Grade 12

International Green Warrior Olympiad (IGWO)

Sample Paper

Pattern and Marking Scheme				
Grade	**Topic/Section**	**No. of Questions**	**Marks per Question**	**Total Marks**
Grade 12	Green Champ	40	3	120
	Green Challenger	10	6	60
Grand Total		**50**		**180**

The total duration of the exam is 60 minutes. There's a negative marking of 1/3rd marks for every wrong answer.

Syllabus

Clean Water and Sanitation, Affordable and Clean Energy, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land, Zero Hunger

For more details, visit https://www.crestolympiads.com/green-olympiad-gwo.

Green Champ (Each Question is 3 Marks)

1. The government of a city wants to switch to renewable energy sources to help the environment. Which of the following strategies could the city use to promote renewable energy adoption and reduce environmental impact?

   a. Implementing tax incentives for solar energy installations
   b. Developing new coal mining projects to boost energy production
   c. Encouraging the use of gasoline-powered vehicles
   d. Cutting down more trees to make space for wind farms

2. In a region rich with diverse wildlife, researchers are assessing the impact of habitat fragmentation on biodiversity. They explore different scenarios to understand how fragmentation influences the ecosystems.
   In which scenario would habitat fragmentation have the least impact on biodiversity?

   a. Small habitat areas fragmented into smaller patches far from each other.
   b. Moderate-sized habitat areas fragmented into patches with varied distances between them.
   c. Large habitat areas fragmented into smaller patches close to each other.
   d. Large habitat areas fragmented into larger patches far from each other.

3. A family went on a camping trip and drank water from an untreated stream. Several days later, they all became ill with vomiting and diarrhoea. Which of the following is the most likely cause of their illness?

   1. Contaminated water from the stream
   2. Ingestion of a parasite present in the stream water
   3. A contagious respiratory illness

   a. Only 1
   b. Only 1 and 2
   c. Only 2 and 3
   d. 1, 2, and 3

4. A family decides to install solar panels on their roof to generate electricity. How does this contribute to responsible energy consumption?

   a. Increases carbon emissions and environmental impact
   b. Reduces reliance on non-renewable energy sources such as fossil fuels
   c. Promotes excessive energy consumption and wastage
   d. Encourages dependence on unsustainable energy practices

5. During an Earth Science field trip, students are exploring the impact of rising temperatures on the local ecosystem. The students notice a decline in the population of a particular plant species in the area compared to previous years.

   Which factor related to climate change is most likely influencing this decline?

   a. Reduced levels of precipitation and increased drought conditions.
   b. Increased availability of nutrients in the soil.
   c. Decreased levels of carbon dioxide in the atmosphere.
   d. Rising sea levels affecting the soil composition.

6. A study in a river basin area shown in the picture reveals that the concentration of heavy metals in the water significantly exceeds permissible limits downstream of an industrial area. What can be inferred from this data?

a. Heavy metals have no impact on water quality
b. The river basin acts as a natural filter, reducing pollution
c. Industrial activities are likely the source of heavy metal pollution
d. The upstream area is more polluted due to urban development

7. At an educational tour of a nuclear power plant, students are learning about the primary energy transformation process used in this facility, specifically related to radioactive elements. What is the primary energy transformation process in this power plant?

a. Nuclear fusion
b. Nuclear decay
c. Nuclear fission
d. Chemical combustion

8. Match the following types of marine pollution with their potential impact on marine life.

Types of Marine Pollution:
1. Plastic debris and microplastics
2. Chemical pollutants from industrial waste
3. Noise pollution from ships and sonar activities
4. Oil spills and their residues

Potential Impact on Marine Life:
A. Ingestion by marine animals leading to digestive issues
B. Disruption of communication and navigation in marine species
C. Bioaccumulation in marine food chains
D. Harmful effects on fish gills and feathers of seabirds

a. 1 - A, 2 - C, 3 - B, 4 - D
b. 1 - D, 2 - A, 3 - C, 4 - B
c. 1 - B, 2 - A, 3 - D, 4 - C
d. 1 - C, 2 - B, 3 - A, 4 - D

9. In recent years, there has been a significant rise in the consumption of coal and oil for electricity generation and transportation. Which of the following effects is directly associated with this cause?

a. Increased occurrences of earthquakes and volcanic eruptions
b. Decrease in ocean acidity due to reduced carbon emissions.
c. Rising sea levels due to the melting of polar ice caps.
d. Enhanced agricultural yields due to improved energy infrastructure.

