one material. (26) ----, it is a combination of many materials with different chemical compounds and additives such as pigments or fibres, depending on its use. It is very difficult to tell the difference between different types of plastics, and this is what makes it difficult to separate and recycle them. Plastic (27) ---- at least 96% pure by polymer type to be recycled in conventional industry. This means that the plastic has to be separated to an almost pure product (28) ---- chemical composition. Current methods can separate certain plastic fractions, but not all of them. Recently, however, a new technology has been developed to see the difference between 12 different types of plastics (29) ---- a camera. Together, these all constitute the vast majority of household plastic types. Technology now makes it easier to separate plastics based on a purer chemical composition than is possible today, and this (30) ---- entirely new opportunities for plastics recycling.

26.

- | | |
|----------------|-----------------|
| A) In fact | B) Consequently |
| C) Furthermore | D) Accordingly |
| E) Otherwise | |

27.

- A) should have been
B) may be
C) must be
D) used to be
E) would have been

28.

- A) but for
B) thanks to
C) in case of
D) except for
E) in terms of

29.

- | | |
|------------|-----------|
| A) over | B) across |
| C) without | D) among |
| E) through | |

30.

- A) participates
B) prioritizes
C) affords
D) distinguishes
E) implements

31. - 41. sorularda, verilen cümleyi uygun şekilde tamamlayan ifadeyi bulunuz.

31. ----, they can cause severe and fatal injuries to pedestrians and motorists when a vehicle smashes into them.

- A) Even when manufacturers are unwilling to fabricate components of energy-absorbing traffic light poles
- B) Though traffic light poles leave councils with a significant bill to repair and replace them
- C) Now that traffic light poles using materials that absorb the impact will not crumple if hit
- D) As traffic light poles that absorb kinetic energy will prevent thousands of fatalities and injuries
- E) Since existing traffic light poles are made of materials that are rigid steel and hollow

32. Although nuclear power plants do not emit harmful greenhouse gases, ----.

- A) they offer a more sustainable energy source than other alternatives
- B) utilizing nuclear materials to provide them with fuel remains a serious issue
- C) they are often seen as a solution for mitigating climate change
- D) these plants currently account for 11% of global electricity generation
- E) large power-generating capacity and low operating costs can be achieved

33. ---- even after logging activities have caused significant damage to them.

- A) Cutting down trees cause major changes to local climates within tropical forests
- B) Logged forests on islands are thermally more vulnerable compared to nearby pristine forests
- C) Logging removes a large amount of timber and can be extremely disruptive to rainforest habitats
- D) Tropical rainforests continue to shield wildlife from extreme temperatures through remaining plant life
- E) Many tropical species are particular about the temperatures they prefer

34. Because biochemical reactions are slower in human cells, ----.

- A) body pattern formation of embryos progresses more gradually in humans than in animals
- B) the development of human and animal embryos bears a striking resemblance
- C) the difference between the human and animal cells is yet to be understood
- D) some processes are governed by a biochemical process known as the segmentation clock
- E) they provide energy for vital processes and for creating new organic material

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35. Though we have known for several years that the adult brain can produce new neurons, ----.

- A) new neurons produced in adults react preferentially to reward-related sensory stimuli
- B) some brain regions in mammals are capable of constantly regenerating their neurons in adulthood
- C) the neurons generated shortly after birth are unable to perform the same function
- D) questions about the properties of them were left unanswered until recently
- E) assigning positive values to sensory experiences is closely based on the activity of adult-born neurons

36. ----, even critically endangered species such as the Siberian Tiger can be saved.

- A) Whenever a species requires conservation efforts to raise the numbers above critical levels
- B) As long as conservation efforts can target key threats, especially those caused by human activities
- C) Although populations usually show rapid declines as a result of human activities
- D) Since a huge population size is no guarantee against extinction
- E) As there is a lot of work to do to overcome the effects of poaching, prey loss and habitat destruction

37. ----, urbanisation is causing many mammal species to grow both bigger and longer.

- A) Though animals in warmer climates are smaller than the same species in colder environments
- B) Because readily available food in places packed with people is within easier reach
- C) Just as animals in cities should be getting smaller because of heat island effects at least in theory
- D) Even if city-dwelling mammals are both longer and larger than their rural counterparts
- E) When we think about what is going to happen to mammalian body size over the next 100 years

38. ----, generally, our understanding of them is worse the further we go back in time.

- A) Given that data on past drought conditions are often insufficient or at best partial
- B) If samples come from archaeological remains, sub-fossil materials or historical constructions
- C) Whereas recent summer droughts are far more severe than anything in the past 2,100 years
- D) Though droughts and heatwaves have devastating ecological consequences
- E) As long as we need precise records of droughts to compare current and previous extremes

39. Coral reefs protect coastlines from damage caused by waves and provide habitat and shelter for many marine organisms, ----.

