

**International Green Warrior Olympiad (IGWO)****Sample Paper****Pattern and Marking Scheme**

Grade	Topic/Section	No. of Questions	Marks per Question	Total Marks
Grade 4	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 $1/3^{\text{rd}}$ 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. What is a major source of plastic pollution in the oceans?

1. Improper waste disposal on beaches
2. Ocean currents carrying plastic waste from land
3. Controlled recycling centres near coastal areas
4. Natural formation of plastic in the ocean

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

2. John wants to water his garden efficiently. What's the best time for him to water the plants?



- a. Late morning when the sun is hot
- b. Late afternoon when it's a bit cooler
- c. Early morning when it's cooler and less windy
- d. Late evening just before bedtime

3. Emily is a college student who is passionate about promoting sustainable transportation. She believes in reducing carbon emissions and minimising her environmental impact. Emily commutes to her campus using eco-friendly transportation options.

What are the benefits of biking as a sustainable transportation option?



- a. It reduces traffic congestion and promotes physical fitness.
- b. It increases fuel consumption and air pollution.
- c. It is less convenient than driving a car.
- d. It has no positive impact on the environment.

4. Sarah made efforts to reduce waste and use recycled materials, what is most probably an example of her creative use of recycled items?

- a. She regularly purchased brand-new plastic containers for her food storage.
- b. She discarded old newspapers and magazines in the trash.
- c. She repurposed empty glass jars to create unique candle holders.
- d. She threw away her worn-out clothing without considering recycling.

5. Mark lived in a small town named Greenville. He was deeply committed to environmental sustainability and made conscious choices in his consumption habits. How did Mark approach his consumption habits?

- a. He frequently bought new products and discarded old ones.
- b. He always chose products with excessive packaging.
- c. He focused on reducing waste and reusing items.
- d. He didn't pay much attention to his consumption habits.

6. Why are oceans considered the "lungs of the Earth"?

- a. Because they produce a significant portion of the world's oxygen through phytoplankton photosynthesis
- b. Because they are a source of clean air for the planet
- c. Because they release carbon dioxide into the atmosphere
- d. Because they help in the transportation of oxygen to land-based ecosystems

7. Sarah and Jake embarked on a fun adventure to explore a nearby wind farm. They were fascinated by the massive wind turbines spinning gracefully in the wind. What is the primary function of these wind turbines?



- a. Capturing wind energy to create artificial rainfall in the area.
- b. Filtering air pollutants to make the environment cleaner.
- c. Using wind power to pump water from underground reservoirs.
- d. Generating electricity by using wind to turn turbines connected to generators.

8. Which of the following is an example of sustainable transportation?

- a. Carpooling with friends to a nearby mall
- b. Driving alone in a large SUV to work every day
- c. Riding a bike to school or work
- d. Using a private jet for short-distance travel

9. A tourist is exploring a kelp forest. What is the primary benefit of kelp forests in the marine ecosystem?



- a. Kelp forests have no impact on providing food and shelter for various marine species
- b. Kelp forests do not assist in absorbing excess carbon dioxide from the atmosphere
- c. Kelp forests have no connection to maintaining the balance of marine food webs
- d. Kelp forests provide habitats for numerous marine organisms and contribute to nutrient cycling

10. In a grassland food web experiment, researchers introduced a new herbivore species not native to the area. This herbivore consumed a wide range of plants. What is the most likely impact of introducing this herbivore on the grassland food web?

- a. An increase in plant diversity due to reduced herbivory
- b. A decrease in the populations of native herbivores
- c. An increase in the populations of top predators
- d. No significant impact on the food web structure

11. What impact does population growth have on food security?

- 1. Increased population reduces food demand
- 2. Larger populations have no effect on food production
- 3. Rapid population growth can strain food resources
- 4. A growing population guarantees surplus food production

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

12. In the town of Riverdale, by the banks of a once-pristine river, lived a young environmentalist named Liam. Liam was deeply troubled by the state of the river, which had been impacted by various forms of pollution.

What were some harmful effects of water pollution that Liam observed in Riverdale's river?



