

SECOND QUARTER EXAM in **EARTH AND LIFE SCIENCE**
School Year 2022-2023

Name: _____

Date: _____

Grade & Section: _____

Score: _____

General Directions: Read the following questions thoroughly and choose the correct answer from the given choices. Write legibly the LETTER of your correct answer on the blank provided before each number.

_____ 1. Dinosaurs are reptiles that existed for a very long time. Which era did these organisms evolve?

A. Cenozoic Era

C. Paleozoic Era

B. Mesozoic Era

D. Proterozoic Era

_____ 2. What are the first photosynthetic organisms that grew well on earth?

A. Bryophyllum

C. Stromatolites

B. Cyanobacteria

D. Zircon crystal

_____ 3. The oxygen revolution changed Earth's environment dramatically. Which of the following adaptations took advantage of the presence of free oxygen in the oceans and atmosphere?

A. The evolution of cellular respiration, which used oxygen to help harvest energy from organic molecules.

B. The evolution of chloroplasts after early protists incorporated photosynthetic cyanobacteria

C. The evolution of multicellular eukaryotic colonies from communities of prokaryotes.

D. The evolution of photosynthetic pigments that protected early algae from the corrosive effects of oxygen.

_____ 4. Why did it take millions of years for life to appear on Earth after the planet had formed?

A. It took millions of years for RNA to replace DNA.

B. The planet had warmed up enough to sustain life.

C. The planet had cooled down enough to sustain life.

D. Life on Earth could begin only when seedlings arrived on our planet from other worlds.

_____ 5. Which types of organisms developed first due to the early environmental conditions on Earth?

A. Eukaryotic and aerobic

B. Eukaryotic and anaerobic

C. Prokaryotic and aerobic

D. Prokaryotic and anaerobic

_____ 6. What are called the remains of living organism used in understanding the history of life on earth?

A. Bone

C. Seeds

B. Fossils

D. Shells

_____ 7. Which statement is NOT true of fossils?

A. Plants can form fossils.

B. Some bacteria can form fossils.

C. Most extinct organisms have been preserved.

D. A small percent of extinct organisms is preserved.

- _____ 8. Which of the following can be considered as a fossil?
- A. A billion-year old rock
 - B. A billion-year old piece of amber
 - C. A billion-year old amber with a primitive insect inside
 - D. The choices are all correct
- _____ 9. What unique substance do researchers look after in their study of eukaryotes?
- A. Biomarkers
 - B. Fossils
 - C. Mitochondria
 - D. Stromatolites
- _____ 10. What is the evidence for a last universal common ancestor among life on earth?
- A. They are all aerobic.
 - B. They all look the same.
 - C. They all have the same synthesis pattern.
 - D. They share the same underlying molecular biology.
- _____ 11. Which statement best shows the main significance of studying the past?
- A. The past is attractive to look back.
 - B. It will give jobs for many scientists and paleontologists.
 - C. It will allow them to think what they need to study.
 - D. Understanding the past allows us to predict the future and help in creating it.
- _____ 12. One significance of knowing the history of life is to determine the origin of one living organism. According to researchers, which of the following are the only surviving species of the genus Homo and one of the living evidences that life has existed on Earth?
- A. Birds
 - B. Dinosaurs
 - C. Human beings
 - D. Sponges
- _____ 13. Over the past decades, there are challenges that the environment has faced. Pandemics affected the lives of various living organisms. What is the significance of knowing this history?
- A. It will give them an income.
 - B. They will just be informed about it.
 - C. It will lead them to know the history of life.
 - D. It will give an idea on how medical world will seek for the treatment.
- _____ 14. The following statements are challenges for the researchers in finding and identifying signs of early cells. Which is not part of the group?
- A. Materials and testing laboratories are not available.
 - B. Cells are microscopic and most have no parts to fossilize
 - C. Slightly younger rocks have been heated up and undergone other processes
 - D. Tectonic plate movements have destroyed nearly all rocks older than about 4 billion years
- _____ 15. The study of history of life is significant in many aspects. The stromatolites played a significant role as a source of evidence. What is stromatolite?
- A. It is found in animals.
 - B. It is produced by endosymbiosis.
 - C. It formed during volcanic eruptions.
 - D. It consists of layered bacteria and sediment.
- _____ 16. Oxygen was scarce during the early development of Earth. By this situation, what kind of organism first existed?

