



مؤسسة الإمارات للتعليم المدرسي  
EMIRATES SCHOOLS ESTABLISHMENT

(Trimester 3) (2023-2024)

Grade (8) **Science**

الأسئلة الموضوعية

**Final Revision (MCQs)**

**Question 1:** In the following figure, picture A was taken using a film camera and picture B was taken using a digital camera. Which of the following statements is **correct**?



A

B

- a. In picture B, only primary pixels (color value) are presented.
- b. In picture B, high sampling rate for each pixel taken by the camera.**
- c. In picture A, the available information is enough to produce a clear image.
- d. In picture A, using electrical signals (on or off) instead of dominos (0s and 1s)

**Question 2:** Computers use a series of \_\_\_\_\_ to encode information.

- a. Electrical currents
- b. Binary numbers**
- c. Light pulses
- d. Analog signals

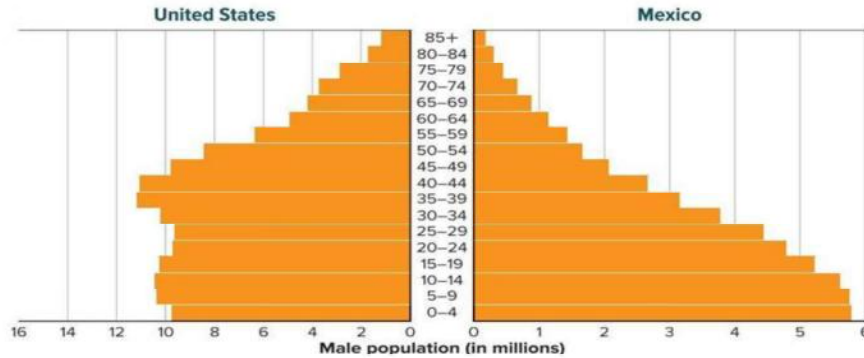
**Question 3:** Which best describes binary numbers?

- a. a continuously changing wave
- b. a set of two discrete values**
- c. a large array of values
- d. a set of four or five numbers

**Question 4:** How does digital equipment use binary systems to encode information?

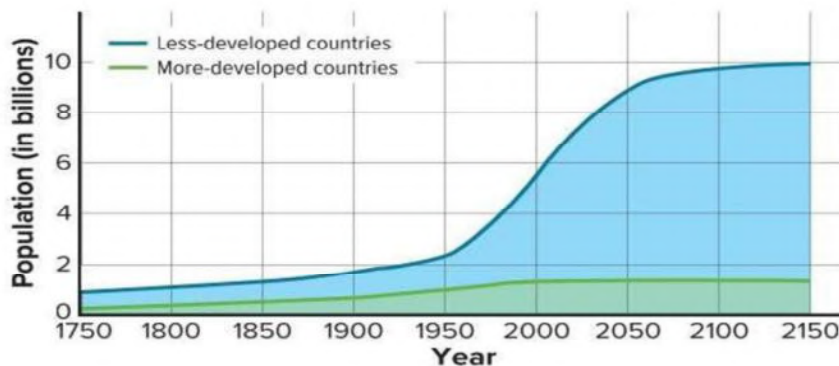
- a. It uses continuous waveforms to represent varying levels of information.
- b. It uses a series of decimal numbers to store and process data.
- c. It uses binary systems, representing information with two states (0 and 1), such as in computer memory and data storage.**
- d. Digital equipment uses trinary systems, representing information with three states (0, 1, and 2), for higher efficiency.