- a. Degradation of water quality, making it unfit for drinking, recreation, or aquatic life.
- b. Loss of biodiversity and disruption of aquatic ecosystems.
- c. Human health risks from exposure to contaminated water.
- d. All of these

13. Tim, a young inventor, showcased his creation—a solar-powered toy car. He explained to the audience that his car used solar energy to operate. How does the car harness solar power?



- a. It stores sunlight in batteries for future use.
- b. It absorbs solar radiation through a special material, directly powering the car's motor.
- c. It uses mirrors to reflect sunlight, generating movement.
- d. It converts sunlight into electricity using solar panels on its roof.

14. While analysing climate data from the past century, Sophie noticed a trend of increasing global temperatures. What correlation did Sophie find between the rise in global temperatures and the greenhouse effect?
- There was no connection between rising temperatures and the greenhouse effect.
 - The rise in global temperatures was caused by increased volcanic activity.
 - The greenhouse effect was a contributing factor to the observed rise in global temperatures.
 - Human activity had no influence on the greenhouse effect or global temperatures.
15. What does "affordability" mean concerning food security?
- The cost of food in different seasons
 - The ability of people to buy the food they need
 - The number of food items available in a store
 - The taste and quality of the food available
16. In a village, there lived a young girl named Maya. She loved exploring nature and understood the importance of conserving natural resources. What did Maya learn about conserving water resources?
- Water should be wasted because it is an abundant resource.
 - Using excessive water is necessary for healthy plant growth.
 - Water should be conserved as it's crucial for life and agriculture.
 - Using water indiscriminately does not affect the environment.
17. In a village, there lived a young girl named Maya. She loved exploring nature and understood the importance of conserving natural resources. Why did Maya think conserving soil was essential?
- Because soil erosion doesn't impact farming.
 - Because healthy soil is vital for growing crops and preserving biodiversity.
 - Because soil degradation doesn't affect water quality.
 - Because adding chemicals to the soil benefits the environment.
18. What does sustainable agriculture primarily focus on?
- Maximising short-term profits regardless of environmental impact
 - Minimising the use of renewable resources
 - Balancing economic viability with environmental health
 - Ignoring the long-term implications of farming methods
- Only 1
 - Only 3
 - Both 2 and 3
 - Both 1 and 4
19. What are some diseases that can spread due to poor sanitation and hygiene?
- Diarrheal diseases, such as cholera and dysentery.
 - Respiratory infections, such as pneumonia and influenza.
 - Skin infections, such as scabies and ringworm.
 - Parasitic infections, such as worms and lice.
- Only 1
 - Only 2
 - Only 2 and 3
 - 1, 2, 3 and 4

20. As the seasons passed, the town experienced more frequent and severe storms. How might these extreme weather events be linked to climate change?
- Natural weather cycles occurring randomly.
 - Increased deforestation in the surrounding areas.
 - Shifts in ocean currents affecting atmospheric patterns.
 - Rapid urbanisation leading to weather alterations.
21. During one of their hikes, the friends encountered a variety of wildlife, including polar bears and penguins that seemed displaced. What could be a likely reason for these animals to be found far away from their natural habitats?
- They were seeking new places to breed.
 - Climate change disrupted their usual food sources and habitats.
 - They were migrating for seasonal changes.
 - Human intervention caused their displacement.
22. In a coastal town, residents have noticed a significant increase in the intensity and frequency of storms and hurricanes over the past few years. What could be linked to the observed stronger and more frequent storms and hurricanes?



- Declining sea levels providing more energy for storm systems.
 - Warmer ocean waters intensifying storm development.
 - Decline in global population density.
 - Reduced levels of atmospheric humidity.
23. In the Arctic, the habitat of polar bears, the ice is melting due to changing weather patterns. What might be the consequence for the polar bears?
- Increased availability of hunting grounds.
 - Decline in access to their primary food sources.
 - Expansion of their natural habitat.
 - Decreased risk of extinction.
24. In a dense rainforest, scientists discovered various types of colourful birds, numerous species of trees, and countless insects living harmoniously together. Which term best describes this incredible variety of life on Earth, including plants, animals, and microorganisms in this ecosystem?
- Biodiversity
 - Ecology
 - Adaptation
 - Habitat
25. Lily learns about a new technology that converts food waste into biogas for cooking fuel. What are the potential benefits of this approach?
- Increased dependency on fossil fuels
 - Escalation of greenhouse gas emissions
 - Establishment of a centralised source of renewable energy
 - Reduction of waste and diversion of organic matter from landfills

