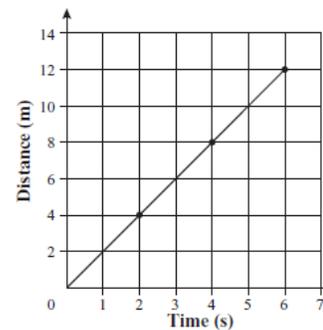
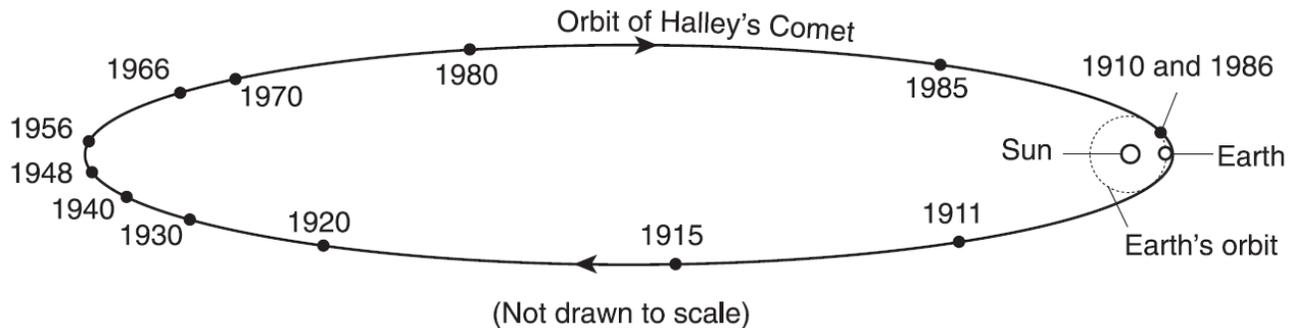




- (9) Clouds are formed when millions of drops of water become suspended in the air. Which of the following is a step in the process of cloud formation?  
A) Expansion of cold air  
B) Condensation of water vapor  
C) Formation of carbon dioxide  
D) Breakdown of atmospheric ozone
- (10) Above a continent, a warm air mass slowly passes over a cold air mass. As the warm air begins to cool, clouds form. What will most likely happen next?  
A) Hurricanes will form.  
B) Rain will fall.  
C) Hail will form.  
D) Snow will fall.
- (11) Silicon dioxide is made of what two elements?  
A) Silicon and carbon  
B) Silicon and water  
C) Silicon and hydrogen  
D) Silicon and oxygen
- (12) Which of the following is the closest value to the mass of a nickel coin?  
A) 5 milligrams  
B) 5 grams  
C) 50 nanograms  
D) 0.50 kilograms
- (13) If the density of a certain type of soil is 2070 kilograms per cubic meter then one gram of this soil would have a mass of what amount?  
A) 207 grams  
B) 0.0207 grams  
C) 2.07 grams  
D) 2070 grams
- (14) How many electrons are in the outer shell of a noble gas with an atomic mass greater than three?  
A) 8  
B) 4  
C) 2  
D) 1
- (15) What planet in our Solar System is about the same size as the Earth, is tectonically active, and has a thick atmosphere composed of carbon dioxide?  
A) Ganymede  
B) Mars  
C) Venus  
D) Neptune
- (16) Where is an igneous rock such as pumice most likely formed?  
A) in a desert  
B) near a volcano  
C) in a creek bed  
D) under a glacier
- (17) The graph to the right relates distance to time for a rolling ball. What is the average speed of the ball?  
A) 2 m/s  
B) 8 m/s  
C) 6 m/s  
D) 72 m/s
- (18) Bernoulli's principle states that as the speed of a moving fluid increases, its pressure  
A) decreases.  
B) stays the same.  
C) increases.  
D) decreases, then increases.



- (19) The diagram below shows the orbit of Halley's Comet around the Sun as viewed from space. Earth's orbit is also shown. The only years shown in which Halley's Comet could be viewed from Earth without the use of a telescope were 1910 and 1986. What is the next year in which Halley's Comet will be visible from the Earth without the use of a telescope?