**Question 5:** What can be concluded from the data displayed on the age structure diagrams below?



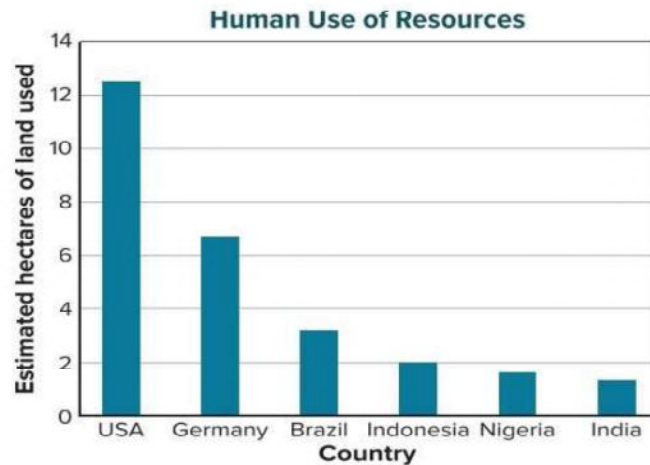
- The male population of Mexico is growing at slower rate than the United States because fewer children are being born in Mexico.
- The male population of Mexico is growing at faster rate than the United States because the number of children in Mexico exceeds the other age groups.
- The male population of Mexico is growing at slower rate than the United States because there are fewer elderly males.
- The male population of Mexico is growing at faster rate than the United States because there is a greater number of elderly males .

**Question 6:** Which of the following statements correctly describes the population structure and growth trends in developing and developed countries shown below?



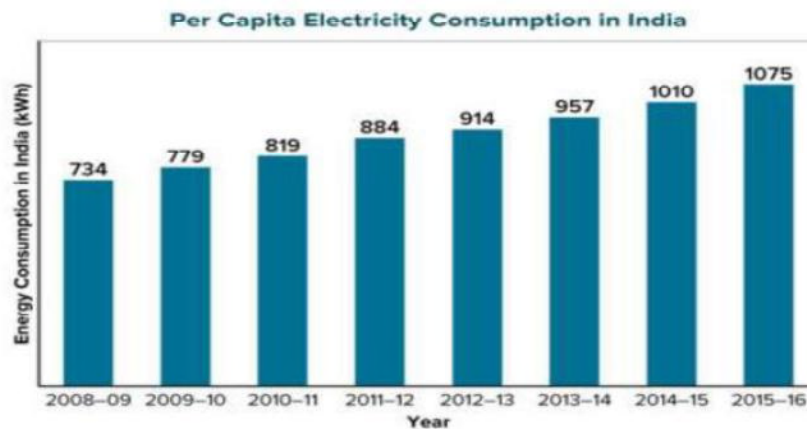
- In developing countries, the population is growing slowly, with the number of individuals in the pre-reproductive and reproductive stages slightly exceeding those in the post-reproductive stage.
- In developing countries, the population is growing rapidly, with the number of individuals in the pre-reproductive and reproductive stages greatly exceeding those in the post-reproductive stage.
- In developed countries, the population is growing rapidly, with the pre-reproductive and reproductive stages significantly larger than the post-reproductive stage.
- In both developing and developed countries, the population growth is rapid.

**Question 7:** Why is it important to maintain the population below the carrying capacity?



- If India become more industrialized more land will be available for individuals
- If the human population grows beyond Earth's carrying capacity, Earth will not have enough resources to support humans.
- Resources become easier to extract and find.
- Natural resources become abundant, and the population will increase.

**Question 8:** The graph shows the change in Per Capita electricity usage in India from 2008-2016. What claim can be made about population in India?



- The increase in electricity use indicates that the population size of India has increased over time.
- The number of people who use electricity has decreased over time; population decreased.
- The overall usage of electricity has stayed the same because of the limited number of resources in the country.
- The overall usage of electricity has decreased of reliability of alternative energies resources.

**Question 9:** Calculate the population growth rate for United States and Germany respectively.

Country	Population 2015 (millions)	Birth rate	Death Rate	Net Migration Rate
*United States	321.2	13	8	3

- a. 1.3 %
- b. 2.5 %
- c. 0.8 %
- d. 0.2 %

**Question 10:** Deforestation can lead to \_\_\_\_\_.

- a. loss of animal habitats
- b. soil erosion
- c. increases in Earth's average surface temperature. (climate change)
- d. all of the above

**Question 11:** Reduced vegetation on Earth results in \_\_\_\_\_.

- a. more carbon dioxide in the atmosphere
- b. increased habitats
- c. less room for humans
- d. more oxygen in the atmosphere

**Question 12:** What does the ecological footprint measure?



- a. The number of species that are endangered due to human activities.
- b. The amount of land and water area required to produce the resources consumed and to assimilate the wastes generated by humans.
- c. The total amount of carbon dioxide emissions produced by human activities.
- d. The population growth rate in different regions of the world.