26. While driving through a forested area, Joseph witnessed the aftermath of a wildfire that had recently swept through. He observed the scorched landscape and its impact on the surroundings.
What consequences might wildfires have on animal habitats based on Joseph's observations?
- Providing a renewed and safer environment for animal habitation
 - No significant impact on animal habitats as they adapt easily to burned areas
 - Stimulating wildlife to migrate to unaffected areas for improved living conditions
 - Disrupting and damaging existing habitats, displacing wildlife, and affecting their sources of food and shelter
27. Tom and Lily were thinking about different sources of energy for their home.
Which options are renewable energy sources?

- Coal and natural gas
- Solar energy and wind energy
- Hydro energy and geothermal energy



- Only 1
 - Only 3
 - Both 1 and 2
 - Both 2 and 3
28. In a town nestled near a volcanic region, residents are exploring an energy source that ensures consistent power regardless of the time of day or weather conditions. Which energy source would be most beneficial for this town's uninterrupted energy needs?
- Solar power from panels
 - Wind turbines on nearby hills
 - Hydroelectric power from a nearby river
 - Geothermal energy from underground heat
29. Sarah watches how camels survive in the hot desert. What adaptations of camels, observed by Sarah, to survive in this harsh desert habitat?



- Long eyelashes, ear hairs, fat storage in humps, specialised kidneys
- Having retractable claws for better grip on sandy surfaces.
- Ability to flatten their bodies to absorb heat from the desert sand.
- Ability to close their nostrils to prevent sand from entering while breathing.

30. Jack was excited for a beach walk but found trash scattered along the shore. Which source of marine pollution is most likely responsible for this plastic mess?



- a. Industrial waste is dumped directly into the ocean
b. Shipwrecks and abandoned fishing gear
c. Runoff from cities carrying microplastics from everyday products
d. Single-use plastic bags and bottles carelessly discarded on land
31. A group of students decided to experiment with natural water purification methods. They placed layers of rock, sand, and charcoal in a bottle as shown in the picture and poured water through it.
What is the primary purpose of the charcoal layer in this water purification setup?



- a. To add minerals to the water
b. To enhance the taste of the water
c. To improve the water's colour
d. To remove impurities and toxins
32. Diana is passionate about reducing waste at school. She proposes a competition where students create musical instruments using only recycled materials.
Which of these instruments would be the least likely to be created using recycled materials?
- a. A drum made from an old paint bucket and wooden spoons
b. A guitar with a body fashioned from cardboard and strings made from fishing line
c. A keyboard with keys made from bottle caps and a frame from scrap wood
d. A flute carved from a bamboo branch
33. You're studying the growth of a colony of rabbits in a field near a factory. You notice that the rabbits are smaller and less healthy than rabbit populations in other areas.
What could be the reason for this?
- a. The factory is emitting noise pollution, disrupting the rabbits' sleep and breeding.
b. The factory is dumping chemicals into the soil, contaminating the plants the rabbits eat.
c. The factory is attracting predators to the area, putting the rabbits at risk.
d. The factory is changing the climate of the area, making it less suitable for rabbits.

34. A group of scientists conducted a study on the impact of deforestation in a particular region. They observed an increase in the concentration of greenhouse gases in the atmosphere. Which role of forests in mitigating climate change was directly affected in this scenario?

- a. Soil erosion prevention
- b. Providing shade to reduce temperature
- c. Carbon storage
- d. Enhancing nutrient cycling

35. At a bustling street market, Orry and Sara dig into delicious street food. Sara washes her hands with tap water provided by the vendor, while Orry opts for a quick wipe with a tissue provided by his friend.

Who is more likely to experience foodborne illness, and why?