10. A city planner is entrusted with developing a climate adaptation plan for their municipality. The region has experienced increased instances of extreme weather events like intense storms and heatwaves, impacting various aspects of urban life, including infrastructure, public health, and natural resources.
What factors should the city planner consider when creating this climate adaptation plan?

a. Immediate effects of recent weather events on infrastructure.
b. Long-term climate projections and historical weather data to understand changing trends.
c. Solely focusing on economic aspects to ensure budget efficiency.
d. Disregarding community input as it might complicate the planning process.

11. An environmental study conducted in a coastal region highlighted the excessive use of fishing gear resulting in the capture of unintended marine species, including endangered turtles and dolphins.
What is the primary impact of this indiscriminate fishing practice?

a. Maintenance of balanced marine ecosystems due to increased species diversity.
b. Reduction in bycatch due to the efficiency of modern fishing gear.
c. Threatening biodiversity and endangering non-targeted species.
d. Preservation of endangered species populations.

12. Maya, a 14-year-old student passionate about the environment. She decides to make a difference in her daily routine by implementing sustainable consumption practices.
How can individuals contribute to sustainable consumption?

a. By promoting waste, using products with a high carbon footprint, buying products with harmful chemicals, and practising excessive consumption.
b. By reducing waste, using energy-efficient products, buying local and organic products, and practising mindful consumption.
c. By increasing waste, using energy-inefficient products, buying imported and non-organic products, and practising careless consumption.
d. Purchasing single-use plastic water bottles for convenience.

13. In a university research lab, a team of scientists is conducting an experiment to evaluate the energy efficiency of different types of light bulbs—incandescent, CFL, and LED bulbs. They aim to determine the most environmentally friendly and economical option for widespread use. What type of data should they collect to draw meaningful conclusions?

1. Cost of the bulbs
2. Brightness of the bulbs
3. Energy consumption

a. Only 1
b. Only 1 and 2
c. Only 2 and 3
d. 1, 2, and 3

14. A group of farmers is considering using a new type of pesticide to control pests in their crops. What are some potential risks associated with the use of this pesticide?

1. The pesticide may harm beneficial insects that help pollinate crops
2. The pesticide may contaminate water sources, harming aquatic life
3. The pesticide may become resistant to pests over time, requiring higher doses

a. Only 1
b. Only 1 and 2
c. Only 2 and 3
d. 1, 2, and 3

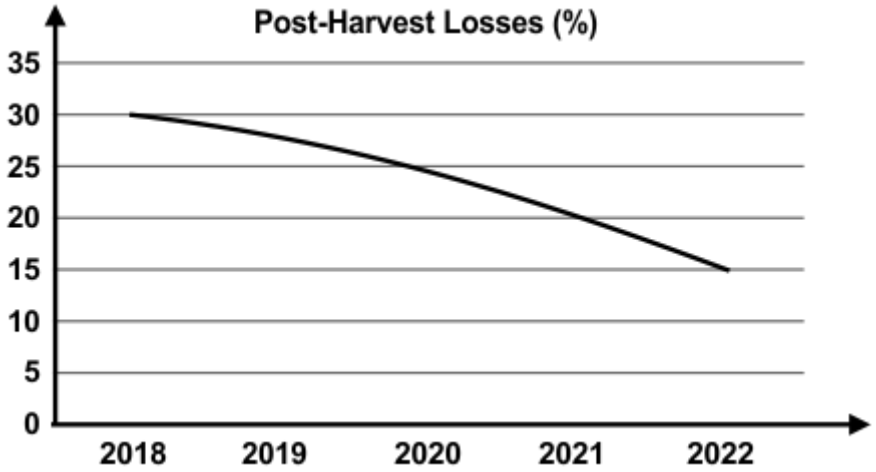
15. The city council is discussing methods to promote sustainability in transportation. What characteristic defines efficient public transportation systems?

