1. What is the main purpose of respiration in living organisms?
1. To produce carbon dioxide
2. To release energy from food
3. To take in oxygen
4. To produce water
Answer: 2

2. Which gas is taken in during aerobic respiration?
1. Carbon dioxide
2. Oxygen
3. Nitrogen
4. Hydrogen
Answer: 2

3. What is the waste product of aerobic respiration?
1. Oxygen
2. Glucose
3. Carbon dioxide
4. Nitrogen
Answer: 3

4. Where in the cell does aerobic respiration occur?
1. Nucleus
2. Chloroplast
3. Mitochondria
4. Cell membrane
Answer: 3

5. What is the word equation for aerobic respiration?
1. Glucose + Oxygen $\rightarrow$ Carbon dioxide + Water + Energy
2. Carbon dioxide + Water $\rightarrow$ Glucose + Oxygen
3. Glucose $\rightarrow$ Lactic acid + Energy
4. Oxygen + Water $\rightarrow$ Carbon dioxide + Energy
Answer: 1

6. What type of respiration occurs without oxygen?
1. Aerobic respiration
2. Anaerobic respiration
3. Fermentation
4. Photosynthesis
Answer: 2

7. During vigorous exercise, what builds up in muscles due to anaerobic respiration?
1. Oxygen
2. Glucose
3. Lactic acid
4. Carbon dioxide
Answer: 3

8. Which process in yeast produces ethanol and carbon dioxide?
1. Aerobic respiration

2. Fermentation
3. Photosynthesis
4. Digestion
Answer: 2

9. What is oxygen debt?
1. The amount of oxygen needed to break down lactic acid
2. Borrowing oxygen from other cells
3. Not having enough oxygen in the blood
4. The oxygen used during exercise
Answer: 1

10. How does the body respond to increased oxygen demand during exercise?
1. Breathing rate decreases
2. Heart rate slows down
3. Breathing rate and heart rate increase
4. Blood pressure decreases
Answer: 3

11. What is respiration?
1. The process of breathing in and out
2. The process of releasing energy from food
3. The process of blood circulation
4. The process of digesting food
Answer: 2

12. Select the correct composition of blood
1. Plasma, red blood cells, white blood cells, platelets
2. Water, oxygen, carbon dioxide, nutrients
3. Cells, tissues, organs, systems
4. Veins, arteries, capillaries, heart
Answer: 1

13. Why do red blood cells not contain a nucleus?
1. To make them more flexible to fit through capillaries
2. To allow more space for carrying oxygen
3. To help them fight infections better
4. To make them divide faster
Answer: 2

14. Why do we need oxygen?
1. To breathe out carbon dioxide
2. For aerobic respiration to release energy
3. To make blood red
4. To keep lungs inflated
Answer: 2

15. What is the percentage of plasma in your blood?
1. About 25%
2. About 45%
3. About 55%

4. About 75%
Answer: 3

16. Name the pathway of oxygen as you inhale
1. Nose → Trachea → Bronchi → Bronchioles → Alveoli
2. Mouth → Lungs → Heart → Blood
3. Trachea → Nose → Alveoli → Bronchi
4. Bronchi → Trachea → Nose → Alveoli
Answer: 1

17. Name two structures that red blood cells do not have.
1. Nucleus and mitochondria
2. Cell wall and chloroplast
3. Vacuole and cell membrane
4. Ribosomes and cytoplasm
Answer: 1

18. How do white blood cells help defend against pathogens?
1. By producing antibodies and engulfing pathogens
2. By carrying oxygen to infected areas
3. By forming blood clots
4. By producing red blood cells
Answer: 1

19. Explain the importance of the cartilage rings in your windpipe/trachea
1. They keep the trachea open for air to pass through
2. They help in producing mucus
3. They filter the air we breathe
4. They help in speech production
Answer: 1

20. What happens to the intercostal muscles and diaphragm when we inhale?
1. Intercostals relax and diaphragm relaxes
2. Intercostals contract and diaphragm contracts
3. Intercostals relax and diaphragm contracts
4. Intercostals contract and diaphragm relaxes
Answer: 2

21. What is a producer in a food chain?
1. An organism that eats plants
2. An organism that makes its own food
3. An organism that breaks down dead matter
4. An animal that hunts other animals
Answer: 2

22. What is the original source of energy for almost all ecosystems?
1. Wind
2. Water
3. The Sun
4. Soil nutrients
Answer: 3

23. What do the arrows in a food chain represent?
1. Size of organisms
2. Direction of energy flow
3. Age of organisms
4. Population numbers
Answer: 2

24. Which term describes an organism that eats both plants and animals?
1. Herbivore
2. Carnivore
3. Omnivore
4. Detritivore
Answer: 3

25. What is the role of decomposers in an ecosystem?
1. To produce food for herbivores
2. To break down dead organisms and return nutrients to soil
3. To provide energy for carnivores
4. To compete with producers for sunlight
Answer: 2

26. What is a population?
1. All the organisms in an ecosystem
2. All the individuals of one species in an area
3. The variety of life in an area
4. The non-living parts of an environment
Answer: 2

27. What happens to energy as it moves through a food chain?
1. It increases at each level
2. It stays the same at each level
3. Some is lost as heat at each level
4. It is recycled back to producers
Answer: 3

28. Which of these is an abiotic factor in an ecosystem?
1. Trees
2. Rabbits
3. Temperature
4. Fungi
Answer: 3

29. Define the term 'habitat'
1. The role an organism plays in its ecosystem
2. The natural environment where an organism lives
3. All the living things in an area
4. The non-living conditions affecting organisms
Answer: 2

