Al Amal Learning Center

Class 9 Biology Chapter 1 MCQ Quiz Online | Level 2

Class 9 Biology · Chapter 1: The Science of Biology

Name: _____ Date: _____ Score: _____ / 64

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1. A student wonders why leaves are green. Which step of science does this show?

A) Performing an experiment
B) Writing a law
C) Analysing data
D) Asking a question

2. Living things contain 60 to 90 percent water. What does this suggest about them?

A) They all have a common origin in water
B) They cannot live without sunlight
C) They are all made of clay
D) They all have the same shape

3. Why is biology divided into many sub-fields?

A) Because living things cannot be studied
B) It makes the study of life more convenient
C) Because each organism has a different science
D) To separate biology from other sciences

4. A scientist studies bacteria that cause infections. Which main division of biology is this?

A) Botany
B) Zoology
C) Microbiology
D) Taxonomy

5. A student studies the roots, stem, leaves, flowers and fruits of a flowering plant. Which branch is this?

A) Physiology
B) Morphology
C) Genetics
D) Cytology

6. A doctor studies the position of the heart, brain and kidneys inside the body. Which branch is this?

A) Anatomy
B) Taxonomy
C) Ecology
D) Embryology

7. How does anatomy differ from physiology?

A) Anatomy studies function, physiology studies structure
B) Anatomy studies plants, physiology studies animals
C) Anatomy studies structure, physiology studies function
D) There is no difference

8. A student studies how the stomach digests food. Which branch is this?

A) Anatomy
B) Physiology
C) Morphology
D) Pathology

9. A researcher examines a thin slice of skin under a microscope to study its tissue. Which branch is this?

A) Cytology
B) Embryology
C) Histology
D) Genetics

10. A scientist studies the parts of a plant cell and what each part does. Which branch is this?

A) Histology
B) Cytology
C) Anatomy
D) Ecology

11. Why do white cats produce white kittens?

A) Because of the environment
B) Because of the food they eat
C) Because of fossils
D) Because genes pass traits from parents to offspring

12. A scientist studies how a fertilized egg develops into a chick. Which branch is this?

A) Embryology
B) Histology
C) Taxonomy
D) Immunology

13. How do fossils help biologists?

A) They show the chemical reactions in cells
B) They help in understanding the life of the past and the process of evolution
C) They show how drugs work
D) They are used to name living plants

14. A scientist finds a new insect, places it in a group and gives it a scientific name. Which branch is involved?

A) Taxonomy
B) Ecology
C) Physiology
D) Morphology

15. A student studies how organisms in a pond depend on their surroundings. Which branch is this?

A) Marine biology
B) Cytology
C) Ecology
D) Genetics

16. A scientist studies whales and sponges living in the sea. Which branch is this?

A) Ecology only
B) Marine biology
C) Pathology
D) Histology

17. A doctor finds the cause of a disease from symptoms and tests. Which branch is involved?

A) Pharmacology
B) Embryology
C) Pathology
D) Taxonomy

18. Why does a vaccine protect a person from a disease?

A) It kills all microbes in the environment
B) It develops immunity in the body
C) It changes the genes of the person
D) It replaces the defective organs

19. A researcher tests how aspirin reduces fever and pain. Which branch is this?

A) Pathology
B) Immunology
C) Biochemistry
D) Pharmacology

20. A student studies how muscles and bones work like levers. Which science links with biology here?

A) Biophysics
B) Biochemistry
C) Biostatistics
D) Biogeography

21. Why is basic knowledge of chemistry necessary for studying biology?

A) Because cells are made of rocks
B) Because chemistry replaces biology
C) Because atoms and molecules determine the chemical properties and roles of cell components
D) Because biology has no laws of its own

22. Digestion, respiration and photosynthesis involve chemical reactions in organisms. Which science studies these reactions?