a. Relying solely on private cars for urban commuting
b. Investing in high-speed highways to reduce travel time.
c. Integrating a comprehensive network of buses and trains for convenient travel.
d. Encouraging individual car ownership without considering alternative modes of transport.

16. A city council aims to encourage composting among residents to reduce waste and promote sustainability. They plan to educate citizens about the benefits of composting. What key points would be most effective in promoting composting practices in the community?

a. Highlighting the reduction of methane emissions from landfills and the enrichment of soil with compost.
b. Focusing on the convenience of disposing of organic waste without considering environmental benefits.
c. Emphasising the increased waste collection costs associated with organic waste disposal.
d. Promoting composting only as a means of reducing waste without discussing its environmental advantages.

17. The graph below demonstrates a 50% reduction in post-harvest food losses achieved by a cooperative of farmers through enhanced packaging and transportation practices. What specific strategies in packaging and transportation could account for this significant success?



a. Using biodegradable packaging materials and increasing the number of intermediaries in the supply chain.
b. Utilising airtight packaging to preserve freshness and optimising transportation routes to minimise travel time and handling.
c. Employing large packaging to fit more produce and reduce the number of trips.
d. Using basic packaging materials and increasing the frequency of deliveries to retailers.

18. A city is expanding its wastewater treatment infrastructure to improve the quality of treated water released into the environment. As part of this development, engineers and environmental experts are reviewing the different stages of wastewater treatment to ensure the most effective processing of sewage.
In the wastewater treatment process, which stage involves the breakdown of organic matter by microorganisms in the absence of oxygen?

a. Primary treatment
b. Secondary treatment
c. Tertiary treatment
d. Anaerobic digestion

19. Blair, an environmentally conscious consumer, is shopping for groceries at a local store. She notices a food product with an eco-label that states "Organic" on the packaging. Curious about its meaning, she checks the information available to understand the significance of the label.
In the context of eco-labelling, what does the presence of an "Organic" label on a food product signify based on Emily's observation?

a. The product is made using recycled materials.
b. It is manufactured using renewable energy sources.
c. It's produced using sustainable farming methods without synthetic pesticides or fertilisers.
d. It contains natural ingredients.

20. You're at the supermarket deciding between locally-grown organic vegetables and conventionally-grown vegetables shipped from a distant country. Both cost the same. Considering climate change:

a. The local organic option is always better due to reduced transportation emissions.
b. Choose conventionally grown vegetables, as organic farming uses more water.
c. Consider additional factors like packaging and water usage alongside transportation emissions.
d. Both options have similar climate impacts, so focus on personal preference.

21. Coastal regions have been experiencing a rise in sea surface temperatures due to climate change, causing concern among local communities and authorities. As part of a coastal environmental study project, your team is investigating the potential impact of this situation. Based on your research and understanding, which extreme weather event is expected to become more severe or frequent in coastal areas due to climate change?

a. Tornadoes
b. Hurricanes/Cyclones
c. Snowstorms
d. Hailstorms

22. A power plant generates electricity using coal as its primary fuel source. The burning of coal releases various pollutants into the atmosphere, including carbon dioxide, sulphur dioxide, and nitrogen oxides. These pollutants can have significant environmental and health impacts. Which of the following statements accurately describes the relationship between coal combustion and air pollution?

a. Coal combustion directly leads to air pollution, and the severity of pollution is proportional to the amount of coal burned.
b. Coal combustion is an indirect cause of air pollution, as the pollutants released during combustion interact with other atmospheric components to form harmful compounds.
c. Coal combustion is the sole source of air pollution, and other factors, such as vehicular emissions and industrial activities, have negligible effects on air quality.
d. Coal combustion is a necessary evil for electricity generation, and the environmental consequences are outweighed by the economic benefits of reliable energy.