- A) moreover, acidification hampers the ability of the coral to form skeletons and shells, which are the building blocks of reefs
- B) yet, the reasons why some are more tolerant than others are not clearly understood
- C) indeed, corals have a highly diverse response to environmental threats depending on the species
- D) in other words, scientists identify marine species resilient to ocean changes to better understand how to protect coral reefs in the future
- E) however, major environmental challenges such as climate change, threaten the survival of coral reefs worldwide

AKIN

AKIN

AKIN

AKIN

40. Chemicals that could have an adverse effect on hormones are found abundantly in beauty products, ----.

- A) still, chemicals are widely used in cosmetic an personal care products and cause changes to reproductive hormones
- B) therefore, understanding chemicals that influence hormone levels is important, particularly for women's health
- C) or else, certain chemical and UV filters may be claimed to be associated with decreased reproductive hormones
- D) as long as women are careful about the chemicals in the beauty and personal care products that they use on a regular basis
- E) that is to say, a multi-chemical approach more closely reflects real-world environmental exposures and better shows exposure to chemicals

41. Although nature-inspired robots can be rendered nearly useless by something as simple as tipping over, ----.

- A) some animals have unique mechanisms that enable them to cope with difficulties, and these can be used by robotics engineers
- B) scientists try to learn concepts from nature and apply them to the design of real-world engineered systems
- C) mechanical engineers and entomologists look to nature to improve the designs of robots
- D) engineers developing a self-righting robot observe movements of animals
- E) with intricately designed wheels and limbs, they perform many tasks that humans cannot or do not want to do

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

42.- 47. sorularda, verilen İngilizce cümleye anlamca en yakın Türkçe cümleyi bulunuz.

42. The research into human evolution is never in an unchangeable state motion since boundaries and timelines change as our understanding of what may have happened long ago keeps improving.

- A) Uzun zaman önce neler olmuş olabileceğine dair anlayışımız gelişmeye devam ettikçe sınırlar ve zaman çizelgeleri değişmekte, bu yüzden de insan evrimine dair araştırmalar asla sabit bir halde kalmamaktadır.
- B) Uzun zaman önce neler olmuş olabileceğine dair anlayışımız gelişmeye devam ettikçe sınırlar ve zaman çizelgeleri değiştiğinden, insan evrimine dair araştırmalar asla sabit bir halde değildir.
- C) İnsan evrimine dair araştırmaların asla sabit bir halde kalmaması, uzun zaman önce neler olmuş olabileceğine dair anlayışımızın gelişmeye devam etmesi ve sınırlar ile zaman çizelgelerinin değişmesinden kaynaklanmaktadır.
- D) İnsan evrimine dair yapılan araştırmalar asla sabit bir halde değildir çünkü uzun zaman önce neler olmuş olabileceğine dair anlayışımız gelişmeye devam etmekte ve sınırlar ile zaman çizelgeleri değişmektedir.
- E) Sınırlar ve zaman çizelgeleri değişip uzun zaman önce neler olmuş olabileceğine dair anlayışımız gelişmeye devam ettiği için, insan evrimine dair araştırmalar asla sabit bir halde kalmamaktadır.

43. There is a huge and disproportionate decrease in safe work hours associated with heat exposure for people in deforested locations compared to people in forested locations due to local temperature increase.

- A) Yerel sıcaklık artışı nedeniyle ormanlık yerlerdeki insanlara kıyasla ısıya maruz kalma ile ilişkili olarak, ormansız yerlerde yaşayan insanların, güvenli çalışma saatlerinde çok büyük ve orantısız bir azalma yaşanmaktadır.
- B) Ormansız yerlerdeki insanlar açısından, yerel sıcaklık artışı nedeniyle ormanlık yerlerdeki insanlara kıyasla ısıya maruz kalma ile ilişkili güvenli çalışma saatlerinde çok büyük ve orantısız bir azalma vardır.
- C) Ormanlık yerlerdeki insanlara kıyasla ormansız yerlerdeki insanların ısıya maruz kalma ile ilişkili güvenli çalışma saatlerinde çok büyük ve orantısız bir azalma olması yerel sıcaklık artışı nedeniyledir.
- D) Isıya maruz kalma ile ilişkili güvenli çalışma saatleri açısından, ormansız yerlerdeki insanlar ile ormanlık yerlerdeki insanlar arasında yerel sıcaklık artışı nedeniyle çok büyük ve orantısız bir fark bulunmaktadır.
- E) Ormansız yerlerdeki insanlar güvenli çalışma saatlerinde çok büyük ve orantısız bir azalma yaşamaktadır çünkü ormanlık yerlerdeki insanlara kıyasla yerel sıcaklık artışı nedeniyle ısıya maruz kalma süreleri artmaktadır.

44. Though one of the wonders of the modern digital world, technology needs adult supervision just like a toddler as it increasingly makes decisions for us on its own.

- A) Modern dijital dünyanın harikalarından biri olmasına rağmen, bizim için giderek daha fazla kendi başına kararlar aldığı için tıpkı yürümeye başlayan bir çocuk gibi teknolojinin de yetişkin gözetimine ihtiyacı vardır.
- B) Yürümeye başlayan bir çocuğa benzeyen teknolojinin, modern dijital dünyanın harikalarından biri olsa da, bizim için giderek daha fazla kendi başına kararlar alması nedeniyle yetişkin gözetimine ihtiyacı vardır.
- C) Bizim için giderek daha fazla kendi başına kararlar aldığı için tıpkı yürümeye başlayan bir çocuk gibi davranan teknolojinin, modern dijital dünyanın harikalarından biri olmasına rağmen, yetişkin gözetimine ihtiyacı vardır.
- D) Teknoloji ve yürümeye başlayan bir çocuğun benzerliği, birer harika olmakla beraber, giderek daha fazla kendi başına kararlar aldıkları için yetişkin gözetimine ihtiyaç duymalarından kaynaklıdır.
- E) Teknoloji modern dijital dünyanın harikalarından biridir, ancak bizim için giderek daha fazla kendi başına kararlar aldığı için tıpkı yürümeye başlayan bir çocuk gibi yetişkin gözetimine ihtiyaç duymaktadır.

