



Environmental Science Examination IAC European Championships 2026

Instructions – Mark your answers on the scantron provided. Correct answers are worth 2 points. Incorrect answers are worth –1 point. Questions left blank are worth 0 points. Write the answer to your tiebreaker question in the box at the top of your scantron.

1. Which of these is a renewable resource?
 - A. Coal
 - B. Petroleum
 - C. Uranium
 - D. Biomass
2. What happens to water when it turns from a liquid into a gas and rises into the sky?
 - A. Condensation
 - B. Precipitation
 - C. Evaporation
 - D. Freezing
3. What do you call a resource that nature cannot replace in a human lifetime?
 - A. Renewable resource
 - B. Nonrenewable resource
 - C. Infinite resource
 - D. Recyclable resource
4. Which gas do plants take in from the air to make their own food?
 - A. Oxygen
 - B. Carbon dioxide
 - C. Neon
 - D. Carbon monoxide
5. Which adaptation allows an organism to blend into its surroundings to avoid predators or catch prey?
 - A. Mimicry
 - B. Mutualism
 - C. Hibernation
 - D. Camouflage
6. What process do plants use to make food using sunlight?
 - A. Phototropism
 - B. Fermentation
 - C. Photosynthesis
 - D. Chemosynthesis
7. What do you call an animal that eats only plants?
 - A. Carnivore
 - B. Herbivore
 - C. Omnivore
 - D. Decomposer
8. Which of these animals is a carnivore?
 - A. Cow
 - B. Rabbit
 - C. Lion
 - D. Deer
9. In a food chain, what role do plants play?
 - A. Producers
 - B. Consumers
 - C. Decomposers
 - D. Predators
10. What do fungi and bacteria do in an ecosystem?
 - A. Create energy from the sun
 - B. Hunt for fresh meat
 - C. Break down dead plants and animals
 - D. Drink ocean water
11. What is the process of breaking down old products to make new ones called?
 - A. Reusing
 - B. Reducing
 - C. Recycling
 - D. Rejecting
12. Which of the following is an example of reusing a material?
 - A. Throwing an empty can in the trash
 - B. Turning an old plastic bottle into a pencil holder
 - C. Melting glass to make a new bottle
 - D. Buying a new plastic bag every time you shop
13. Which of these is NOT a fossil fuel?
 - A. Coal
 - B. Petroleum
 - C. Wood
 - D. Natural gas

14. Which gas is the most abundant in Earth's atmosphere?
- Oxygen
 - Helium
 - Argon
 - Nitrogen
15. What type of pollution makes the air dirty and hard to breathe?
- Water pollution
 - Noise pollution
 - Soil pollution
 - Air pollution
16. Cutting down large forests is known as...
- Deforestation
 - Afforestation
 - Reforestation
 - Conservation
17. Which of these materials is biodegradable and can break down naturally?
- A rubber tire
 - A banana peel
 - An aluminum can
 - A styrofoam cup
18. What are the three steps of the 3Rs for saving the environment?
- Run, Rest, Relax
 - Read, Recycle, Reheat
 - Reduce, Reuse, Recycle
 - Repair, Replace, Restock
19. What is the solid, rocky outer layer of the Earth called?
- Hydrosphere
 - Atmosphere
 - Biosphere
 - Lithosphere
20. Which of the following is an example of an abiotic factor in a pond ecosystem?
- A water lily
 - A dragonfly
 - Dissolved oxygen in the water
 - An algae-eating snail
21. Which of these is an example of a freshwater habitat?
- Atlantic Ocean
 - Coral reef
 - Local pond
 - Salt marsh
22. What is the part of Earth where all living things are found?
- Lithosphere
 - Hydrosphere
 - Biosphere
 - Exosphere
23. Which of these protects Earth from harmful rays from the Sun?
- The ozone layer
 - The exosphere
 - The continental crust
 - The troposphere
24. Which of the following is a clean source of electricity that does not cause pollution?
- Burning coal
 - Solar power
 - Driving gasoline cars
 - Using oil
25. What do you call a natural home for a plant or animal?
- A food web
 - A habitat
 - A community
 - A population
26. When an animal or plant species completely dies out, it is called...
- Endangered
 - Threatened
 - Migrating
 - Extinct
27. Why are bees considered keystone species in many environments?
- They are highly effective pollinators for plants
 - They produce honey for humans
 - They are the only insects that fly
 - They control the population of small pests
28. What is the gradual rise in Earth's temperature called?
- Stratospheric depletion
 - Atmospheric stabilization
 - Global warming
 - Thermal inversion
29. Which of these helps make soil fertile for farming?
- Sand
 - Rocks
 - Compost
 - Plastic
30. What is the best way to generate electricity in a very sunny place without burning fossil fuels?
- Wind turbines
 - Solar panels
 - Coal power plants
 - Wood fires
31. Which of these is NOT an example of a natural resource?
- Water
 - Sunlight
 - Nylon
 - Soil