23. A food distribution company aims to reduce food losses during transportation. They decide to conduct an experiment to assess the impact of transportation conditions on perishable goods' decay rates. They exposed a batch of fruits to varying temperatures and monitored their decay rates.
What additional factors should they consider to make the experiment comprehensive and applicable to real-world scenarios?

a. The presence of pests during transportation.
b. Only temperature fluctuations are relevant in transportation experiments.
c. The origin of the fruits, not the transportation conditions.
d. Humidity levels, transportation duration, and the type of fruit.

24. Carbon emissions from anthropogenic sources contribute to the greenhouse effect, trapping heat in the Earth's atmosphere. Which of the following best describes the mechanism by which carbon dioxide (CO_2) traps heat?

a. Refraction of sunlight
b. Absorption and re-emission of infrared radiation
c. Reflection of ultraviolet rays
d. Dispersion of thermal energy

25. You are a scientist working at a research lab dedicated to finding ways to improve the recycling process for different types of plastic. Your team is currently focusing on different types of plastic and their recyclability.
Which of the following characteristics of plastics is the primary reason why achieving infinite recyclability is challenging?

a. It is lightweight and prone to wind dispersal.
b. It undergoes chemical changes during the recycling process, reducing its quality.
c. It is often contaminated with other materials, making it difficult to sort and process.
d. It requires a large amount of energy to melt and re-form.

26. A tropical rainforest guide notices that a particular group of trees is flowering much earlier than usual. This phenomenon of early flowering has been going on for quite some time now. He wonders what might be causing this unusual phenomenon.
What could be a potential explanation for the early flowering of these trees?

1. Unusually warm temperatures due to climate change mimicking the typical flowering season.
2. A sudden increase in rainfall has triggered early bud formation.
3. The trees have undergone a genetic mutation that has changed their flowering cycle.

a. Only 1
b. Only 1 and 2
c. Only 2 and 3
d. 1, 2, and 3

27. A rural community plans to transition from traditional biomass stoves to cleaner, more efficient cookstoves. Considering all of the environmental factors, which statement best summarises the overall impact of adopting cleaner cookstoves?

a. Cleaner cookstoves improve indoor air quality, reduce fuel consumption, and enhance community health and well-being.
b. Cleaner cookstoves have minimal impact on indoor air quality and community health.
c. Cleaner cookstoves are less affordable and practical compared to traditional biomass stoves.
d. Cleaner cookstoves have a negative impact on the environment due to increased energy consumption.

28. Imagine two forests: a vast boreal coniferous forest in Siberia and a temperate deciduous forest in New England. Both forests experience seasonal changes in temperature and precipitation. However, the boreal forest stores significantly more carbon.
What could be the primary reason for this difference?

a. The slower decomposition rate in colder boreal regions allows for longer carbon storage.
b. The dense evergreen needles of boreal trees provide a larger surface area for carbon capture.
c. The diverse understory vegetation in temperate forests competes with trees for available carbon.
d. The frequent wildfires in boreal regions release stored carbon back into the atmosphere.

29. As Arctic sea ice melts due to climate change, polar bears struggle to find suitable hunting grounds for seals. This forces them onto land, consuming less energy-rich food and burning more energy for travel.
What is the most likely long-term consequence of this scenario for polar bear populations?

a. Increased birth rates to compensate for energy loss and declining survival rates.
b. Smaller body size in future generations due to reduced nutritional intake.
c. Enhanced adaptation of polar bears to a terrestrial lifestyle, minimising the impact of sea ice loss.
d. Unaffected polar bear populations as they find alternative hunting strategies in response to climate change.

