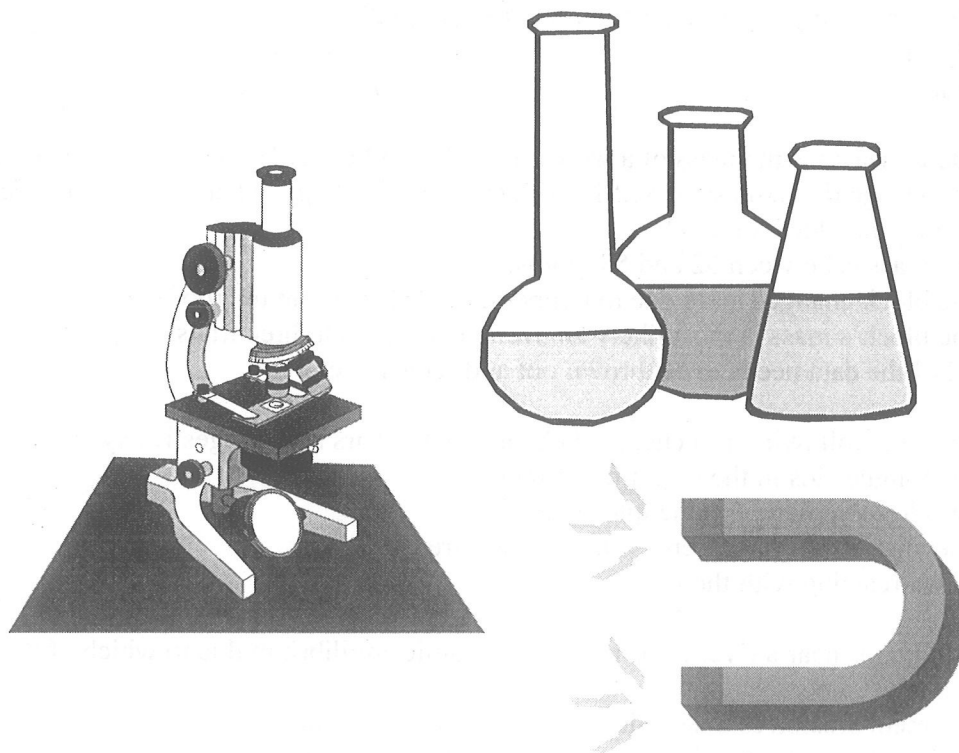


FALL/WINTER DISTRICT 2012-2013

A+ ACADEMICS



University Interscholastic League



Science I

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UNIVERSITY INTERSCHOLASTIC LEAGUE
2012-2013 SCIENCE I
FALL/WINTER DISTRICT TEST

1. Energy is measured in the same unit as
 - A. power.
 - B. work.
 - C. force.
 - D. none of these.

2. This is a complementary process of both photosynthesis and cellular respiration.
 - A. Nitrogen Cycle
 - B. Hydrologic Cycle
 - C. Carbon Cycle
 - D. Phosphorous Cycle

3. Which of the following organic compounds is a lipid?
 - A. Glycerol
 - B. Glucose
 - C. RNA
 - D. Maltose

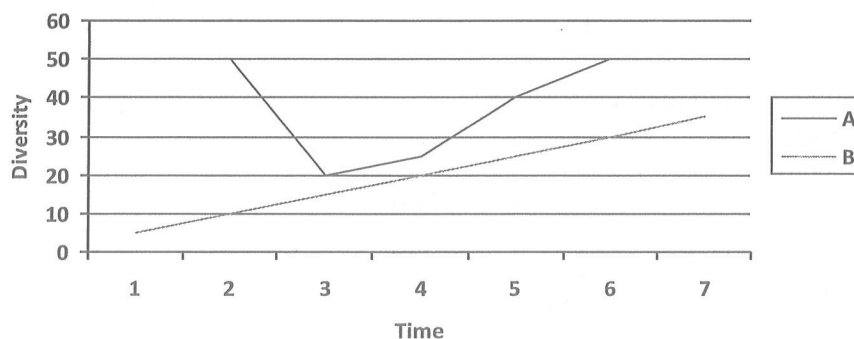
4. A student measures the mass of a wooden block as 52.62 g. He remeasures the rock three more times, getting a mass of 52.51 g, 52.75 g, and 58.25 g. What can be concluded concerning the block's mass?
 - A. The mass is between 52 and 58 grams.
 - B. The block changed sizes due to temperature difference in the room.
 - C. The block's mass is most likely an average of the first three trials.
 - D. All of the data needs to be thrown out and remeasured.