45. The enormous thermal energy emanating from the Earth's interior set dynamic processes in motion, such as mantle convection, plate tectonics and volcanism, even if our planet's surface cooled and formed a brittle crust over millions of years.

- A) Gezegenimizin yüzeyi milyonlarca yıl boyunca soğumuş ve kırılğan bir kabuk oluşturmuş olsa da, Dünya'nın iç kısmından muazzam termal bir enerji yayılmış, bu da manto konveksiyonu, levha tektoniği ve volkanizma gibi dinamik süreçleri harekete geçirmiştir.
- B) Manto konveksiyonu, levha tektoniği ve volkanizma gibi dinamik süreçleri harekete geçirir bile, Dünya'nın iç kısmından yayılan muazzam termal enerji gezegenimizin yüzeyinin milyonlarca yıl boyunca soğumuş ve kırılğan bir kabuk oluşturmuş olmasının doğal bir sonucudur.
- C) Gezegenimizin yüzeyi milyonlarca yıl boyunca soğumuş ve kırılğan bir kabuk oluşturmaya rağmen, Dünya'nın iç kısmından yayılan muazzam termal enerji, manto konveksiyonu, levha tektoniği ve volkanizma gibi dinamik süreçleri harekete geçirmiştir.
- D) Gezegenimizin yüzeyinin milyonlarca yıl boyunca soğuması ve kırılğan bir kabuk oluşturmaya, Dünya'nın iç kısmından yayılan muazzam termal enerjiye rağmen, manto konveksiyonu, levha tektoniği ve volkanizma gibi dinamik süreçler gerçekleştirmesinin bir sonucudur.
- E) Dünya'nın iç kısmından yayılan muazzam termal enerji, manto konveksiyonu, levha tektoniği ve volkanizma gibi dinamik süreçleri harekete geçirmiş, fakat aynı zamanda Gezegenimizin yüzeyinin milyonlarca yıl boyunca soğumasını ve kırılğan bir kabuk oluşturmaya da sağlamıştır.

46. It gives rise to worries concerning bias that researchers from high-income countries located in the developed world contribute to 97 percent of fossil data, and thus controlling the palaeontological research power.

- A) Gelişmiş dünyadaki yüksek gelirli ülkelerden araştırmacılar fosil verilerinin yüzde 97'sine katkıda bulunmakta ve böylece paleontolojik araştırma gücünü kontrol etmektedirki bu da yanlışlık endişelerine yol açmaktadır.
- B) Paleontolojik araştırma gücünü kontrol eden ve bunun sonucunda yanlışlık endişelerine yol açanlar gelişmiş dünyadaki yüksek gelirli ülkelerden fosil verilerinin yüzde 97'sine katkıda bulunan araştırmacılarıdır.
- C) Yanlışlık endişelerine yol açan başlıca şey fosil verilerinin yüzde 97'sine katkıda bulunan ve paleontolojik araştırma gücünü kontrol eden araştırmacıların gelişmiş dünyadaki yüksek gelirli ülkelerden olmasıdır.
- D) Gelişmiş dünyada yer alan yüksek gelirli ülkelerden araştırmacıların fosil verilerinin yüzde 97'sine katkıda bulunması ve böylece paleontolojik araştırma gücünü kontrol etmesi, önyargıya ilişkin endişelere yol açmaktadır.
- E) Gelişmiş dünyadaki yüksek gelire sahip ülkelerin araştırmacıları, fosil verilerinin yüzde 97'sine katkıda bulunarak paleontolojik araştırma gücünü kontrol etmekte ve bu da yanlışlık endişelerini artırmaktadır.

47. Agriculture is at the basis of sustainability, yet the definition of sustainable agriculture and the ability to measure it have been difficult to quantify as it means different things for different people.

- A) Tarım, sürdürülebilirliğin temelinde yer almaktadır, ancak sürdürülebilir tarımın tanımı ve onu ölçebilme yeteneği, farklı insanlar için farklı anlamlar ifade ettiğinden sayısal olarak ifade etmek zor olmuştur.
- B) Sürdürülebilirliğin temelinde olsa da, sürdürülebilir tarımın tanımı ve onu ölçme yeteneği, farklı insanlar için farklı anlamlar ifade ettiğinden, tarımın niceliği ölçülememektedir.
- C) Tarım niceliğini ölçmek zordur çünkü sürdürülebilirliğin temelinde olmasına rağmen, sürdürülebilir tarımın tanımı ve onu ölçme yeteneği, farklı insanlar için farklı anlamlar ifade eder.
- D) Tarım, sürdürülebilirliğin temelinde yer alır ancak sürdürülebilir tarımın tanımı ve onu ölçme yeteneği, farklı insanlar için farklı anlamlar ifade ettiğinden, niceliğini ölçmek zorlaşmıştır.
- E) Sürdürülebilirliğin temelinde olan tarımın niceliğini ölçmenin zor olması, sürdürülebilir tarımın tanımının ve onu ölçme yeteneğinin, farklı insanlar için farklı anlamlar ifade etmesi nedeniyledir.