A) Biophysics
B) Biochemistry
C) Biogeography
D) Bio-economics

23. A researcher measures the heights of 500 plants and applies statistical rules to the data. Which science is this?

A) Biostatistics
B) Biotechnology
C) Biogeography
D) Biophysics

24. Which science uses mathematical models and computer simulations to understand biological systems?

A) Biogeography
B) Computational biology
C) Biochemistry
D) Biotechnology

25. A scientist studies why certain animals live only in certain regions of the world. Which science is this?

A) Biogeography
B) Biotechnology
C) Biostatistics
D) Biophysics

26. A scientist inserts the human insulin gene into bacteria so they can make insulin. Which branch is this?

A) Pharmacy
B) Biotechnology
C) Physiology
D) Anatomy

27. A study calculates the export value of rice and wheat production. Which science is this?

A) Biogeography
B) Biophysics
C) Biostatistics
D) Bio-economics

28. Why is biology called a non-isolated science?

A) Because it is not studied in schools
B) Because it is linked with physics, chemistry, statistics and other sciences
C) Because it has no sub-fields
D) Because it only studies animals

29. A person treats a disease by removing a diseased organ. Which field does this belong to?

A) Pharmacology
B) Pathology
C) Surgery
D) Physiology

30. How does agriculture differ from farming?

A) Farming is the growth of crops and animals, while agriculture is the science of improving farming methods
B) Farming is a science, agriculture is a practice
C) Farming deals with fish only
D) There is no difference

31. A person studies insects that damage crops. What is this person called?

A) Veterinarian
B) Agricultural entomologist
C) Forester
D) Horticulturist

32. A person is involved in the care and breeding of cattle and goats. Which field is this?

A) Fisheries
B) Forestry
C) Horticulture
D) Animal husbandry

33. A person works in plant breeding and the art of gardening. Which field is this?

A) Forestry
B) Fisheries
C) Horticulture
D) Surgery

34. A person manages and cares for forests. Which field is this?

A) Forestry
B) Horticulture
C) Agriculture
D) Fisheries

35. Why do scientists from different fields work together?

A) Because one scientist can never do research
B) To share knowledge and solve problems that no single field can solve alone
C) To avoid using experiments
D) To make research shorter

36. Cognitive Science combines neurology, psychology, linguistics and other fields. What is this an example of?

A) Biological method
B) Taxonomy
C) Interdisciplinary research collaboration
D) Deduction

37. A scientist applies computer skills to solve problems in life science. What is this scientist called?

A) Astrobiologist
B) Cryobiologist
C) Biomedical engineer
D) Bioinformatician

38. A scientist studies how low temperature affects living organisms. What is this scientist called?

A) Cryobiologist
B) Astrobiologist
C) Bioinformatician
D) Biomedical engineer

39. Which is the correct order of steps in the biological method?

A) Observation, hypothesis, experiment, deduction, result
B) Recognition of problem, hypothesis, observation, experiment, deduction
C) Recognition of problem, observation, hypothesis, deduction, experiment, result
D) Hypothesis, recognition of problem, deduction, observation, result

40. Which of the following is a qualitative observation?

A) Weight of a mango
B) Colour of a cat
C) Body temperature of a bird
D) Speed of a tiger

41. Which of the following is a quantitative observation?

A) Shape of a leaf
B) Song of a bird
C) Height of a giraffe
D) Colour of a flower

42. Why are quantitative observations considered more accurate?

A) They use only the sense of smell
B) They are measurable and expressed in numbers
C) They do not need observation
D) They are always repeated

43. Which statement is a hypothesis?

A) Plasmodium is the cause of malaria
B) The patient has fever
C) Malaria occurs near marshes
D) Quinine is a drug

44. Why must a hypothesis be testable and falsifiable?

A) So that it can be proved or rejected by experiments
B) So that it becomes a law immediately
C) So that no observation is needed
D) So that it never changes

45. Which is a correct deduction from the hypothesis "Plasmodium is the cause of malaria"?

A) If Plasmodium causes malaria, then marshes contain Plasmodium
B) If Plasmodium causes malaria, then quinine is harmful
C) If Plasmodium causes malaria, then all malaria patients should have Plasmodium in their blood
D) If Plasmodium causes malaria, then mosquitoes do not exist

46. Why is experimentation the most important step of the biological method?

A) It avoids the need for a hypothesis
B) It makes observation unnecessary
C) It always proves the hypothesis true
D) It rigorously tests the deductions and shows which hypothesis is correct