32. What type of pollution is caused by loud sounds in a city?
- A. Air pollution
 - B. Water pollution
 - C. Noise pollution
 - D. Land pollution
33. What is a long period without rain called?
- A. Flood
 - B. Drought
 - C. Earthquake
 - D. Tsunami
34. Which of these breaks down food scraps into rich soil?
- A. Houseflies
 - B. Earthworms
 - C. A landfill compaction machine
 - D. Household blenders
35. How much of the Earth's surface is covered by water?
- A. About 25%
 - B. About 50%
 - C. About 70%
 - D. About 90%
36. Which of these is the Earth's primary source of heat and light?
- A. The Moon
 - B. Stars
 - C. Volcanoes
 - D. The Sun
37. What should we do to save clean drinking water?
- A. Leave the tap running while brushing teeth
 - B. Take very long baths every day
 - C. Water the grass during the hottest part of the day
 - D. Fix leaking pipes and faucets quickly
38. Which type of energy uses the movement of rivers and oceans to make electricity?
- A. Solar power
 - B. Wind energy
 - C. Hydropower
 - D. Geothermal energy
39. What is the process of planting new trees in an area where forests were cut down?
- A. Reforestation
 - B. Desertification
 - C. Clear-cutting
 - D. Afforestation
40. What is an organism called that creates its own food?
- A. Producer
 - B. Consumer
 - C. Decomposer
 - D. Scavenger
41. How does cutting down large areas of forests, also known as deforestation, directly affect the water cycle?
- A. It increases the amount of groundwater available.
 - B. It reduces the amount of water vapor released into the air through transpiration.
 - C. It speeds up the condensation process in clouds.
 - D. It stops all rainfall permanently in that area.
42. Which process describes how a pollutant, like a heavy metal, increases in concentration as it moves up the food chain?
- A. Photosynthesis
 - B. Biodegradation
 - C. Biomagnification
 - D. Eutrophication
43. What is the primary cause of the "greenhouse effect" on Earth?
- A. Gases in the atmosphere trapping heat from the sun.
 - B. The planet gets closer to the sun during summer.
 - C. Heat escaping from volcanic eruptions under the ocean.
 - D. Too many green plants producing oxygen.
44. Which watershed management practice best helps prevent soil erosion near a riverbank?
- A. Paving the riverbank with smooth concrete.
 - B. Planting native trees and shrubs along the edge of the water.
 - C. Removing all rocks from the riverbed.
 - D. Diverting the river water into a straight plastic pipe.
45. Why is biodiversity important to an ecosystem?
- A. It ensures that every animal eats the exact same food.
 - B. It makes the ecosystem more resilient to environmental changes and diseases.
 - C. It prevents any new species from ever entering the habitat.
 - D. It keeps the weather exactly the same all year round.
46. What happens during the process of eutrophication in a pond?
- A. Excess nutrients cause an overgrowth of algae, which eventually lowers oxygen levels.
 - B. The water becomes perfectly clear and healthy for fish.
 - C. The pond completely dries up due to a lack of rainfall.
 - D. Acid rain lowers the pH until no plants can grow.
47. In the carbon cycle, which of the following processes removes carbon dioxide from the atmosphere?
- A. Cellular respiration
 - B. Combustion
 - C. Deforestation
 - D. Photosynthesis

48. Which of these is a direct benefit of using a compost bin at home?

- A. It eliminates the need for any water in the garden.
- B. It filters harmful microscopic particles out of the air.
- C. It reduces the amount of organic waste sent to landfills.
- D. It creates electricity to power household appliances.

49. What is an invasive species?

- A. A native animal that migrates to a warmer climate every winter.
- B. A non-native organism that causes ecological or economic harm to an environment.
- C. A species that has completely gone extinct from the Earth.
- D. A microscopic plant that only grows in deep ocean trenches.

50. What applied science subject incorporates plant science and environmental conservation, like caring for a community garden?

- A. Astronomy
- B. Horticulture
- C. Metallurgy
- D. Seismology

51. What does a high Biological Oxygen Demand (BOD) usually indicate in a stream or river?

- A. The water is extremely clean and safe
- B. The presence of many large fish
- C. Low amounts of sunlight reaching the bottom
- D. High levels of microbial pollution in the water

52. Why does a sudden increase in ocean acidity pose a major threat to marine organisms like coral polyps and clams?

- A. It makes the water too hot for them to breathe.
- B. It dissolves the dissolved oxygen they need to swim.
- C. It prevents them from absorbing calcium carbonate to build their shells.
- D. It forces them to migrate to freshwater rivers.

53. Which of the following best describes how the "rain shadow effect" creates a desert on one side of a high mountain range?

- A. The mountain blocks all sunlight from reaching the desert side.
- B. Moist air rises and drops its rain on the windward side, leaving dry air to sink down the leeward side.
- C. Trees on top of the mountain suck up all the water before it can flow down.
- D. Volcanoes inside the mountain heat up the soil on one side until it dries out.