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48. - 53. sorularda, verilen Türkçe cümleye anlamca en yakın İngilizce cümleyi bulunuz.

48. Genetiği değiştirilmiş yiyecekler, gen teknolojisi olarak bilinen geleneksel olmayan yetiştirme yöntemleri kullanarak genetik materyalleri değiştirilmiş organizmalardan elde edilir.

- A) Unconventional breeding methods, known as gene technology, are used to alter the genetic material of organisms from which genetically modified foods are derived.
- B) Genetically modified foods are derived from organisms by altering their genetic material thanks to the use of unconventional breeding methods known as gene technology.
- C) Genetically modified foods derived from organisms whose genetic material has been altered using unconventional breeding methods are known as gene technology.
- D) Known as gene technology, unconventional breeding methods are used to derive genetically modified foods from organisms whose genetic material has been altered.
- E) Genetically modified foods are derived from organisms whose genetic material has been altered using unconventional breeding methods known as gene technology.

49. Aristoteles'in "evren yasalarının" çoğu, basit gözlem ve mantıktan gelme eğilimindeydi, ancak bunlar, modern bilimsel yöntemin bu tür yasalar kabul edilmeden önce talep ettiği yeterli gerçekler veya dikkatli deneylerle her zaman desteklenmemişti.

- A) Aristotle put forward many "laws of the universe", which tended to come from simple observation and reason; however, they were not always backed by sufficient facts or careful experimentation that modern scientific method demands before such laws could be accepted.
- B) Many of Aristotle's "laws of the universe" tended to come from simple observation and reason, yet the modern scientific method demands that they should always be backed by sufficient facts or careful experimentation before such laws could be accepted.
- C) Many of Aristotle's "laws of the universe" tended to come from simple observation and reason, but they were not always backed by sufficient facts or careful experimentation that modern scientific method demands before such laws could be accepted.
- D) Many "laws of the universe" that Aristotle put forward tended to come from simple observation and reason, though they were not always backed by either sufficient facts or careful experimentation that the modern scientific method demands before such laws could be accepted.
- E) Many of Aristotle's "laws of the universe" that tended to come from simple observation and reason were not always backed by sufficient facts or careful experimentation which modern scientific method demands before such laws could be accepted.

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

50. Bilim insanlarının, küçük fayları yalnızca küçük depremler oluşturabilecek kapasitede ele almaktan ziyade, bu fayların bazen aynı depremde birleşebileceğini ve daha büyük depremler yaratabileceğini anlamaları gerekiyor.

- A) Scientists treat small faults as capable of only generating small earthquakes; however, they need to understand that these faults can sometimes create larger earthquakes by joining in the same earthquake.
- B) Scientists need to understand that small faults can sometimes join in the same earthquake and create larger earthquakes rather than treating them as capable of only generating small earthquakes.
- C) What scientists need to understand is that small faults are not only capable of creating small earthquakes; rather, these faults can sometimes join in the same earthquake and create larger earthquakes.
- D) Rather than treating small faults as capable of only generating small earthquakes, scientists need to understand that larger earthquakes are likely to occur due to these faults which join in the same earthquake.
- E) Scientists need to understand that sometimes small faults by joining in the same earthquake can create larger earthquakes rather than treating them as capable of only generating small earthquakes.

51. Araştırmacılar, hayvanların yaşadığı yerlerdeki havadaki örnekleri yakalayan ve filtreleyen vakum cihazları sayesinde canlılar tarafından bırakılan çevresel DNA'nın tanımlanabileceğini keşfetti.

- A) Researchers discovered that environmental DNA left by living creatures can be identified thanks to vacuum devices that capture and filter airborne samples in places inhabited by animals.
- B) Living creatures leave environmental DNA in places they inhabit, and researchers discovered that they can be identified thanks to vacuum devices that capture and filter airborne samples.
- C) Researchers identified environmental DNA left by living creatures by using vacuum devices that can capture and filter airborne samples in places inhabited by animals.
- D) Environmental DNA left by living creatures in places they inhabited has been identified by researchers thanks to vacuum devices that capture and filter airborne samples.
- E) Researchers discovered that they can identify environmental DNA left by living creatures in places they inhabit with the help of vacuum devices that capture and filter airborne samples.

52. Luis Alvarez, dinazorların kitlesel yok oluşuna bir asteroidin Dünya ile çarpışmasının neden olduğu teorisiyle ünlü olan Nobel Ödülü sahibi bir fizikçiydi.

- A) The Nobel Prize-winning physicist, famous for his theory that the mass extinction of dinosaurs was caused by an asteroid colliding with Earth, was Luis Alvarez.
- B) Luis Alvarez, who won the Nobel Prize, was a physicist famous for his theory that the mass extinction of dinosaurs was caused by an asteroid that collided with Earth.
- C) A Nobel Prize-winning physicist, Luis Alvarez, was famous for his theory that an asteroid colliding with Earth caused the mass extinction of dinosaurs.
- D) Luis Alvarez was a Nobel Prize-winning physicist famous for his theory that the mass extinction of dinosaurs was caused by an asteroid colliding with Earth.
- E) Luis Alvarez won the Nobel Prize thanks to his famous theory that the mass extinction of the dinosaurs was caused by a collision between an asteroid and Earth.