**Question 13:** Of the following, which helps conserve natural resources and minimize ecological footprint?

- a. using a cloth shopping bag instead of a paper bag.
- b. riding your bike on short trips around town.
- c. planting trees in your front yard.
- d. all of the above.

**Question 14:** What is one way people can help protect the environment?

- a. Recycling
- b. cutting down trees
- c. mining
- d. littering

**Question 15:** What effect does recycling have on land resources?

- a. Recycling conserves land resources.
- b. Recycling uses land resources more quickly.
- c. Recycling has no effect on land resources.
- d. Recycling only affects water resources.

**Question 16:** How can using renewable energy technology affect our ecological footprint?

- a. It increases the amount of land and water needed to produce resources.
- b. It has no significant impact on the ecological footprint.
- c. It greatly reduces the ecological footprint by decreasing the need for fossil fuels and reducing waste.
- d. It increases carbon dioxide emissions, contributing to a larger ecological footprint.

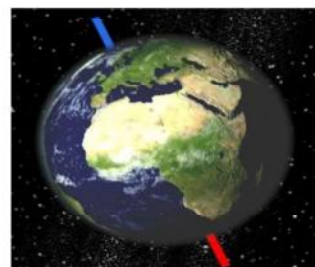
**Question 17:** The yearly orbit of Earth around the Sun is called its \_\_\_\_\_.

- a. rotation
- b. ellipse
- c. revolution
- d. tilt



**Question 18:** The line on which an object rotates is defined as \_\_\_\_\_.

- a. revolution axis.
- b. rotation axis.
- c. tilt axis.
- d. spin axis.

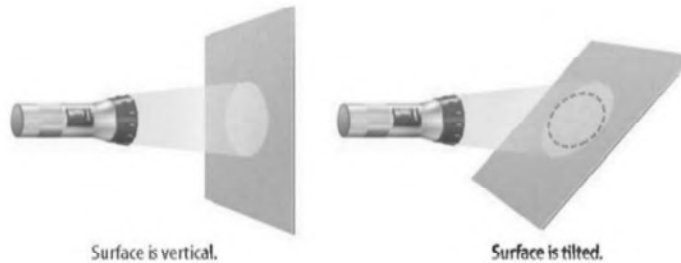


**Question 19:** The daily spinning of Earth around its axis is called \_\_\_\_.

- a. rotation
- b. ellipse
- c. revolution
- d. tilt

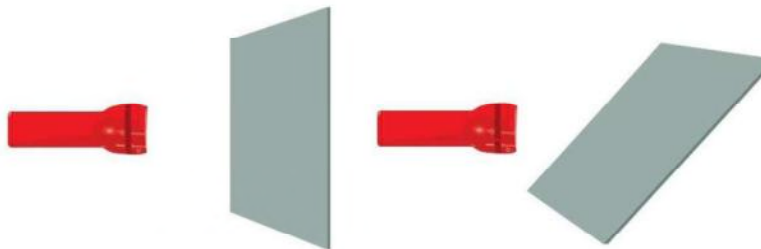


**Question 20:** A light source is shining on a vertical surface, or a slanted surface as shown below. Which statement is correct?



- a. The light energy that hits the vertical surface is stronger because it is concentrated on a smaller area.
- b. The light energy that hits the vertical surface is weaker because it is concentrated on a smaller area.
- c. The light energy that hits the slanted surface is stronger because it is concentrated on a larger area.
- d. The light energy that hits the slanted surface is stronger because it is concentrated on a smaller area.

**Question 21:** Predict the pattern of the light that will appear on each sheet of paper when the flashlight is turned on.



- a. The pattern on the vertical paper will be a circle, while on the tilted paper will be elongated and spread out.
- b. The pattern on the papers will change because the light will fluctuate.
- c. The pattern that will appear on both pieces of paper is the same as a circle of light.
- d. The pattern that will appear on both pieces of paper is the same elongated and spread out.

**Question 22:** Which best explains why Earth is colder at the poles than at the equator?

- a. Earth is farther from the sun at the poles than at the equator.
- b. Earth's orbit is not a perfect circle.
- c. Earth's rotation axis is tilted.

d. Earth's surface is more tilted at the poles than the equator.