54. Why is topsoil erosion considered such a severe environmental crisis for agriculture?

- A. Topsoil contains the highest concentration of organic matter and nutrients, and it takes centuries to form just one inch.
- B. Topsoil is the only layer of Earth that can absorb sunlight.
- C. Eroded topsoil turns into toxic volcanic ash when it reaches the ocean.
- D. Without topsoil, plants will grow upside down.

55. A clean, rapid-flowing mountain stream runs past a new construction site. Dirt from the site washes into the water, making it very muddy. How does this increased turbidity directly harm the stream's ecosystem?

- A. It increases the water temperature to a boiling point.
- B. It blocks sunlight from reaching aquatic plants and clogs the gills of fish.
- C. It introduces invasive saltwater fish into the freshwater stream.
- D. It speeds up the water flow until the stream dries out.

56. Legume plants, such as peas and beans, have a special relationship with Rhizobium bacteria living in their roots. Why is this relationship critical to the nitrogen cycle?

- A. The bacteria destroy toxic nitrogen compounds to protect the plant.
- B. The plant uses the bacteria to photosynthesize without needing sunlight.
- C. The bacteria turn water into nitrogen gas to keep the soil dry.
- D. The bacteria fix atmospheric nitrogen gas into ammonia, which the plants can use for growth.

57. Which layer of Earth's atmosphere contains the ozone layer that protects us from ultraviolet radiation?

- A. Troposphere
- B. Stratosphere
- C. Mesosphere
- D. Thermosphere

58. What environmental problem is directly caused by a reaction between sulfur dioxide, nitrogen oxides, and water vapor in the atmosphere?

- A. Ocean acidification
- B. The greenhouse effect
- C. Acid rain
- D. Eutrophication

59. Which process describes how a toxin, like mercury, increases in concentration in the bodies of organisms as it moves up the food chain?

- A. Bioaccumulation
- B. Biomagnification
- C. Bioremediation
- D. Biosynthesis

60. How do urban areas create "heat islands"?
- Air conditioning units pump hot air outside into the atmosphere.
 - Dark surfaces like asphalt and roofs absorb and trap solar heat.
 - Cities are physically closer to the sun due to high-rise buildings.
 - Large populations of people naturally radiate massive amounts of body heat.
61. If a new predatory species is introduced into an ecosystem and has no natural predators of its own, what is the most likely immediate impact on the trophic pyramid?
- The primary consumers will increase in population, causing producers to disappear.
 - The energy available at the producer level will double instantly.
 - The populations of its direct prey species will decline, disrupting the balance of lower trophic levels.
 - Decomposers will stop breaking down organic material due to lack of space.
62. Which resource requires the longest amount of time to naturally renew itself?
- Topsoil
 - Groundwater
 - Iron ore
 - Timber
63. What is an aquifer?
- A layer of underground rock or sediment that holds water
 - A machine used to filter salt out of ocean water
 - A protected coastal area where freshwater meets the sea
 - A cloud formation that produces heavy tropical rainfall
64. What is the term for the maximum population size of a species that a specific environment can sustainably support?
- Carrying capacity
 - Growth rate
 - Population density
 - Biotic potential
65. Why are microplastics considered a unique and dangerous threat to marine ecosystems compared to large plastic trash like bottles?
- They instantly dissolve in water, altering the chemical pH of the entire global ocean.
 - They are easily swallowed by small marine organisms, entering the food web and absorbing toxic chemicals.
 - They float into the upper atmosphere and block sunlight from reaching the planet's surface.
 - They are magnetic and pull marine navigation systems off course.
66. What happens to the available energy as it moves up from one trophic level to the next in an energy pyramid?
- It increases by about 90%
 - It stays exactly the same
 - It decreases by about 90%
 - It doubles at every level
67. Which soil horizon is generally richest in organic matter and humus?
- A Horizon (Topsoil)
 - B Horizon (Subsoil)
 - C Horizon (Parent material)
 - R Horizon (Bedrock)
68. What is the primary difference between point-source and non-point-source pollution?
- Point-source pollution is caused by humans, while non-point-source is natural.
 - Point-source pollution comes from a single, identifiable location, whereas non-point-source comes from diffuse, scattered sources.
 - Point-source pollution only affects water, while non-point-source only affects air.
 - Point-source pollution is a renewable problem, while non-point-source is non-renewable.
69. Why are estuaries considered some of the most productive ecosystems on Earth?
- They have a constant depth and temperature year-round.
 - They are completely isolated from human activity.
 - The mixing of fresh water and salt water traps nutrients, creating rich habitats for diverse life.
 - They contain the highest concentration of coral reefs.
70. Which of the following greenhouse gases is naturally released, but is also a major contributor to global warming that is largely produced by raising livestock?
- Nitrous oxide
 - Carbon dioxide
 - Methane
 - Chlorofluorocarbon (CFC)

Tiebreaker

This question will only be scored if there is a tie for placement on the exam. **This is a required question, but there is no penalty for a wrong answer to this question.** Write your answer legibly in the space provided on your scantron.

What is the surface area in square kilometers of Lake Erie?