53. Antibiyotiğe dirençli bakterilerle mücadelede etkili olduğu kanıtlanmış olan bakırın anti-mikrobiyal özellikleri, bir yüzeyde bakteri varlığının tehlikeli enfeksiyonlara yol açabileceği durumlarda onu son derece faydalı kılar.

- A) Since the anti-microbial properties of copper have been proven to be effective in the fight against antibiotic-resistant bacteria, it is extremely useful in situations where the presence of bacteria on a surface can lead to dangerous infections.
- B) The anti-microbial properties of copper have been proven to be effective in the fight against antibiotic-resistant bacteria, which makes it extremely useful in situations where dangerous infections occur due to the presence of bacteria on a surface.
- C) It is the anti-microbial properties of copper, which have been proven to be effective in the fight against antibiotic-resistant bacteria, that make it extremely useful in situations where the presence of bacteria on a surface could lead to dangerous infections.
- D) The anti-microbial properties of copper, which have been proven to be effective in the fight against antibiotic-resistant bacteria, make it extremely useful in situations where the presence of bacteria on a surface could lead to dangerous infections.
- E) It has been proven that copper has anti-microbial properties that are effective in the fight against antibiotic-resistant bacteria, and thus it is extremely useful in situations where dangerous infections can be caused by the presence of bacteria on a surface.

54. - 59. sorularda, boş bırakılan yere, parçada anlam bütünlüğünü sağlamak için getirilebilecek cümleyi bulunuz.

54. Copernicus' theory that the planets move around the Sun in circular orbits removed a number of problems caused by Ptolemy's geocentric theory. One of the problems was that Ptolemy had wrongly placed Earth closer to Mercury than Venus. Copernicus' theory also enabled him to be the first person to establish the correct ordering of the solar system's planets. ---- He was correct that the planets orbit the Sun, but he was wrong in saying that they follow circular paths. This error led, like Ptolemy's system, to some awkward mathematical compromises.

- A) And so they started using Copernicus' methods where they found them helpful.
- B) Gradually, however, acceptance of his theory spread, and with it a scientific revolution.
- C) Unfortunately, his theory was not a perfect description of the movements of the planets.
- D) Also, the general feeling among astronomers was that this was the best theory for 1,300 years.
- E) On the other hand, he felt that it was best not to broadcast his unorthodox beliefs too widely.

55. Deep below the ice shelves of Antarctica, an abundance of new and unexpected lifeforms has been discovered. They may not be big or pretty, but we see that life can persist in one of the most obscure environments on Earth. Even the presence of these simple creatures raises some big questions. This is because most ecosystems start with sunlight, absorbed and converted into usable forms of energy via photosynthesis. ---- This discovery of so much life living in these extreme conditions is a complete surprise and reminds researchers how Antarctic marine life is so unique and special.

- A) Similarly, some other lifeforms were found beneath the ice shelves of Antarctica years ago.
- B) This little-known environment was accessed using a 200-meter-deep hole that was drilled back in 2018.
- C) Another finding that surprised the researchers was how long life had existed here.
- D) Thus, the answer lies in significant amounts of algae carried under the ice shelf from open water.
- E) However, the newly discovered lifeforms thrive beneath hundreds of meters of ice where no light can penetrate.

56. Even though bees like almost all types of flowers, they are particularly fond of the ones that come with a powerful fragrance. ---- Most bees tend to love flowers with a conical shape. This way, they can capture the nectar from the flower. They also tend to like red roses that appear individually. Usually, bees fly from rose to rose to suck in the nectar. When they land on the roses, their body hair taps in some excess pollen. When they move to another flower to suck in the nectar, the previously collected pollen is added to the new flower, paving the way for pollination.

- A) When bees roam near flowers, it is primarily because they want to capture the nectar.
- B) Other preferred factors include the form of the flower as well as some specific colour ranges.
- C) Even though bees love roses, they are not attracted by all species of roses.
- D) Some bees cannot identify the colour red, and thus they avoid it.
- E) When it comes to the pollination process, bees operate the same way as butterflies.

57. Have you ever had a great idea right before you fell asleep, only to forget it the next morning when you wake up? A new study says there is a reason for that. Researchers have discovered that humans experience a "creative sweet spot" in the moments right before we fall asleep. ---- This phase puts the mind in a transitional stage between sleep and wakefulness called hypnagogia. Thus, this might hold the key to helping us come up with good ideas.

- A) The researchers have based their experiment on a technique used by inventor Thomas Edison.
- B) Similarly, the researchers have presented the participants with a series of math problems to solve during their sleep.
- C) Now, for the first time, researchers have been able to trigger problem-solving sleep.
- D) It is known that people consolidate memories during sleep, strengthening and reorganising them.
- E) More specifically, it occurs during a sleep stage called the non-rapid-eye movement sleep stage.