30. An environmental group is advocating for sustainable living practices. Which of the following electronic devices typically consumes the most energy when in standby mode, contributing to unnecessary power consumption?

a. Toaster
b. Television
c. Ceiling fan
d. Analog clocks

31. Imagine two households, the Smiths and the Joneses, who both live in similar apartments with identical appliances like refrigerators, washing machines, and TVs. However, their energy-saving habits differ.
Which scenario best demonstrates an effective energy-saving habit?

1. The Smiths replaced all their light bulbs with LEDs.
2. The Smiths run their dishwasher and washing machine with small loads.
3. Jonases seals air leaks around windows and doors to improve insulation.
4. Jonases leave their TVs and game consoles on standby mode overnight.

a. Only 1 and 2
b. Only 1 and 3
c. Only 1, 2 and 3
d. Only 2, 3, and 4

32. In a nature reserve, a team of ecologists is assessing the impact of biodiversity on ecosystem resilience following a natural disaster.
Which statement best describes the relationship between biodiversity and ecosystem resilience?

a. Increased biodiversity directly weakens an ecosystem's ability to withstand disturbances.
b. Diverse ecosystems are more prone to invasive species due to the abundance of niches.
c. Higher species richness leads to greater stability and ability to recover from environmental changes.
d. The number of unique species has no significant impact on an ecosystem's overall health.

33. Imagine you are a city planner. How would you design a new urban development project to ensure the preservation of green spaces and natural habitats while meeting the housing needs of the growing population?

a. By clearing all existing green spaces for housing projects
b. By constructing shopping malls and entertainment complexes in green spaces
c. By completely banning urban development to preserve natural habitats
d. By incorporating green roofs and vertical gardens in buildings to compensate for the loss of ground-level green spaces

34. A bustling city faces challenges in managing its growing water demand. The existing water treatment plant struggles to keep up, and water shortages become increasingly frequent.
Which option would be the sustainable and effective solution(s) for the long term?

1. Expanding the existing water treatment plant
2. Building a new, larger water treatment plant
3. Implementing water conservation measures
4. Investing in sustainable water sources

a. Only 1
b. Only 3 and 4
c. Only 1, 3 and 4
d. 1, 2, 3 and 4

35. In a coastal region, a team of environmental scientists is conducting research to identify potential carbon sequestration sites. They are particularly interested in ecosystems with waterlogged, anaerobic conditions.
Which forest ecosystem in the region is most likely to store large amounts of carbon in its soil?

a. Coniferous forest
b. Montane forest
c. Mangrove forest
d. Deciduous forest

Direction for questions (36 to 37): Consider the case study given below and answer the following question:

Case Study: Water Conservation in Singapore

Singapore, a water-scarce nation, implemented innovative strategies for water conservation and efficient use. One notable initiative is the "NEWater" program, where wastewater is treated extensively to produce high-grade reclaimed water. This reclaimed water is then used for industrial processes, cooling systems, and even direct consumption after rigorous purification. Additionally, Singapore employs an extensive rainwater harvesting system, collecting rainwater on a large scale for non-potable uses like flushing toilets and watering plants. These initiatives have not only reduced the strain on the city-state's water supply but also ensured sustainable water management for the growing population.

36. What challenges does Singapore addressed by implementing these water conservation initiatives?

a. Controlling air pollution and promoting soil erosion
b. Preventing excessive flooding and reducing industrial water demand
c. Alleviating water scarcity
d. Increasing potable water usage

37. As a city planner, how would you promote the adoption of similar water conservation strategies in a different urban area facing water scarcity?

a. Increase water tariffs to encourage conservation
b. Offer incentives for rainwater harvesting systems
c. Limit water supply to households to reduce consumption
d. Ignore the issue, as water scarcity is a natural occurrence

Direction for questions (38 to 40): Consider the case study given below and answer the following question:

Case Study: Threats to Marine Life

In the North Atlantic, a large ship accident caused a massive oil spill. This spill polluted the ocean, covering the surface and spreading deep into the water. The oil mixed with floating plastic waste, created dangerous clumps that harmed marine animals and spread toxic chemicals.
Furthermore, the surrounding coastal regions experienced heavy industrial runoff from nearby factories and agricultural waste from farms that drain into rivers and streams, carrying excessive nutrients like nitrogen and phosphorus.
The combination of oil slicks, entangled plastic debris, and toxic algal blooms severely impacts the

local fishing industry, leading to economic downturns and food scarcity in nearby communities reliant on marine resources. The spill also results in long-term ecological damage, affecting critical habitats such as coral reefs, seagrass beds, and estuaries, disrupting entire ecosystems.
This situation shows how different kinds of marine pollution, all come together to make things worse for ocean life and the people who depend on it. It is crucial for us to find ways to prevent and clean up these types of pollution to protect our oceans and the creatures living in them.

38. In a region where algal blooms have caused a significant decrease in oxygen levels, which species is most likely to suffer the most adverse effects?

a. Small fish dependent on oxygen-rich waters.
b. Plankton thriving in low-oxygen environments.
c. Bottom-dwelling mollusks adapted to varying oxygen levels.
d. Deep-sea corals known for surviving in anoxic conditions.

39. How can the combination of oil spills and floating plastic debris negatively impact marine animals?

1. Entanglement causing physical harm and hindering movement
2. Toxic chemicals released from oil-covered plastic
3. Ingestion leading to internal injuries and toxicity

a. Only 1
b. Only 1 and 2
c. Only 2 and 3
d. 1, 2 and 3

40. How can individuals and communities contribute to reducing marine pollution?

1. Minimise plastic waste by using reusable bags, bottles, and containers
2. Support sustainable fishing practices and choose seafood from certified sources
3. Ignoring beach clean-up efforts to avoid disturbing marine ecosystems

a. Only 1
b. Only 1 and 2
c. Only 2 and 3
d. 1, 2 and 3

Green Challenger (Each Question is 6 Marks)

41. In a disaster-stricken area where access to clean water is limited, a relief organisation assists a local community facing water contamination. The primary water source, a nearby river, has been contaminated by industrial waste, rendering it unsafe for consumption. Boiling water is one known method for purifying it, but the situation requires alternative solutions due to the sheer volume of contaminated water.
What additional effective method can be utilised on a larger scale to purify the contaminated water, making it suitable for drinking purposes in such an emergency?

a. Adding calcium tablets
b. Activated carbon filtration
c. Pouring it through a coffee filter
d. Employing a reverse osmosis filtration system

42. Sophie and her marine biology class were on a research vessel exploring marine life near the coast. Suddenly, they noticed a distressed pod of dolphins swimming amidst an oil slick that stretched for miles. Investigating further, they realised it was the result of a tanker accident, causing severe repercussions for the marine environment.
Sophie and her classmates witnessed an oil spill from a tanker that affected the surrounding ocean. How does this type of marine pollution primarily impact marine ecosystems?

a. It increases oxygen levels in the water, benefiting fish and other aquatic organisms.
b. It leads to increased biodiversity as some species adapt to the oil-rich environment.
c. It accelerates coral reef growth due to the nutrients present in the oil.
d. It disrupts the food chain by poisoning primary producers like algae and plankton.