**Question 23:** Why can the moon be seen in the sky?

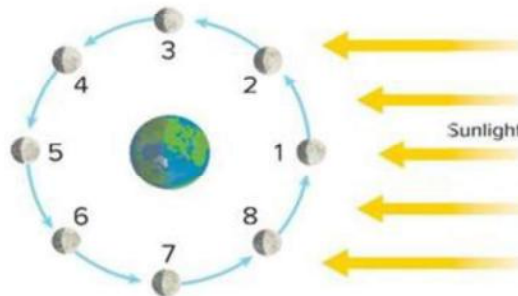
- a. The moon produces its own light, which makes it visible.
- b. The Earth's atmosphere magnifies the moon, making it visible.
- c. The moon reflects sunlight, making it visible from Earth.
- d. The moon's surface emits thermal radiation that can be seen from Earth.

**Question 24:** Why do we always see the same side of the moon ?

- a. Because it is smaller than the Earth.
- b. Because it revolves on its axis in a direction opposite to that of Earth.
- c. Because it takes equal time for revolution around the earth and rotation on its own axis.
- d. Because it rotates at the same speed as the earth around the sun.



**Question 25:** predict the locations when the moon is in a waxing phase.



- a. 1,5
- b. 2,3,4
- c. 7,8
- d. 3,7

**Question 26:** predict which location is the phase seen from Earth at the end of the second week of the lunar cycle.

- a. 1
- b. 3
- c. 5
- d. 7

**Question 27:** A new moon occurs once every 29.5 days. Why must the Sun, Earth, and the Moon be aligned in order for the new moon to occur?

- a. No sunlight is reflected off Earth at this point.
- b. Sunlight directed toward Earth blocked by the moon.**
- c. The moon does not orbit in the same plane as Earth.
- d. The moon is not directing any light toward Earth at this point.

**Question 28:** Which phase of the moon is shown in this picture of the sky at midnight?

- a. New moon
- b. First quarter**
- c. Full moon
- d. Third quarter



**Question 29:** Which phase of the moon is shown in this picture of the sky at midnight?

- a. New moon
- b. First quarter
- c. Full moon**
- d. Third quarter

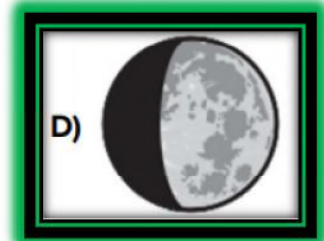
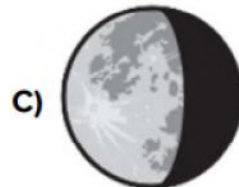
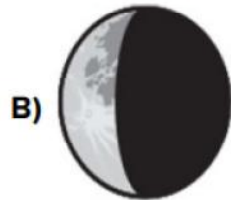
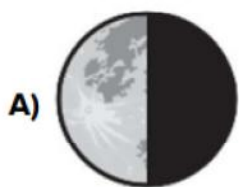


**Question 30:** Which phase of the moon is shown in this picture of the sky at midnight?

- a. New moon
- b. First quarter
- c. Full moon
- d. Third quarter**



**Question 31:** Which phase of the Moon can you most likely observe on the eleventh night of this lunar cycle?



**Question 32:** The phase of the Moon that comes right before the new moon is the \_\_\_\_.

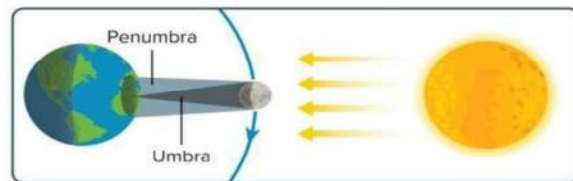
- a. Full moon
- b. First quarter
- c. Second quarter
- d. Waning crescent**

**Question 33:** Which of the following correctly compares the moon's rotation, revolution, and lunar phases?

- a. The moon's rotation and revolution are the same length, causing lunar phases to remain constant.
- b. The moon's rotation takes longer than its revolution, which affects the changing lunar phases.
- c. The moon's rotation and revolution both take approximately 27.3 days, causing the same side of the moon to always face Earth, while lunar phases change due to its position relative to the Earth and sun.
- d. The moon's rotation occurs once every 24 hours, its revolution takes 365 days, and lunar phases are caused by the Earth's shadow.