- A. Aerobic organism
- B. Anaerobic organism

- C. Mammal
- D. Protist

_____ 17. Which of the following statements is NOT true on the evolution of multicellular organisms?

- A. The process of continuous specialization brought more complex organisms.
- B. The prokaryotic organisms that formed multicellular aggregates were like the cells of Cyanobacteria.
- C. They are believed to have evolved from single-celled prokaryotic organisms.
- D. They are formed from other multicellular colonial aggregates through cells specialization.

_____ 18. Why do you think the emergence of plants and animals came later than simple living organisms?

- A. Their existence is not that important on Earth.
- B. Their size is too big that it takes longer time for development.
- C. The cell structures of these multicellular organisms are more complex.
- D. These organisms are composed of many nucleus compared to unicellular.

_____ 19. Which statement is incorrect about living organisms?

- A. The earliest forms of life existed were the prokaryotes.
- B. The eukaryotic organisms evolved from the unicellular prokaryotic.
- C. Organisms did not change despite of the changes in the environment.
- D. Evolution of oxygen-producing organisms allowed the increase in the atmospheric oxygen.

_____ 20. Which of the following are in the correct order?

- A. Eukaryotic cell, photosynthesis, prokaryotic cell, organic molecules
- B. Eukaryotic cell, prokaryotic cell, organic molecules, photosynthesis
- C. Organic molecules, eukaryotic cell, photosynthesis, prokaryotic cell
- D. Organic molecules, prokaryotic cell, photosynthesis, eukaryotic cell

_____ 21. What is the evidence for a last universal common ancestor among life on Earth?

- A. All look the same.
- B. They have similar synthesis pattern.
- C. All are classified as aerobic organisms.
- D. They share similar molecular features.

_____ 22. What unique substance do researchers look after in their study of eukaryotes?

- A. Biomarkers
- B. Fossils
- C. Mitochondria
- D. Stromatolites

_____ 23. Which of the following can be considered as a fossil?

- A. A billion-year old rock
- B. A billion-year old piece of amber
- C. A billion-year old amber with a primitive insect inside
- D. All of the choices are correct

_____ 24. Mainly the fossils are found on sedimentary rocks. What type of rocks are stromatolites?

- A. Igneous
- B. Metamorphic
- C. Sedimentary
- D. Trilobites

_____ 25. Which of the following is NOT true about the evidence that fossils provide?

- A. All fossils gathered contain intact DNA that can be sequenced.

- B. Fossil ages can often be determined by testing nearby rocks.
- C. Fossil organisms often share physical similarities with living organisms.
- D. Some fossil organisms are transitional forms between groups of organisms.

_____ 26. It was stated that the organisms are evolving. The evolution can be due to environmental changes. More so, the conservation of their traits depends mainly on how they will survive. In this regard, humans alter the natural world bringing harmful consequences from their activity. Which among the following refers to the alteration brought by humans to the natural environment?

- A. Environmental issues
- B. Ecosystem conflict
- C. Environmental topics
- D. Human intervention

_____ 27. What is the significance of studying the molecular evidence present among living organisms?

- A. It will benefit the economy of the world.
- B. It will give idea for the scientist which to clone.
- C. It will then serve as the basis of what to study.
- D. It will allow the classification of living organisms.

_____ 28. Over the past several decades, natural selection has caused populations of *Staphylococcus aureus* to evolve resistance to most antibiotics. What do you think would be the significance of being knowledgeable about the history of this organism towards antibiotics?

- A. It will just give them background about the microorganism.
- B. It will just give them idea of increasing the frequency of the organisms.
- C. It will give an idea of continuing the use of antibiotic against *Staphylococcus aureus*.
- D. It will give an idea for the medical team to discontinue the use of particular antibiotic resistant to that microorganism.

_____ 29. The study of history of life is indeed significant. As part of searching for the fossils of previous organisms, stromatolite played a significant role. What is true about stromatolite?

- A. It is found on eukaryotes.
- B. It is produced by endosymbiosis.
- C. It is formed during volcanic eruptions.
- D. It consists of layered bacteria and sediment.

_____ 30. The following statements are challenges for the researchers in finding and identifying signs of early cells. Which is NOT part of the group?

- A. Cells are microscopic and most have no parts to fossilize
- B. Materials and testing laboratories are not available.
- C. Slightly younger rocks have been heated up and undergone other processes
- D. Tectonic plate movements have destroyed nearly all rocks older than about 4 billion years.