30. Differentiate between biomagnification and bioaccumulation

1. Bioaccumulation occurs in one organism, biomagnification occurs up a food chain
2. Biomagnification occurs in water, bioaccumulation occurs in soil
3. They are the same thing
4. Bioaccumulation increases, biomagnification decreases
Answer: 1

31. Select a non-living thing from the following ecosystem
1. Oak tree
2. Rabbit
3. Temperature
4. Fungi
Answer: 3

32. Define the term ecosystem
1. A group of the same species living together
2. All the living organisms in an area
3. A community of organisms and their physical environment
4. The variety of life in an area
Answer: 3

33. Define the term native species
1. Species that have been introduced to an area
2. Species that naturally occur in an area
3. Species that are endangered
4. Species that are predators
Answer: 2

34. What do ecologists study?
1. Only animal behavior
2. Only plant growth
3. The relationships between organisms and their environment
4. Only chemical processes in nature
Answer: 3

35. What is a food web?
1. A single chain of feeding relationships
2. Multiple interconnected food chains
3. A diagram showing energy loss
4. A list of all organisms in an area
Answer: 2

36. What is a herbivore?
1. An animal that eats only plants
2. An animal that eats only meat
3. An animal that eats both plants and animals
4. An organism that breaks down dead matter
Answer: 1

37. What is biodiversity?
1. The number of animals in an area
2. The variety of life in an area

3. The amount of energy available
4. The size of an ecosystem
Answer: 2

38. Which of these is a biotic factor?
1. Rainfall
2. Temperature
3. Predation
4. Sunlight
Answer: 3

39. What is a keystone species?
1. A species that has the largest population
2. A species that has a disproportionate effect on its ecosystem
3. A newly introduced species
4. A species that eats only plants
Answer: 2

40. What is the difference between a community and an ecosystem?
1. A community includes only plants, an ecosystem includes all organisms
2. A community is all living organisms, an ecosystem includes non-living factors too
3. They are the same thing
4. A community is larger than an ecosystem
Answer: 2

41. Which nutrient is needed for growth and repair of body tissues?
1. Carbohydrates
2. Proteins
3. Fats
4. Vitamins
Answer: 2

42. What is the main function of carbohydrates in the body?
1. Growth and repair
2. Energy supply
3. Insulation
4. Protection of organs
Answer: 2

43. Which vitamin deficiency causes scurvy?
1. Vitamin A
2. Vitamin B
3. Vitamin C
4. Vitamin D
Answer: 3

44. What mineral is needed for strong bones and teeth?
1. Iron
2. Calcium
3. Sodium
4. Potassium

Answer: 2

45. What is a balanced diet?
1. Eating only fruits and vegetables
2. Eating the same foods every day
3. Eating foods from all food groups in correct proportions
4. Eating only protein-rich foods
Answer: 3

46. Which of these is a function of fiber in the diet?
1. Provides energy
2. Helps prevent constipation
3. Builds muscles
4. Insulates the body
Answer: 2

47. What is the role of vitamin D in the body?
1. Helps blood to clot
2. Helps absorb calcium for strong bones
3. Protects against night blindness
4. Provides energy
Answer: 2

48. What are antagonistic muscles?
1. Muscles that work together to produce movement
2. Pairs of muscles that work against each other
3. Muscles that never get tired
4. Muscles that only work during exercise
Answer: 2

49. What is the function of iron in our body?
1. Strengthens bones
2. Forms part of hemoglobin in red blood cells
3. Helps blood clotting
4. Improves vision
Answer: 2

50. Not consuming enough iron can lead to which illness?
1. Scurvy
2. Rickets
3. Anemia
4. Diabetes
Answer: 3

51. What are the two most important minerals?
1. Iron and calcium
2. Sodium and potassium
3. Magnesium and zinc
4. Copper and iodine
Answer: 1

52. The best source of Vitamin D can be found in what food source?
1. Citrus fruits
2. Oily fish and sunlight
3. Red meat
4. Dairy products
Answer: 2

53. What important function does vitamin A have?
1. Helps with blood clotting
2. Important for vision and skin health
3. Strengthens bones
4. Helps absorb iron
Answer: 2

54. What is malnutrition?
1. Eating too much food
2. Not getting the right balance of nutrients
3. Only eating vegetables
4. Drinking too little water
Answer: 2

55. What is the function of carbohydrates?
1. Build and repair tissues
2. Provide energy
3. Protect organs
4. Help blood clot
Answer: 2

56. What is kwashiorkor?
1. A vitamin C deficiency disease
2. A protein deficiency disease
3. An iron deficiency disease
4. A calcium deficiency disease
Answer: 2

57. Which vitamin helps with blood clotting?
1. Vitamin A
2. Vitamin C
3. Vitamin D
4. Vitamin K
Answer: 4

58. What is the main source of energy for the brain?
1. Proteins
2. Fats
3. Carbohydrates
4. Vitamins
Answer: 3

59. What mineral is important for making thyroid hormones?
1. Iron

2. Calcium
3. Iodine
4. Zinc
Answer: 3

60. What is osteoporosis and what causes it?
1. Bone disease caused by vitamin D deficiency
2. Bone disease caused by calcium deficiency
3. Muscle disease caused by protein deficiency
4. Blood disease caused by iron deficiency
Answer: 2