**Question 34:** what is occurring in this figure?

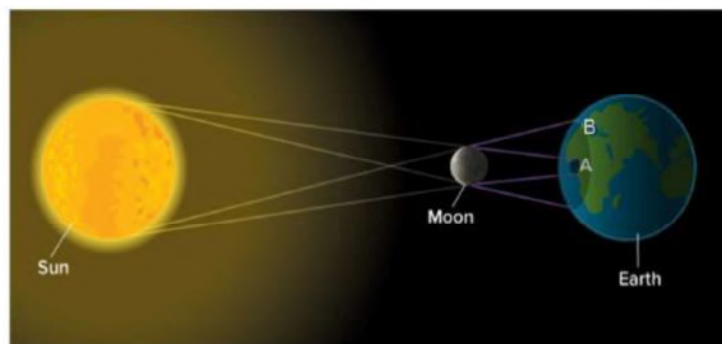
- a. Lunar eclipse
- b. Lunar and solar eclipse
- c. Partial lunar eclipse
- d. Solar eclipse



**Question 35:** Why would someone in North America not be able to view this eclipse?

- a. Because this is a lunar eclipse and Earth casts a very small shadow.
- b. Because this is a lunar eclipse and North America is experiences day.
- c. Because this is a solar eclipse and North America is experiences night.
- d. Because this is a solar eclipse and the moon casts a very small shadow.

**Question 36:** The model below represents the Sun-Earth-Moon system. Which of the following statements is correct?



- a. (A) is called umbra, standing in that area only part of the sun can be seen.
- b. (A and B) together make up the lunar eclipse.
- c. (B) is called Umbra, standing in that area the sun could not be seen at all.
- d. (B) is called penumbra, only part of the sun could be seen standing in that area.

**Question 37:** Where do you have to be located to be able to see a total eclipse?

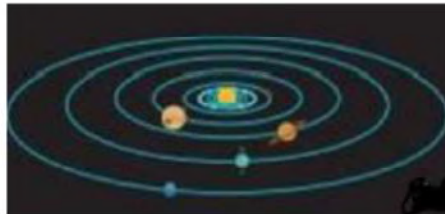
- a. Anywhere in the continent where the eclipse is occurring.
- b. Within the penumbra.
- c. Within the penumbra and umbra.
- d. Within the umbra.

**Question 38:** study the figure below. What factors increase the gravitational energy between objects ?



- a. Increasing object masses and increasing distance between objects.
- b. Decreasing object masses and decreasing distance between objects.
- c. Increasing object masses and decreasing distance between objects.
- d. Decreasing object masses and increasing distance between objects.

**Question 39:** Which statements explain why the objects of the solar system revolve around the sun?



- a. The sun holds 99% of the mass in the solar system, so it has enormous gravitational pull.
- b. The sun generates its own energy, so the planets stay close to absorb its heat and light.
- c. Light waves from the sun cause the planets to revolve around it.
- d. Heat energy from the sun attracts the planets and keeps them in orbit.

**Question 40:** A galaxy that has a shape similar to a football is a(n) \_\_\_\_\_ galaxy.

- a. Normal spiral.
- b. Barred spiral.
- c. Elliptical
- d. Irregular.





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EMIRATES SCHOOLS ESTABLISHMENT