- A) 2010  
B) 2062  
C) 2086  
D) 2110
- (20) Under which conditions would a sugar cube dissolve most quickly when placed in a liter of water at room temperature?  
A) A whole sugar cube is added and the water is stirred.  
B) A whole sugar cube is added and the water is not stirred.  
C) A crushed sugar cube is added and the water is stirred.  
D) A crushed sugar cube is added and the water is not stirred.
- (21) Sound waves are not able to travel through which of the following?  
A) a cloud  
B) a vacuum  
C) metal  
D) water
- (22) Which of the following scientists is noted for his three laws of motion?  
A) Albert Einstein  
B) Galileo  
C) Isaac Newton  
D) Copernicus
- (23) If you were an astronaut on the moon's surface trying to collect a soil sample, which of the following would you not worry about in trying to collect the soil sample?  
A) extreme temperatures  
B) soil clumping due to moisture  
C) vacuum  
D) smaller-than-earth gravity
- (24) What causes wind, or moving air?  
A) Differences in rainfall.  
B) Differences in vegetation.  
C) Differences in gravity.  
D) Differences in air pressure.
- (25) Which of the following is the name of a bone in the human leg?  
A) femur  
B) sternum  
C) clavicle  
D) metacarpals
- (26) The unit used to describe the amount of electrical current passing through a point is the  
A) volt  
B) ampere  
C) coulomb  
D) watt

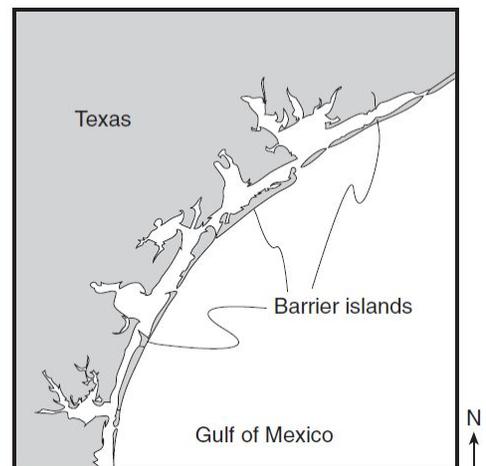
- (27) The table below list densities of various substances. If all the listed substances were in a liquid state and placed in a container, which one would be on the top?

Substance	Density (g/cm <sup>3</sup> )
Water	1.00
Iron	5.02
Lead	11.35
Mercury	13.55

- A) Lead  
B) Mercury
- C) Water  
D) Iron
- (28) The reproductive organs of angiosperms are the  
A) cilia  
B) guard cells
- C) flowers  
D) roots
- (29) A product of photosynthesis is  
A) CO<sub>2</sub>  
B) H<sub>2</sub>
- C) H<sub>2</sub>O  
D) O<sub>2</sub>
- (30) An animal that produces both sperm and egg is a  
A) larva  
B) hermaphrodite
- C) sessile  
D) cnidarians
- (31) The replacing of the old exoskeleton by a new one is called  
A) molting  
B) changeling
- C) metamorphosis  
D) cropping
- (32) A box that has a mass of 4 kilograms is pushed 12 meters. How much work is done on the box?  
A) 3 Joules  
B) 48 Joules
- C) 288 Joules  
D) 192 Joules
- (33) Our sun, like most stars its size, is made up mostly of  
A) helium.  
B) xenon.
- C) oxygen.  
D) hydrogen.
- (34) To express the distance between the Milky Way galaxy and other galaxies, the most appropriate unit of measurement is the  
A) astronomical unit  
B) kilometer
- C) mile  
D) light-year
- (35) All the processes listed below cause changes in Earth's surface. Which of the following is the slowest to change Earth's surface?  
A) weathering  
B) volcanic eruption
- C) landslide  
D) tsunamis
- (36) An isotope of an element has extra  
A) electrons.  
B) protons.
- C) electrons and protons.  
D) neutrons.