47. What is the purpose of a control group in an experiment?

A) To compare with the experimental group
B) To make the experiment faster
C) To replace the hypothesis
D) To avoid collecting data

48. If experimental results do not support a hypothesis, what should a scientist do?

A) Ignore the results
B) Declare it a law
C) Stop the research
D) Develop a new hypothesis and test it again

49. How is a hypothesis different from a theory?

A) A hypothesis is broader and has more evidence
B) A theory is broader in scope and supported by more evidence
C) A theory is a guess
D) They are exactly the same

50. When may a theory become a law?

A) When it is first proposed
B) When it has only one experiment
C) When it is verified and has wide application
D) When nobody tests it

51. Why may scientists modify or reject even a widely accepted theory?

A) Because theories are never based on evidence
B) Because new research methods may give results that do not fit
C) Because laws are always wrong
D) Because hypotheses are always correct

52. Which describes the correct handling of data?

A) Collect data, organize it in tables and graphs, then analyse it
B) Analyse it, then collect it
C) Write results before collecting data
D) Use only observations without data

53. Why was the cause of malaria a biological problem for centuries?

A) Because the disease did not affect people
B) Because the cause was not known
C) Because there was no mosquito
D) Because quinine did not exist

54. Drinking marsh water does not cause malaria, but malaria is common near marshes. What does this suggest?

A) Plasmodium lives in marsh water
B) Marsh water is a medicine
C) Something coming to the marsh must carry Plasmodium
D) Malaria is not a disease

55. Seven out of 100 healthy persons had Plasmodium in their blood and later became ill. What explains this?

A) They were immune
B) The control group failed
C) Plasmodium was dead
D) They were in the incubation period

56. People who slept under fine nets were less likely to get malaria. What does this observation suggest?

A) Nets kill Plasmodium
B) Something that bites or flies, such as a mosquito, is involved
C) Malaria is caused by cold
D) Nets cure malaria

57. Why did Ross let mosquitoes bite sick sparrows and then healthy sparrows?

A) To test whether mosquitoes transmit the parasite from sick to healthy hosts
B) To kill the sparrows
C) To cure the sparrows
D) To study bird feathers

58. Why are female mosquitoes responsible for spreading malaria?

A) They live longer than males
B) They are larger than males
C) They pierce the skin to draw blood
D) They live near marshes only

59. Why is a mosquito called a vector?

A) Because it carries a parasite and transfers it from one organism to another
B) Because it causes disease by itself
C) Because it kills parasites
D) Because it is a drug

60. What is the role of mosquito saliva during a bite?

A) It kills microbes
B) It prevents the blood from clotting
C) It causes fever directly
D) It acts as a vaccine

61. Which pair of disease, vector and cause is correct?

A) Malaria, Aedes, Dengue virus
B) Dengue, Anopheles, Plasmodium
C) Malaria, Anopheles, Plasmodium
D) Dengue, Culex, Plasmodium

62. Why is malaria more common near stagnant water ponds?

A) Plasmodium lives in the water
B) Mosquitoes breed in stagnant water
C) The water causes fever
D) Marsh plants carry Plasmodium

63. Why is preventing mosquito breeding important in controlling Dengue?

A) Dengue has a specific antiviral drug
B) Dengue is caused by marsh water
C) Without a specific drug, reducing mosquitoes and bites is the best protection
D) Mosquitoes do not carry Dengue

64. Which statement about Dengue fever is correct?

A) It is caused by Plasmodium and treated with quinine
B) It is spread by Anopheles
C) It spreads by drinking stagnant water
D) It is caused by a virus and has no specific antiviral drug

Answer key

1-D 2-A 3-B 4-C 5-B 6-A 7-C 8-B 9-C 10-B

11-D 12-A 13-B 14-A 15-C 16-B 17-C 18-B 19-D 20-A

21-C 22-B 23-A 24-B 25-A 26-B 27-D 28-B 29-C 30-A

31-B 32-D 33-C 34-A 35-B 36-C 37-D 38-A 39-C 40-B

41-C 42-B 43-A 44-A 45-C 46-D 47-A 48-D 49-B 50-C

51-B 52-A 53-B 54-C 55-D 56-B 57-A 58-C 59-A 60-B

61-C 62-B 63-C 64-D