_____ 31. Continuity of life is explained by _____.

- A. Evolution
- B. Regulation
- C. Form and function
- D. Reproduction and inheritance

_____ 32. Living things are considered organisms if they possess which of the following characteristics?

- A. Grow and develop
- B. Failure to produce offspring
- C. Absence of orderly structure
- D. Incapability of adapting to changing environment

_____ 33. Which of the following best explains why humans sweat when they get hot?

- A. Use energy
- C. Ability to reproduce

B. Ability to grow

D. Maintain the internal environment

_____ 34. Describe the image illustrated on the right side.

- A. They are evolving.
- B. The organisms are growing and developing.
- C. It shows how organisms respond to its environment.
- D. There is a transfer of energy among living organisms.

_____ 35. Which statement does not describe the image on the right side?

- A. Plants acquire energy for them to perform their task, the food making.
- B. There is a transfer of energy from the sun to the plants.
- C. Plants need the abiotic factors in order to grow.
- D. They are evolving.

_____ 36. Which statement is TRUE based on the illustration?

- A. Cell is present on fossils.
- B. Early organisms lack cell.
- C. Cell is the basic unit of life.
- D. Cell is present among eukaryotic only.

_____ 37. Living organisms cannot live alone, they are interacting with the abiotic factors for sustainability of life. Which among the organisms is considered as abiotic?

- A. Bacteria
- B. Plant
- C. Light
- D. Man

_____ 38. One of the characteristics possessed by living organisms is growth and development. This happens upon acquiring energy. When creating a food chain, in what order do we start illustrating the smallest organism having the most energy?

- A. In the middle
- B. any order will do
- C. Leading to the left
- D. Leading to the right

_____ 39. A nice smell of a plant is an adaptation that _____

- A. Attracts the pollinators
- B. Regulates the internal environment
- C. Helps the plant to keep the nutrients inside
- D. Pushes away the animals that try to eat them

_____ 40. It was observed that the deciduous trees lose their leaves in cold and winter in order to avoid freezing. This is an example of _____.

- A. A response
- B. Organization of life
- C. Unity of living systems
- D. Function and structure

_____ 41. It is a unifying theme of life science that explains the improvement of lives of all organisms through research.

- A. Adaptation
- B. Inheritance
- C. Energy and life
- D. Biology and society

_____ 42. All organisms alive today have descended from simple cellular creatures billions of years ago. Biologists were able to identify and preserved some of the characteristics of that earliest organisms. This is associated in what theme?

- A. Function and structure are interdependent.
- B. Cell theory as a description of living systems.
- C. Emergent properties arise from the organization of life.
- D. Unity of living systems is explained by evolutionary conservation.

_____ 43. The orchard sprayed with the chemical yields an average of 60 kilos of mango per tree, the other orchard yields an average of 40 kilos of mangoes per tree.

Based on the data, in order to have a better yield, tree must _____.

- I. receive the same amount of sunlight
II. receive the same amount of water
III. increase the orchard spray
- A. I only
B. II only
C. I, II and III
D. I and II

_____44. Many threatened or endangered species can be saved by a large _____.

- A. Coal mine
B. Food chain
C. Wildlife hunting
D. Reforestation project

_____45. Living organisms can be protected if we fight deforestation. Which among the statements doesn't support this advocacy?

- A. Plant more trees.
- B. Reduce the use of products made from wood fiber.
- C. Demand forest products from sustainable sources and deforestation free supply chains.
- D. Support the products of companies who are practicing deforestation

_____46. Genes are passed from one generation to the next generation through _____.

- A. Evolution
B. Regulation
C. Form and function
D. Reproduction and inheritance

_____47. Which among the given examples describes the unifying form and structure?

- A. Cellular basis of life
B. Light as source of energy
C. Bats have wings specialized for flying
D. Living things arise from pre-existing cells

_____48. Makahiya plant closes its leaflets when touched. This is an example of

- A. Energy and life
B. Response to stimuli
C. Form and structure
D. Reproduction and inheritance

49. Describe the illustration.

- A. They are evolving
- B. The organisms are growing and developing.
- C. It shows how organisms respond to its environment.
- D. There is a transfer of energy among living organisms.

50. Which statement does not describe the image on the right side?

- A. Plants acquire energy for them to perform their task, the food making.
- B. There is a transfer of energy from the sun to the plants.
- C. Plants need abiotic factors in order to grow.
- D. They are evolving.