**Al Salamat School**  
**(Trimester 3) (2023-2024)**  
**Grade (8) Science**  
**Mr. Issa Waswas**

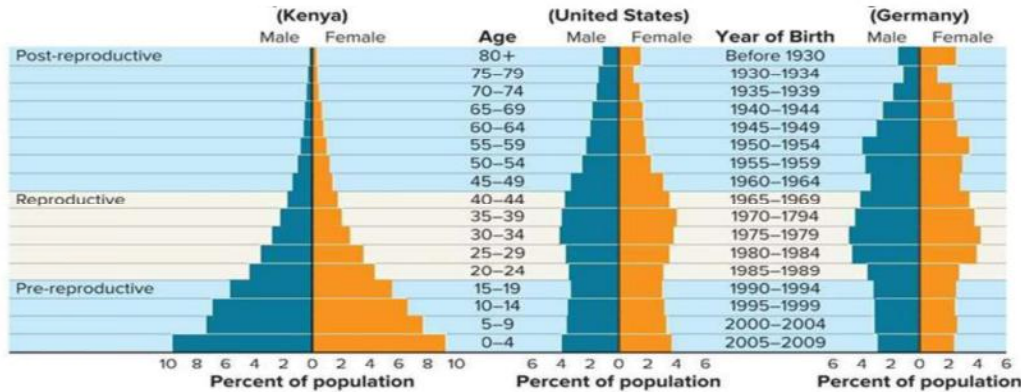


AL SALAMAT SCHOOL

أسئلة إضافية

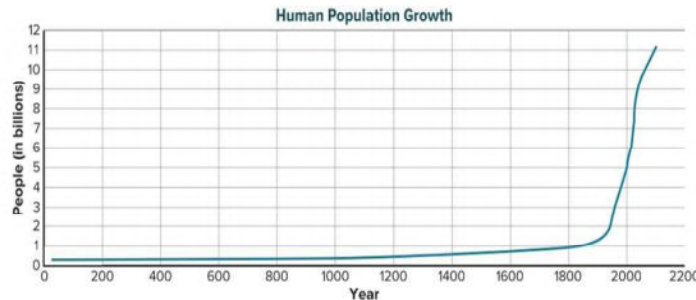
Extra Practices (MCQs)

**Question 1:** Which of the following correctly describes the age structure of human populations shown below?



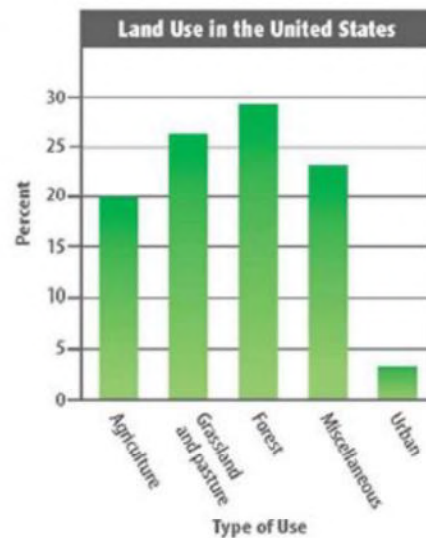
- a. Kenya shows slow growth, it has many pre-reproductive and reproductive individuals.
- b. United States shows rapid growth, it has a small number of pre-reproductive and reproductive individuals.
- c. Germany shows negative growth, it has the smallest number of pre-reproductive and reproductive individuals.
- d. A rapidly growing population looks like a rectangle.

**Question 2:** Which of the following. not help explain the sudden rise in population that occurs from the late 1700s and beyond.



- a. The beginning of the Industrial Revolution.
- b. Scientific advances.
- c. the settling of the western part of the United States.
- d. medical advances.

**Question 3:** According to the graph, in the United States how much land is used by cities compared to other land uses?



- a. Most land is used by cities.
- b. Cities use half as much land as agriculture.
- c. Cities use one third as much of the land as forests.
- d. Cities use very little land compared to any other category.

**Question 4:** If a population of 1,000 individuals experiences 21 births, 7 deaths, and -1 net migration rate in a year, what is the annual population growth rate?

- a. 1.4 %
- b. 1.3 %
- c. 2.5 %
- d. 0.8 %

**Question 5:** Which atmospheric gas contributes to climate change?

- a. carbon dioxide
- b. oxygen
- c. ozone
- d. nitrogen

**Question 6:** Which of the following is a way a 13-year-old in America can help control greenhouse gases?

- a. plant trees.
- b. recycle aluminum cans.
- c. turn off electronics that are not in use.
- d. all of the above

**Question 7:** which statement is correct about deforestation ?

- a. Clean technology has increased pollution.
- b. Natural resources are always abundant.
- c. Consuming forest resources interferes with the survival of other species.
- d. Consuming forest resources increases the oxygen in the atmosphere.