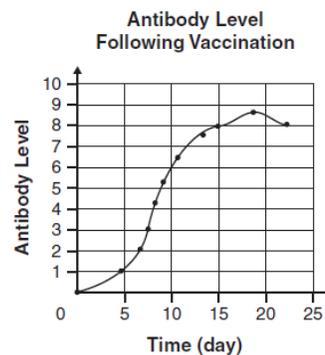


- (44) If a neutral atom has 24 protons we know for sure  
A) it has 24 electrons. C) it has 24 neutrons.  
B) it is an ion. D) it has a neutral pH.
- (45) A refrigerator with a mass of 250 kilograms is riding on a cushion of air motionless. Matt pushes the refrigerator with a net force of 10 Newtons for 2 seconds. What is the refrigerator's acceleration?  
A)  $50 \text{ m/s}^2$  C)  $1000 \text{ m/s}^2$   
B)  $0.04 \text{ m/s}^2$  D)  $12.5 \text{ m/s}^2$
- (46) The part of the earth's atmosphere closest to sea level is the  
A) exosphere. C) ionosphere.  
B) troposphere. D) mesosphere.
- (47) Great volcanic eruptions send dust and ash into the stratosphere. Weeks after such great eruptions, air temperatures are often  
A) cooler than normal because the atmosphere is less transparent.  
B) cooler than normal because the atmosphere is more transparent.  
C) warmer than normal because the atmosphere is less transparent.  
D) warmer than normal because the atmosphere is more transparent.
- (48) Which two gases have been added to Earth's atmosphere in large amounts and are believed to have increased global warming by absorbing infrared radiation?  
A) neon and argon C) chlorine and nitrogen  
B) hydrogen and helium D) methane and carbon dioxide
- (49) The map to the right shows barrier islands in the ocean along the coast of Texas. Which agent of erosion most likely formed these barrier islands?  
A) mass movement  
B) glaciers  
C) wave action  
D) streams



- (50) Two cars, one with three times the mass of the other, are traveling toward each other. If the smaller car is traveling  $+6 \text{ m/s}$  and the other  $-2 \text{ m/s}$ , what happens if they lock together after colliding?  
A) They come to a complete stop. C) They travel at  $+2.5 \text{ m/s}$ .  
B) They travel at  $-1.25 \text{ m/s}$ . D) They travel at  $+3 \text{ m/s}$ .
- (51) Decomposition of organic material is an important role of which of the following?  
A) fungi C) parasites  
B) protozoans D) plants

- (52) What is any permanent change in a gene or a chromosome called?  
 A) mutilation  
 B) mutation  
 C) replication  
 D) fission
- (53) Which process is most responsible for the formation of the Grand Canyon of the United States.  
 A) scouring by continental glaciers  
 B) eruptions by explosive volcanoes  
 C) scouring by tornados  
 D) erosion by wind and water
- (54) During an experiment where a Bunsen burner is being used, a piece of safety equipment that should be used is  
 A) rubber soled shoes.  
 B) heat resistant gloves.  
 C) a lab coat.  
 D) darkened glasses.
- (55) The graph to the right shows the production of antibodies following a flu shot. Which of the following statements best describes the maximum antibody level of a person's body after a flu vaccination?  
 A) It occurs immediately.  
 B) It is never achieved.  
 C) It is achieved on day 15.  
 D) It occurs on day 18.



- (56) How many atoms are represented in the formula  $\text{CaCO}_3$ ?  
 A) 1  
 B) 3  
 C) 5  
 D) 7
- (57) Compared with the Pacific Ocean, a cup of hot chocolate has  
 A) more thermal energy and a higher temperature.  
 B) less thermal energy and a higher temperature.  
 C) more thermal energy and a lower temperature.  
 D) less thermal energy and a lower temperature.
- (58) Which of the following cell types is formed by meiosis?  
 A) sperm cells  
 B) muscle cells  
 C) skin cells  
 D) blood cells
- (59) Which animals are most likely to carry the seeds found in berries from the parent plant to another area?  
 A) bees  
 B) birds  
 C) dogs  
 D) caterpillars
- (60) Primary control for activities on the International Space Station (ISS) in the United States are handled at  
 A) Washington DC.  
 B) Cape Canaveral, Florida.  
 C) Jet Propulsion Lab, Pasadena California.  
 D) Johnson Space Center, Houston Texas.

## 2017 TAME Middle School Practice Science Test Answer Key

(1) C  
(2) C  
(3) D  
(4) B  
(5) D  
(6) A  
(7) B  
(8) D  
(9) B  
(10) B  
(11) D  
(12) B  
(13) C  
(14) A  
(15) C  
(16) B  
(17) A  
(18) A  
(19) B  
(20) C

(21) B  
(22) C  
(23) B  
(24) D  
(25) A  
(26) B  
(27) C  
(28) C  
(29) D  
(30) B  
(31) A  
(32) B  
(33) D  
(34) D  
(35) A  
(36) D  
(37) C  
(38) A  
(39) A  
(40) B

(41) D  
(42) B  
(43) D  
(44) A  
(45) B  
(46) B  
(47) A  
(48) D  
(49) C  
(50) A  
(51) A  
(52) B  
(53) D  
(54) B  
(55) D  
(56) C  
(57) B  
(58) A  
(59) B  
(60) D