51. Which is TRUE among the given statements that tell something about the illustration?

- A. Cell is present in fossils.
- B. Early organisms lack cell.
- C. Cell is the basic unit of life.
- D. Cell is present among eukaryotic only.

_____ 52. Living organisms cannot live alone, they are interacting with the abiotic factors for sustainability of life. Which among the organisms is considered as abiotic?

- A. Bacteria
B. Plant
C. Light
D. Man

_____53. Chameleons shift colors wherever they go. They are able to turn any colors or combine colors depending on where the environment is. What trait is being described?

- A. Adaptation
- B. Interaction
- C. Inheritance
- D. Reproduction

_____54. The diversity of life arises by change leading to the present biodiversity that we see. This is what we called _____.

- A. Evolution
- B. Adaptation
- C. Inheritance
- D. Reproduction

_____55. The field of science is changing the lives of all organisms through technology and research. This is explained by _____.

- A. Biology and society
- B. Adaptation
- C. Energy and life
- D. Inheritance

_____56. All organisms alive today have descended from simple cellular creatures billions of years ago. Biologists were able to identify and preserved some of the characteristics of that earliest organisms. This is associated in what theme?

- A. Function and structure are interdependent.
- B. Cell theory as a description of living systems.
- C. Emergent properties arise from the organization of life.
- D. Unity of living systems is explained by evolutionary conservation.

_____57. Research plays significant role for the improvement of lives in a given society. With these, more scientists agree that all scientific knowledge comes from _____.

- A. Observation
- B. Experimentation
- C. Both experimentation and observation
- D. Textbooks

_____58. The orchard sprayed with the chemical yields an average of 60 kilos of mango per tree, the other orchard yields an average of 40 kilos of mangoes per tree. Based on the data, in order to have a better yield, trees must _____.

- I. Receive the same amount of sunlight
- II. Receive the same amount of water
- III. Increase the orchard spray
- A. I only
- B. II only
- C. I, II and III
- D. I and II

_____59. Many threatened or endangered species can be saved by a large _____.

- A. Coal mine
- B. Food chain
- C. Wildlife hunting
- D. Reforestation project

_____60. Living organisms can be protected if we fight against deforestation. Which among the statements doesn't support this advocacy?

- A. Plant more trees.
- B. Reduce the use of products made from wood fiber.
- C. Demand forest products from sustainable sources and deforestation free supply chains.
- D. Support the products of companies practicing deforestation.

_____61. A term used to describe morphologically and genetically similar individuals.

- A. Clone
- B. Similar
- C. Identical
- D. Vegetative

_____ 62. This refers to a type of asexual reproduction where the organism divides into two, leaving one piece headless and the other tailless, and each piece grows the missing body parts.

- A. Binary fission
- B. Binary fusion
- C. Transverse fission
- D. Transverse fusion

_____ 63. This refers to reproduction in animals that involves production of new living organism through combining two gametes from different organism, one male producing motile gamete that must fused with the egg cell from female organism.

- A. Asexual
- B. Sexual
- C. Both a and b
- D. None of a and b

_____ 64. Refers to largest cell in the female body waiting for a motile gamete to be fused with.

- A. Egg
- B. Sperm
- C. Zygote
- D. Morula

_____ 65. Live bearing are animals which give birth to live offspring.

- A. Oviparous
- B. Viviparous
- C. Both a and b
- D. None of a and b

_____ 66. In sexual reproduction, what are the gametes involved?

- A. Egg cell
- B. Sperm cell
- C. Both a and b
- D. None of a and b

_____ 67. It is characterized as having two reproductive system in one organism.

- A. Hermaphroditism
- B. Sequential hermaphroditism
- C. Both a and b
- D. None of a and b

_____ 68. Choose the statement that is TRUE about sexual reproduction:

- A. Gametes has diploid cells.
- B. Occur with only one parent involve.
- C. Produce genetically different offspring as compared to parents.
- D. Involves less time as compared to asexual preproduction process.

_____ 69. It is the term called for organism that shifts from male to female like clown fish.

- A. Protandrous
- B. Protogynous
- C. Both a and b
- D. None of a and b

_____ 70. Monkeys and other four-legged animals are classified as:

- A. Oviparous
- B. Viviparous
- C. Both a and b
- D. None of a and b