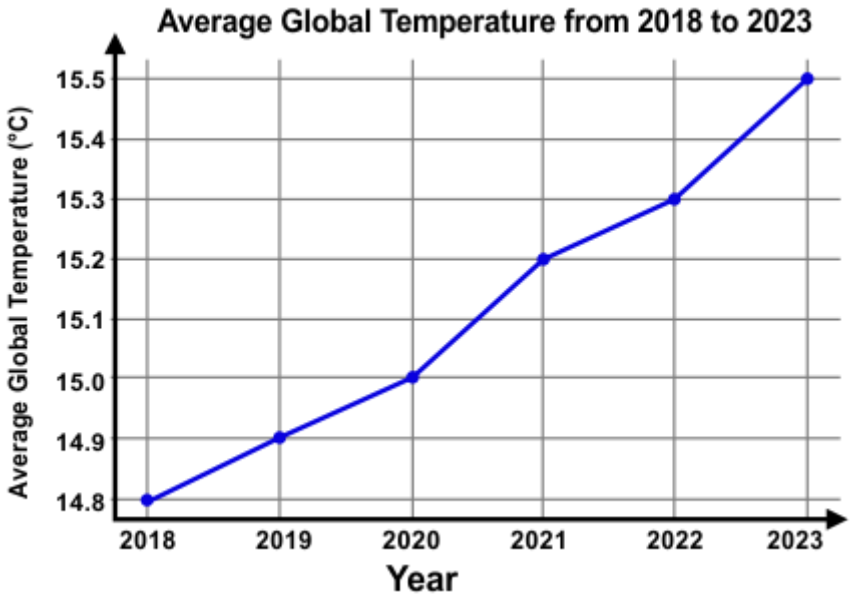
43. Which of the following scenarios best exemplifies a successful conservation program aiming to protect endangered marine species?

1. A fishing community that continues to use unsustainable fishing practices in a protected marine reserve.
2. A coastal city that builds a new port in a key nesting area for sea turtles.
3. A campaign that educates fishermen about the importance of using turtle-excluder devices.
4. A factory that disposes of its waste directly into a marine sanctuary.

a. Only 1
b. Only 3
c. Both 2 and 4
d. Only 4

44. Scientists have been monitoring the Earth's average temperature for decades. The graph shows the trend they observed.

Based on the graph and your understanding of climate change, what is the MOST LIKELY primary cause of the observed rise in Earth's average temperature?



a. Increased volcanic activity emitting heat-trapping gases into the atmosphere.
b. Excessive use of aerosol sprays releasing harmful chemicals.
c. Enhanced greenhouse effect due to human activities releasing gases that trap heat.
d. Reduced deforestation leading to a warmer climate.

45. While shopping, Maya sees a new "biodegradable" label on plastic water bottles. Curious, she wonders how accurate this claim is.
What should Maya be cautious about regarding the "biodegradable" label on these plastic water bottles?

1. Even if biodegradable, these bottles might not decompose quickly in home compost bins.
2. Biodegradable plastics could harm the environment in different ways if not disposed of properly.
3. This label doesn't necessarily mean the bottles are made from recycled materials.

a. Only 1
b. Only 1 and 2
c. Only 2 and 3
d. 1, 2 and 3

46. In a rural community, a solar power project is initiated to harness renewable energy. The technicians responsible for installing the solar panels must decide on the optimal angle for maximum energy output. Which scenario is expected to yield the highest energy output?

a. 

b. 

c. 

d. All scenarios will yield equal energy output

47. In the city of Sustainia, authorities plan to reduce carbon emissions by integrating renewable energy sources. If a solar panel system installed on public buildings generates 500 kilowatt-hours (kWh) of electricity per month, how much electricity can it generate in a year, and what's its potential impact on carbon emissions if each kilowatt-hour not generated by fossil fuels reduces 0.9 pounds of Carbon dioxide emissions?

a. 6000 kWh, reducing 5400 pounds of CO_2
b. 4500 kWh, reducing 4050 pounds of CO_2
c. 5500 kWh, reducing 4950 pounds of CO_2
d. 6500 kWh, reducing 5850 pounds of CO_2

