GRADE 7 GENERAL SCIENCE

END OF TERM 1 EXAMINATION

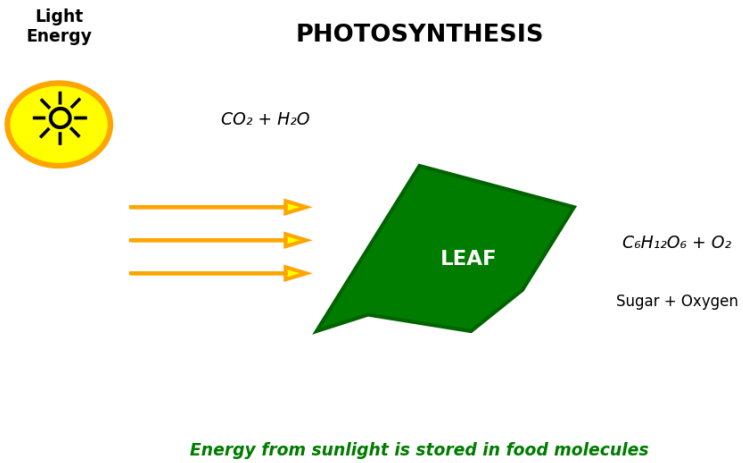
SECTION A: MULTIPLE CHOICE QUESTIONS (20 marks)

Circle the correct answer for each question.

1. Which best defines an ecosystem?

A. All living organisms in an area
B. All living and nonliving things in an area and their interactions
C. Only plants and animals in a habitat
D. The physical environment where organisms live

2. Which is the best explanation of the change in energy shown in the photosynthesis model?



A. New energy is produced by plants during photosynthesis
B. Large amounts of energy are released into the environment
C. Energy from sunlight is destroyed as it powers photosynthesis
D. Energy from the environment is stored in food molecules during photosynthesis

3. Where does photosynthesis occur?

A. Mitochondria
B. Chloroplasts
C. Nucleus
D. Cell membrane

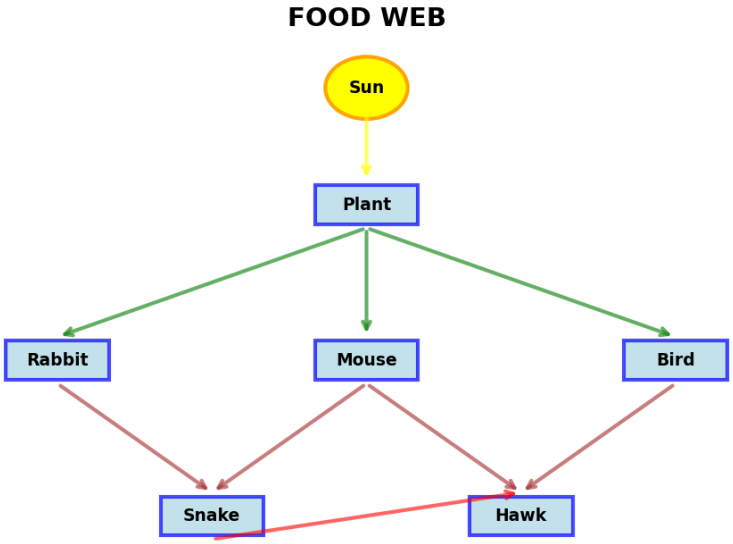
4. Which organisms perform cellular respiration?

A. Only animals
B. Only plants
C. Only animals and plants
D. All living organisms

5. Producers get their energy from:

A. Eating other organisms
B. Sunlight through photosynthesis
C. Decomposing dead matter
D. Absorbing nutrients from soil only

6. Analyze the food web. Which statement is correct?



A. The model tracks energy transfer as energy flows in the ecosystem
B. Transfer of matter back into environment occurs only at detritivore level
C. The model shows transfer of matter only
D. Decomposers use matter but not energy for life processes

7. What is the difference between a food chain and a food web?

A. Food chains show one pathway; food webs show multiple pathways
B. Food chains show energy; food webs show matter
C. Food chains are for land; food webs are for water
D. There is no difference

8. What is nitrogen fixation?

A. Process of removing nitrogen from soil
B. Converting atmospheric nitrogen into usable forms for plants
C. Plants releasing nitrogen into air
D. Animals consuming nitrogen

9. In the nitrogen cycle model shown, what is the function of bacteria in the soil?

A. They prevent nitrogen from harming plants
B. They remove nitrogen from the soil
C. They remove oxygen from the soil
D. They return nitrogen to the system