- a. Sara, because tap water in crowded places might be contaminated.
- b. Orry, because tissues are ineffective against grease and foodborne bacteria.
- c. Both, as neither tap water nor tissues, provide sufficient protection against foodborne bacteria.
- d. Neither, because the street food was probably freshly prepared and hygienic.

36. Based on your understanding of the water cycle, which of the following phenomena is not a form of precipitation?

- a. Rain
- b. Fog
- c. Hail
- d. Snow

37. In a study comparing the environmental effects of traditional light bulbs to energy-efficient LED bulbs, researchers found that LED bulbs contribute to reducing greenhouse gas emissions.

What feature of LED bulbs contributes to this positive outcome?

- a. They convert most of their energy into light, producing minimal heat and reducing energy waste.
- b. They are made from recyclable materials, minimising their environmental impact.
- c. They are powered by renewable energy sources, like solar panels, eliminating reliance on fossil fuels.
- d. They last longer than traditional bulbs, reducing waste and resource consumption.

38. You're excited to celebrate your friend's birthday and want to make them a special card. But you also care about the environment and want to be eco-friendly.

Which option for your birthday card is the most sustainable?

- a. Buy a pre-made card made from recycled paper with plastic glitter and foil accents.
- b. Download and print a colourful card design on printer paper.
- c. Order a custom-made card printed on high-quality paper.
- d. Craft a card using upcycled materials like old fabric, cardboard, or buttons.

39. Jose's school organises a paper drive to collect used paper for recycling. Why is responsible paper consumption important, even though trees are constantly growing?
- Recycling paper saves trees from being cut down.
 - Reducing paper use helps conserve water and energy used in production.
 - Recycled paper has properties that make it better than new paper.
 - Trees are abundant, and cutting them down for paper doesn't impact the environment.
40. Imagine you're on an underwater adventure, exploring the impacts of climate change on marine life. As you dive deep, you encounter fascinating creatures. Which marine animals might struggle the most due to ocean acidification?
- Clownfish in coral reefs
 - Dolphins in the ocean
 - Sharks in the deep sea
 - Seagulls on the beach

Green Challenger (Each Question is 6 Marks)

41. A study analysed water samples from a polluted lake and found high levels of heavy metals such as lead and mercury. What is the potential impact of these heavy metals on the ecosystem of the lake?
- Heavy metals can accumulate in organisms and disrupt the food chain
 - Heavy metals can promote biodiversity and enhance ecosystem health
 - Heavy metals have no effect on the lake ecosystem
 - Heavy metals can purify the lake water
42. In a small village nestled between rolling hills, there lived a diligent farmer named Sarah. Her fields were her pride, where she cultivated various crops to feed her family and the community.
- One year, the village experienced an unusually prolonged drought, with rain becoming a distant memory. Sarah faced a significant challenge in managing her crops.
- What steps did Sarah take to cope with the effects of the prolonged drought on her crops?
- She relied solely on rainwater and didn't take any additional measures.
 - Sarah implemented drip irrigation and water conservation techniques.
 - She abandoned her fields and moved to another village
 - Sarah increased the use of chemical fertilisers to compensate for the lack of rain
43. In the bustling city of Aqua City, water is a precious commodity. The city's residents rely heavily on the local water treatment plant to provide them with clean and safe drinking water. Rachel, a curious and environmentally conscious young girl, is fascinated by the intricate process of water purification and the role it plays in ensuring the well-being of her community. One day, Rachel decides to embark on a journey to learn more about the sources of clean water, the water purification methods employed at the city's water treatment plant, and the importance of conserving this vital resource.
- What are the primary sources of clean water?
- Surface water from rivers, lakes, and reservoirs
 - Groundwater from aquifers
 - Desalination of seawater

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

44. Mac and Sam are two community leaders in a town both are passionate about finding ways to reduce reliance on fossil fuels.

Which action would have the most significant impact?

- a. Advocating for policy changes that promote renewable energy and discourage fossil fuels.
- b. Buying locally sourced food to reduce transportation emissions.
- c. By using the car for short trips or by increasing personal transportation.
- d. Removing all existing solar panels from buildings and homes.