48. Match the sustainable food choices and practices with their potential environmental benefits.

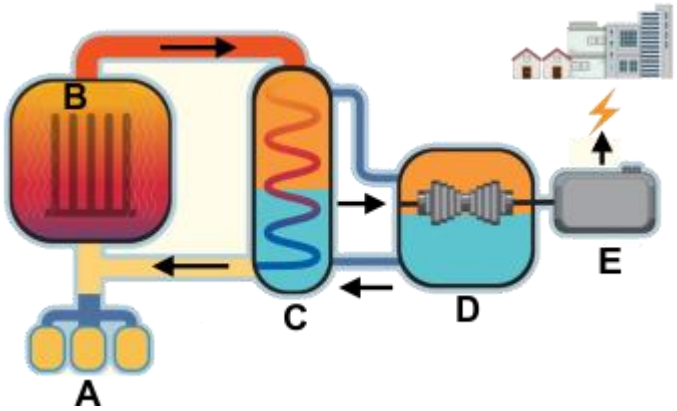
Choices:
1. Choosing locally grown vegetables and fruits over imported options.
2. Packing reusable dishes and utensils instead of disposable ones.
3. Opting for plant-based meals over meat-based ones for some dinners.
4. Composting leftover food scraps and fruit peels instead of throwing them away.
5. Bringing your own water bottles and avoiding single-use plastic for beverage packaging.

Benefits:
A. Reducing greenhouse gas emissions and air pollution.
B. Conserving soil health and minimising water usage.
C. Minimising landfill waste and promoting decomposition.
D. Supporting local farmers and reducing transportation emissions.
E. Lowering water wastage and preventing plastic pollution.

a. 1-A, 2-C, 3-B, 4-E, 5-D
b. 1-B, 2-D, 3-E, 4-A, 5-C
c. 1-D, 2-C, 3-A, 4-B, 5-E
d. 1-E, 2-A, 3-B, 4-C, 5-D

49. You are a technician working at a nuclear power plant. You are tasked with performing routine inspections of the plant's various components. To ensure your understanding, your supervisor provides you with a diagram of the plant layout and asks you to identify the labelled components.

Based on the diagram below, identify the main components of a nuclear power plant.



a. A: Steam generator
B: Coolant
C: Reactor core
D: Turbine
E: Electricity generator

b. A: Reactor core
B: Coolant
C: Turbine
D: Electricity generator
E: Steam generator

c. A: Coolant
B: Reactor core
C: Steam generator
D: Turbine
E: Electricity generator

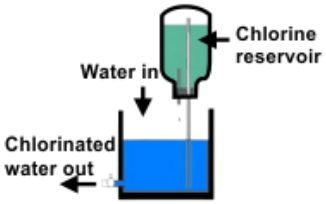
d. A: Steam generator
B: Reactor core
C: Coolant
D: Electricity generator
E: Turbine

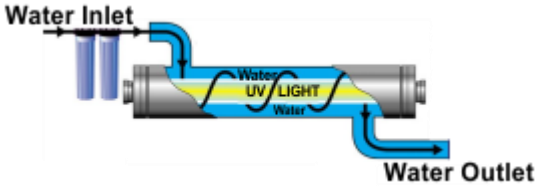
50. You're going on a camping trip with your friends, but the nearby stream isn't exactly crystal clear. You're unsure about the type of filter that you should carry with you, so you consider the potential contaminants and location of the stream:

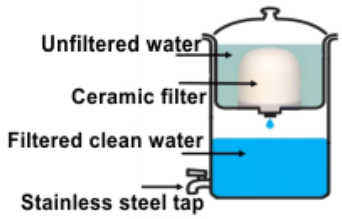
Sediment: The stream is a bit muddy after recent rains.
Bacteria: You're worried about potential pathogens like E. coli from upstream wildlife.
Location: The stream is in a very remote location away from industry or farms.

Which filter would be the best choice for your situation, considering the purification efficiency of each?

a.


b.


c.


d.


Answer Key

1.	a	2.	c	3.	b	4.	b	5.	a	6.	c	7.	c
8.	a	9.	c	10.	b	11.	c	12.	b	13.	d	14.	d
15.	c	16.	a	17.	b	18.	d	19.	c	20.	c	21.	b
22.	a	23.	d	24.	b	25.	b	26.	a	27.	a	28.	a
29.	b	30.	b	31.	b	32.	c	33.	d	34.	d	35.	c
36.	c	37.	b	38.	a	39.	d	40.	b	41.	d	42.	d
43.	b	44.	c	45.	d	46.	c	47.	a	48.	c	49.	c
50.	d												