58. The biggest challenge to human-scale interstellar travel is the enormous distance between Earth and the nearest stars. NASA's missions have proven that we can send objects across 19.3 billion km, but they can only exit the bubble surrounding our Solar System. But the large probes take 40 years to reach there, and their distance from Earth is only a tiny fraction of that to the next star. ----That challenge is a major focus of the study in which researchers reimagine the technology it would take to reach the next Solar System in human terms.

- A) If they were headed to the closest star, it would take them over 80,000 years to reach it.
- B) These miniaturised spacecraft are capable of robotic exploration.
- C) To push small objects at speeds approaching the speed of light seems possible in theory.
- D) As the program evolves, the spacecraft becomes larger with enhanced capability.
- E) Getting to that level of technology will require continuous innovation and improvement.

59. The environmental movement is not young. It first surfaced after the industrial revolution had taken place, which led to unrestrained amounts of coal burned in the big cities. During that time, growth and innovation were synonymous with pollution and chemical waste. ---- As a result, attempts to create awareness on environmental issues started in the US in the 1950s. Acts started being passed, and several organisations like the Nature Conservancy and the Sierra Club gained a foothold, followed by other organisations like Greenpeace, PETA and NDRC.

- A) People moved from the countryside into fast-growing cities to work in factories filled with machinery.
- B) The Industrial Revolution was a period of enormous change in the west.
- C) As technology advanced, people realised that this brought with it a price paid by nature.
- D) Such projects included recycling and green consumerism, also known as "buying green".
- E) The early strategies of the environmental movement were self-consciously activist and unconventional.

60.- 65. sorularda, cümleler sırasıyla okunduğunda parçanın anlam bütünlüğünü bozan cümleyi bulunuz.

60. (I) New research shows just how important the partnership between trees and fungi is for tree growth. (II) Most of the world's tree species have a close relationship with the fungi, known as *ectomycorrhizae*, that grow on their roots. (III) These form a dense network around the fine roots, supplying the trees with nutrients and protecting them from pathogens. (IV) Fungi are not always harmful to trees, despite what many people tend to believe. (V) In return, the fungi receive energy in the form of carbohydrates, which the trees produce via photosynthesis.

A) I B) II C) III D) IV E) V

61. (I) Eating human food has a pronounced effect on the microbiome of wild bears. (II) Specifically, black bears who consume a lot of processed foods have far less diversity in the microbial ecosystems of their guts. (III) Most of their diet consists of grasses, roots, berries, and insects but they also eat fish and mammals. (IV) It is known that a 'western' diet can reduce microbial diversity in the guts of humans, which can have an adverse effect on their health. (V) Researchers wonder whether the same is true for black bears, particularly given the increasing overlap between where people live and where black bears live.

A) I B) II C) III D) IV E) V

62. (I) Air pollution is the contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere. (II) Some of its common sources include motor vehicles, industrial facilities and forest fires. (III) These pollutants of major public health concern include particulate matter, carbon monoxide, ozone, nitrogen dioxide and sulphur dioxide. (IV) These detrimental effects vary depending on the source of air pollution and where one lives. (V) That's why they all cause respiratory and other diseases and are also an important source of morbidity and mortality.

A) I B) II C) III D) IV E) V

63. (I) Plastic products contain some chemical additives associated with serious health problems, such as some types of hormone-related cancers as well as neurodevelopment disorders. (II) Researchers have analysed the climate and health impact of the global plastics supply chain over a two-decade period. (III) They have revealed that the global carbon footprint of plastics has doubled since 1995, reaching 2.2 billion tons of CO2 equivalent in 2015. (IV) This represents 4.5% of global greenhouse gas emissions and is more than previously thought. (V) Over the same period, the global health footprint of plastics from fine particulate air pollution has increased by 70%.

A) I B) II C) III D) IV E) V

64. (I) We all know about the special relationship between dogs and humans, but perhaps not so well-known are the many symbiotic relationships between plants and animals. (II) They have been part of human societies for longer than any other domestic species. (III) An obvious example of this relationship is the pairing of bees and flowers. (IV) The bees collect nectar as food but also pick up pollen, which then pollinates the next flower they visit. (V) It is a win-win situation for both species, and when it occurs, this type of symbiotic relationship, known as 'mutualism', often transpires in the most unlikely forms.

A) I B) II C) III D) IV E) V

65. (I) The nearest, most Earth-like planet, Mars, shines with a reddish glow of reflected sunlight in the night sky, calling out to our curiosity and spirit of adventure. (II) In fact, evidence suggests there may be as many as one Earth-like planet for every five Sun-like stars in the Milky Way alone. (III) It has an atmosphere, and at noon on a summer's day, ground temperatures can reach 25°C. (IV) A day lasts about 24 hours, as on Earth, but there the familiarity ends. (V) The atmosphere is 95 per cent unbreathable carbon dioxide, so there is little insulation, and winter nights can be -140°C.

A) I B) II C) III D) IV E) V

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66. - 68. soruları aşağıdaki parçaya göre cevaplayınız.