45. In Country X, the government is facing the challenges of adapting to climate change impacts, particularly in regions prone to floods and hurricanes. They've initiated various strategies to mitigate these effects.

Which of the following strategies is/are NOT a viable approach for Country X to adapt to climate change impacts based on the case study?

- 1. Implementing sustainable resource management practices.
- 2. Developing early warning systems for extreme weather events.
- 3. Investing in climate-resilient infrastructure and agriculture.
- 4. Promoting deforestation and habitat destruction for economic gain.

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

46. A group of scientists is studying the ocean and how living things help clean up waste. Who is very important in the ocean for turning old stuff into useful nutrients?

- a. Seaweed
- b. Tiny living things called Bacteria.
- c. Fish that eat plants.
- d. Green plants called Seagrass

47. Jake was on a jeep tour through a vast savanna with scattered trees, tall grasses, and large herbivores like zebras and giraffes. What adaptation helps these animals thrive in this seasonal ecosystem?

- 1. Thick fur or feathers for insulation against harsh desert temperatures.
- 2. Webbed feet and gills for navigating rivers and swamps in wetland ecosystems.
- 3. Long legs and speed for efficient grazing and escaping predators in the open terrain.
- 4. Thick blubber and streamlined bodies for swimming and hunting prey in polar regions.

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

48. Your class embarks on a school energy audit. Which areas should you investigate to understand how your school uses different forms of energy and identify potential conservation opportunities?

- 1. Lighting, heating, and ventilation systems
- 2. Classroom equipment, computers, and electronics
- 3. Water usage, waste disposal, and recycling practices

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

49. Blair's family always uses reusable shopping bags and avoids buying bottled water. They also eat mostly plant-based meals and compost food scraps. Serena's family uses plastic bags, drinks bottled water, and throws away food scraps. Select the statement(s) that accurately shows how Blair and Serena's families' consumption affects the environment.

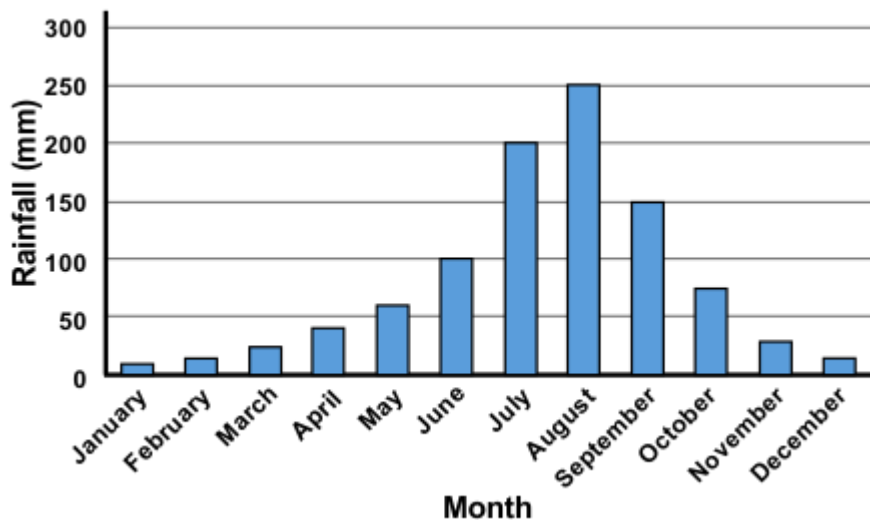
1. Blair's family uses less plastic, reducing pollution and resource depletion.
2. Blair's family consumes more energy due to using reusable bags.
3. Blair's family contributes more greenhouse gases through plant-based meals.
4. Serena's family has a smaller environmental footprint because they buy less.

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

50. Your village receives heavy rainfall during the monsoon months of July and August as shown in the graph below. However, the remaining months experience significantly less rainfall, leading to water scarcity during the dry season.

What would be the most effective strategy to address this water scarcity issue?

1. Plant more trees throughout the village to increase overall rainfall.
2. Implement rainwater harvesting systems on every household rooftop.
3. Educate villagers about water conservation practices and rainwater harvesting techniques.



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

Answer Key

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