**Question 8:** What is a disadvantage of using radio waves to transmit information?

- a. They don't permanently move matter.
- b. They can travel long distances.
- c. They can vary to hold information.
- d. They lose energy as they travel through medium.

**Question 9:** which of the following uses digital signals to store, send, or receive information?

- a. Film camera.
- b. CD player.
- c. Tape recorder.
- d. Vinyl recorder.

**Question 10:** what do all signals that are used to communicate have in common ?

- a. They all involve in light waves.
- b. They all send information.
- c. They all use printed words.
- d. They all use a series of sounds.

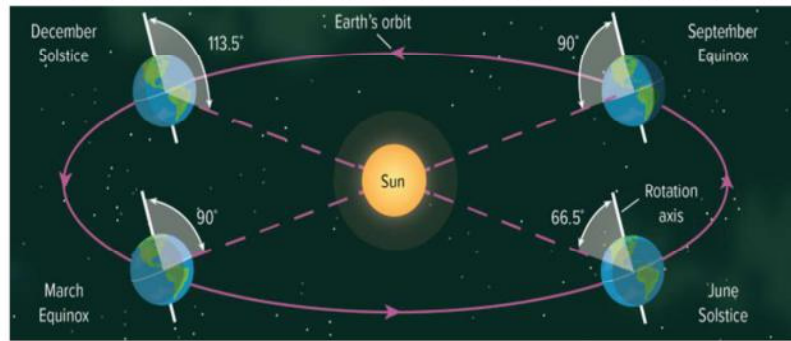
**Question 11:** During \_\_\_\_\_ phases, more of the Moon is visible each night.

- a. Waxing
- b. Waning
- c. New
- d. Full

**Question 12:** The Sun's rays strike Earth at their northernmost and southernmost positions during \_\_\_\_.

- a. winter and summer solstices.
- b. spring and fall equinoxes.
- c. lunar eclipses
- d. solar eclipses

**Question 13:** Which statement is true about both the September equinox and the March equinox shown below?



- a. There are about 12 hours of daylight and 12 hours of darkness everywhere on Earth.
- b. Spring is starting for the southern hemisphere.
- c. Spring is starting for the northern hemisphere.
- d. They are the longest days of the year.

**Question 14:** The seasons are caused by \_\_\_\_\_.

- a. the tilt of Earth's axis as Earth orbits the Sun.
- b. Earth's distance from the Sun.
- c. the shape of Earth's orbit.
- d. the tides of the ocean.

**Question 15:** A lunar eclipse can only occur during which type of moon phase?

- a. first quarter moon
- b. full moon
- c. new moon
- d. third quarter moon

**Question 16:** Which describes a characteristic that is shared by different galaxies in the universe?

- a. They all are about the same distance from the Milky Way.
- b. They all have similar planets and stars.
- c. They all formed because of gravity.
- d. They all have the same shape.

**Question 17:** Which correctly describes the gravity between objects in the solar system?

- a. Objects far from the Sun are not large enough to pull on any other objects in the solar system.
- b. Objects in orbit are in motion and are not affected by gravity.
- c. Objects far apart pull on each other more strongly than objects close together.
- d. Objects with a large mass pull with more force than objects with a small mass.

**Question 18:** Which of the following is defined as a huge collection of gas, dust, and stars held together by gravity?

- a. nebula
- b. solar system
- c. galaxy
- d. universe

**Question 19:** A galaxy that has the highest percentage of old stars with little or no gas is a(n) \_\_\_\_\_ galaxy.

- a. spiral.
- b. regular.
- c. Elliptical.
- d. Irregular.

**Question 20:** A galaxy that has the highest percentage of young stars is a(n) \_\_\_\_\_ galaxy.

- a. spiral
- b. regular
- c. Elliptical
- d. Irregular



**Question 21:** A galaxy that has arms and thick at the central bulge is a(n) \_\_\_\_\_ galaxy.

- a. spiral.
- b. regular.
- c. Elliptical.
- d. Irregular.



اللهم إني أعوذ بك من علم لا ينفع

تمنياتي للجميع بالتوفيق والنجاح بإذن الله