In a study that truly underscores the profound and devastating impact humans have on the environment, researchers have found that microscopic bugs are evolving to eat plastic. The study found a growing number of microscopic bugs that have evolved to produce a plastic-degrading enzyme. These tiny bugs could hold the key to creating enzymes that break down specific plastics and alleviate the detrimental effects of plastic pollution caused by humans. The researchers found ample evidence supporting the fact that the global microbiome's plastic-degrading potential correlates strongly with measurements of environmental plastic pollution, which, they say, is a significant demonstration of how the environment is responding successfully to the pressures humans are placing on it. To find the plastic-eating bugs, the researchers took ocean samples at 67 different locations, across the world, at three different depths. In the deeper depths where there is more plastic pollution, the team discovered higher levels of plastic-degrading enzymes. Surprisingly, they also found that almost 60 percent of the enzymes were previously undiscovered and could break down plastics in a way they had not seen before. The team hopes that they can create enzymes that can break down more resilient types of plastics.

66. One can infer from the passage that ----.

- A) some deep-sea species are on the verge of extinction due to environmental plastic pollution
- B) marine species are better at responding to environmental pollution than their land counterparts
- C) the level of plastic pollution in the oceans is much worse than previously thought
- D) it remains unclear whether environmental plastic pollution has caused some bugs to evolve
- E) nature is capable of finding a way to cope with the pollution human beings create

67. Which of the following is true about the study mentioned in the passage?

- A) Majority of plastics are currently hard to degrade even through plastic-degrading enzymes.
- B) The researchers are aiming to draw attention to the amount of environmental plastic pollution.
- C) Nature is no longer have the potential to fight against the damage caused by humans.
- D) The researchers intend to develop enzymes that will be able to degrade stronger plastics.
- E) The researchers have been able to create some enzymes that were unknown to science before.

68. It is clear from the passage that ----.

- A) some tiny bugs have undergone drastic changes and turned into plastic-consuming creatures
- B) the amount of plastic pollution decreases in the deeper parts of the oceans
- C) some plastic-eating species apart from tiny bugs have been found in the depths of the oceans
- D) the tiny creatures that consume plastics exist only in a couple of locations throughout the world
- E) the study is the first large-scale global assessment of the plastic-degrading species

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69. - 71. soruları aşağıdaki parçaya göre cevaplayınız.

If, or when, human civilisation collapses, what will remain? Overall, there might not be a lot of evidence left behind about what humanity accomplished or what resulted in its downfall. A team of researchers wants to change that by building a massive, indestructible box that will record scientific data to give future civilisations insight into how exactly humanity fell. The project, called *Earth's Black Box*, will be an immense steel monolith installed in a remote location in Tasmania. It is akin to the black boxes that are designed to survive aeroplane crashes and provide investigators with valuable data on what led to the disaster. The team is designing the box to record climate data such as atmospheric CO2 levels, sea temperatures, and energy consumption levels. It will also gather contextual information like news headlines and social media posts. Inside will be a system of Internet-connected storage drives powered by solar panels on the box's roof. The idea is that if the Earth does crash as a result of climate change, this indestructible recording device will be there for whoever's left to learn from that. The project is underway, but the biggest issue for the team now is how to help future civilisations access the information it contains. After all, they will just find a mysterious monolith out in the middle of nowhere.

69. It is clearly stated in the passage that the researchers ----.

- A) want to warn the next generations about the disasters that might annihilate life on Earth
- B) chose Tasmania to build the giant steel monolith as it is an extremely geologically stable location
- C) aim to record what humans have attained as well as what caused their demise
- D) have determined some alternative places to Tasmania to build the immense steel monolith
- E) urge future civilisations to preserve nature at all costs to avoid extreme weather events

70. Which of the following is true about the gigantic steel monolith, according to the passage?

- A) It will enlighten future generations on how they can develop various methods to deal with future disasters.
- B) It will be the largest structure ever built in the history of mankind.
- C) It will function as a shelter for future generations to survive potential disasters.
- D) Researchers currently do not know exactly how and where they should build it.
- E) It will provide data on climatic conditions on Earth as well as information on online platforms.

71. One challenge that the researchers are facing at the moment is that ----.

- A) it is virtually impossible to build an indestructible structure that can withstand future disasters
- B) generating enough power for the technological equipment in the monolith is non-viable
- C) the future generations might not understand how they can reach the messages the monolith has
- D) the information that the monolith contains might prove impractical for the next generations
- E) people in the future might not be able to find the monolith since it would be in the middle of nowhere

72. - 74. soruları aşağıdaki parçaya göre cevaplayınız.

Some of the trillions of bacteria living in your gut synthesise some of the neurotransmitters that are responsible for how you feel. When you do not have enough, or you have too much, of them, your mental health can suffer. Researchers are working on genetically engineered bacteria that can monitor and fix any imbalances. They already developed sensors for temperature, pH, oxygen levels, light, pollutants and other disease-related chemicals. Researchers' new method involves the development of a "bacterial sensor" that can detect certain chemicals in a person's gut. They started with a sensor pathway found naturally in bacteria, using computer modelling to explore how mutations would affect the pathway's sensitivity. The sensors could discriminate between structurally similar molecules associated some disorders. For instance, a genetic disease called PKU, causes babies to accumulate too much phenylalanine, an amino acid. A completely engineered bacteria might have a sensor to detect this amino acid. And then an actuator – an engineering organism – can degrade its levels. These kinds of engineering organisms can also be used to monitor food quality or to regulate pathways for microbial metabolic engineering, the processes used to create many pharmaceuticals, fuels, or other chemicals.