10. Which would cause a population to decrease?

A. Increased food supply
B. Lack of predators
C. Disease outbreak
D. Abundant water

11. What characterizes extinction?

A. When a species moves to a new habitat
B. When all members of a species have died
C. When a species evolves into a new species
D. When population temporarily decreases

12. Mutualism is a relationship where:

A. One organism benefits, the other is harmed
B. Both organisms benefit
C. One benefits, the other is unaffected
D. Both organisms are harmed

13. An example of a predator-prey relationship is:

A. Bees and flowers
B. Lion and zebra
C. Remora fish and shark
D. Birds building nests in trees

14. What is a climax community?

A. The first organisms to colonize an area
B. A stable, mature ecosystem
C. An ecosystem experiencing rapid change
D. The final stage before extinction

15. After a devastating forest fire, small green sprouts begin to appear. What is happening?

A. The forest is undergoing primary succession
B. The forest is undergoing secondary succession
C. The green sprouts will not grow into full plants
D. The forest is suffering from eutrophication

16. What is biodiversity?

A. The number of plants in an area
B. The variety of life in an ecosystem
C. Only endangered species
D. The study of biology

17. Based on the graph showing plant species diversity and drought resistance, what conclusion can be made?

A. As plant biodiversity increases, resistance to drought decreases
B. As plant biodiversity increases, resistance to drought increases
C. Ecosystems with lower biodiversity are better able to respond to changes
D. Ecosystems with higher biodiversity are less able to respond to changes

18. Which is a threat to biodiversity?

A. Protected national parks
B. Habitat destruction
C. Biodiversity monitoring
D. Wildlife conservation programs

19. What are limiting factors?

A. Factors that have no effect on populations
B. Factors that limit population growth
C. Factors that only help populations grow
D. Factors that only affect plants

20. In an energy pyramid, approximately what percent of energy transfers from one trophic level to the next?

A. 100%
B. 50%
C. 10%
D. 1%

SECTION B: SHORT ANSWER & EXTENDED RESPONSE (20 marks)

21. Define ecosystem. (1 mark)

_____

_____

22. Compare photosynthesis and cellular respiration. Include what is required and what is produced for each process. (3 marks)

_____

_____

_____

_____

_____

23. Define herbivore, carnivore, and omnivore. Give one example of each. (2 marks)

_____

_____

_____

_____

24. Describe the nitrogen cycle. Include the role of bacteria. (2 marks)

_____

_____

_____

_____

25. Describe the carbon cycle. How do photosynthesis and cellular respiration fit into this cycle? (2 marks)

_____

_____

_____

_____

26. Label the water cycle diagram with: evaporation, condensation, and precipitation. (1 mark)

_____

_____

27. List three reasons why populations would decrease and three reasons why populations would increase. (2 marks)

_____

_____

_____

_____

28. What is a symbiotic relationship? Describe and give examples of mutualism, parasitism, and commensalism. (3 marks)

_____

_____

_____

_____

_____

_____

29. Provide examples of: (a) predator-prey relationship, (b) cooperative relationship, (c) competitive relationship. (2 marks)

_____

_____

_____

_____

30. Compare and contrast primary succession and secondary succession. (2 marks)

_____

_____

_____

_____

31. What are the levels of organization in an environment from smallest to largest? Describe the relationship between them. (2 marks)

_____

_____

_____

_____

32. Define biome. List the characteristics of TWO of the following biomes: Desert, Tropical Rainforest, Tundra, Taiga. (2 marks)

_____

_____

_____

_____

_____

_____

33. What is carrying capacity? How does it relate to limiting factors? Define overpopulation. (2 marks)

_____

_____

_____

_____

34. A population of coyotes reaches carrying capacity. What is happening and why? (2 marks)

_____

_____

_____

35. How do scientists measure biodiversity? Why is this important? (2 marks)

_____

_____

_____

36. List three threats to biodiversity and three strategies that can help maintain biodiversity. (2 marks)

_____

_____

_____

_____

37. How does human activity cause disruptions in ecosystems? Give specific examples. (2 marks)

_____

_____

_____

_____

38. Evaluate possible solutions to combat threats to biodiversity. Which would be LEAST effective and why? (2 marks)

_____

_____

_____

39. Explain how aquatic ecosystems change over time. What is eutrophication? (2 marks)

_____

_____

_____

_____

40. Define species. Why is it important to protect endangered species? (2 marks)

_____

_____

_____