72. According to the passage, the bacterial sensors that researchers have developed ----.

- A) can diagnose several mental diseases that different chemicals cause
- B) are capable of distinguishing between one molecule from another
- C) can both identify molecules that cause disease and modify them to develop treatments
- D) are engineered with the help of computers to increase their sensitivity
- E) produce several enzymes in order to degrade the target chemical

73. It is clear from the passage that engineering organisms ----.

- A) have the potential to serve beneficial functions beyond a medical setting
- B) it can also work effectively without auxiliary elements such as bacterial sensors
- C) can enhance the way you feel by producing neurotransmitters
- D) are often used as a treatment method for babies with high levels of phenylalanine
- E) have already played an important role in treating patients with chemical imbalances

74. It is pointed out in the passage that ----.

- A) ECT is mainly used for patients suffering from depression and mania
- B) the advantages of ECT outweigh its disadvantages according to some healthcare professionals
- C) ECT is used only when patients with severe symptoms fail to respond to other treatments
- D) there is a consensus among experts that the complications ECT may cause can be deadly
- E) there could be both benefits and drawbacks of utilising ECT

75. - 77. soruları aşağıdaki parçaya göre cevaplayınız.

Sediments in which archaeological finds are embedded have long been regarded by most archaeologists as unimportant by-products of excavations. However, recent research reveals that sediments can contain ancient biomolecules, including DNA. The retrieval of ancient human and animal DNA from sediments offers exciting new opportunities to investigate the geographical and temporal distribution of ancient humans and other organisms. To investigate the origin of DNA in the sediment, researchers studied DNA preservation by using undisturbed blocks of sediment that had been previously removed from archaeological sites chosen meticulously. These blocks were taken to the laboratory for microscopic imaging and genetic analysis. The researchers successfully extracted considerable numbers of DNA, from a collection of blocks of sediment prepared as long as 40 years ago, from sites in Africa, Asia, Europe and North America. These blocks are an excellent source of ancient DNA, including that originating from hominins and will provide access to a vast intact source of genetic information since they have never been analysed before. The study opens up a new era of ancient DNA studies that will revisit samples stored in labs, allowing for analysis of sites.

75. It is understood from the passage that ----.

- A) the new approach of analysing sediments has specified the DNA of many unknown organisms
- B) recent research has refuted some of the previous theories regarding ancient DNA
- C) researchers have utilised various methods to analyse the blocks of sediments
- D) blocks of sediments will provide researchers valuable insights into ancient DNA
- E) recent research has failed to yield promising results despite the new approach scientists used

76. According to the passage, the researchers ----.

- A) have been able to collect the sediment samples after a four-decade research
- B) have managed to recover substantial amounts of ancient DNA from several sites
- C) are aiming to understand how DNA has been preserved in sediment for long periods
- D) have analysed the sediment samples from randomly selected locations
- E) have harshly criticised the archaeologists who recklessly left valuable finds behind

77. Which of the following is closest in meaning to the underlined word 'intact' in the passage?

- A) misleading
- B) inadequate
- C) inefficient
- D) misused
- E) untouched

TÜRKİYE GENELİ YÖKDİL FEN BİLİMLERİ - DENEME SINAVI - II

78. - 80. soruları aşağıdaki parçaya göre cevaplayınız.

The technology to capture solar energy and use it in a variety of ways is rapidly developing. It is an exciting time in the industry, with efficient solar farms generating power from the Sun on a massive scale. In a domestic setting, the capture of solar power is still limited, but we can expect to see some development in the future. Plants capture the Sun's energy all the time and convert it into food through a process called photosynthesis. We can also make use of this energy to produce more food thanks to greenhouses. Our vegetable patches and gardens are therefore one big solar panel. A greenhouse does not increase the Sun's energy or concentrate the incoming light. When light passes through an object, like glass, some of it becomes heat. The windows of a greenhouse capture this heat energy and hold it inside the structure, heating the plants and the soil around the roots of the plants. It is this increase in temperature that makes the plants inside a greenhouse grow earlier and faster than plants outside. To maximise the capture of this heat energy, a greenhouse needs to have tight joints and coating so the heat and warm air inside cannot escape. Glass is not a good insulator, but modern thickened glass is more effective at retaining heat when there is no direct sunlight, for example, when there is cloud cover and during the night.

78. According to the passage, greenhouses ----.

- A) function more efficiently provided that they are built in convenient locations
- B) have drawn more attention compared to solar farms in recent years
- C) performs better if the heat inside is prevented from escaping to the outside
- D) have been utilised to generate power for domestic use in recent years
- E) have been widely adopted by people who aim to produce food on a large scale

79. The author's attitude towards the utilisation of solar energy is ----.

- A) apprehensive
- B) cynical
- C) optimistic
- D) derisive
- E) indifferent

80. The passage is mainly about ----.

- A) the latest developments in the field of solar energy utilities
- B) the way greenhouses function to harness solar energy
- C) the benefits and drawbacks of making use of greenhouses
- D) various reasons why we should make the most of greenhouses
- E) the factors that make greenhouses superior to other solar energy technologies