5. Which of the following is a chemical change that occurs in the digestive system?
 - A. The tongue aids in the digestion of food.
 - B. Muscles contracting in the intestines
 - C. Chewing the food to decrease the surface area
 - D. Saliva reacting with the food

6. A beach that is near a river is normally in dynamic equilibrium due to which of the following?
 - A. Sediment erosion and deposition occur at a constant rate
 - B. Sediment erosion and deposition occur at an irregular rate
 - C. Sediment weathering and deposition occur at a constant rate
 - D. Sediment weathering and erosion occur at an irregular rate

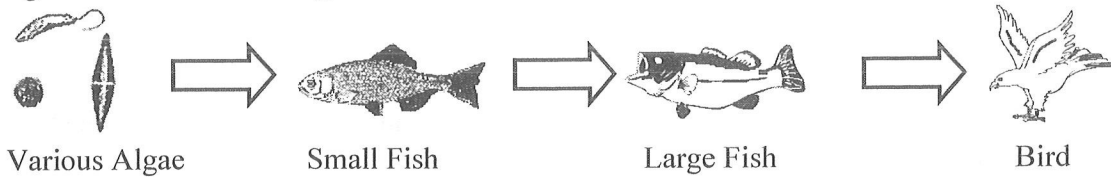
7. Which type of radiant energy is used by an autotrophic organism to produce chemical energy?
 - A. Thermal
 - B. Visible Light
 - C. Ultraviolet
 - D. Microwaves

8. What is a natural collection of interacting components that function together in a quantifiable manner?
- A. Theory
B. Hypothesis
C. System
D. Law
9. Breakthroughs in science during the nineteenth century were the result of which of the following?
- A. Clever inventions
B. Research into the workings of the natural and physical world
C. Accidental discoveries
D. Grant funded research projects
10. As the human population expands in the suburbs and urban areas, freshwater supplies have been threatened. Which of the following is the primary reason that growths in these areas have reduced the aquifer recharge?
- A. Diversion of streams increases runoff
B. Decreased infiltration of water due to concrete and pavement
C. Decreased consumption of water
D. Forest clearing promotes higher transpiration
11. This biome is characterized by grassland and sparse trees. It has extended dry periods, or droughts. Organisms that live in this biome include grasses, shrubs, insects, birds, burrowing animals, and hoofed animals. Which biome best fits this description?
- A. Savanna
B. Deciduous forest
C. Desert
D. Rain forest
12. Based on the graph below, what does line B represent?

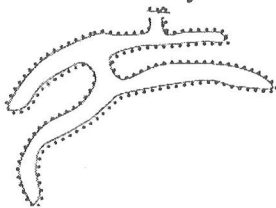


- A. Limiting Factor
B. Primary Succession
C. Secondary Succession
D. Carrying Capacity

13. Prior to 1972, DDT was a commonly used pesticide. According to the food chain, which organism would have the greatest concentration of DDT?



- A. Algae
B. Small Fish
C. Large Fish
D. Bird
14. A plant with white flowers is crossed with a plant that has red flowers. The resulting plant has pink flowers. What type of inheritance is this representing?
A. Incomplete dominance
B. Recessive
C. Multi-genetic
D. Codominance
15. For sickle cell anemia, find the probability that a child would be a carrier of the disease if the mom is normal (AA) and the dad is a carrier (ss).
A. There is a 25 % chance the child will be a carrier.
B. There is a 50 % chance the child will be a carrier.
C. There is a 100 % chance the child will be a carrier.
D. There is no chance the child will be a carrier.
16. The endoplasmic reticulum serves for transporting material through an animal cell. The outer surface may be smooth or rough.



Which structure causes the outer surface to appear rough?

- A. Mitochondria
B. Ribosomes
C. Proteins
D. Vacuole
17. A parallax can be used to measure a star's
A. distance from Earth.
B. elemental composition.
C. gravitational attraction to nearby celestial bodies.
D. atmospheric pressure.
18. Which of the following is not an SI base unit?
A. Second
B. Candela
C. Meter
D. Micrometer
19. What are the three primary types of neurons called?
A. ganglion, sensory, melon
B. motor, sensory, association
C. axon, myelin, dendrite
D. spinal, cerebral, motor

27. In May of 1961, who was the first American in space?
A. Neil Armstrong
B. Gus Grissom
C. John Glenn
D. Alan Shepard
28. This is the process of breaking down large molecules of heavy oil into smaller molecules of gasoline.
A. Catalytic cracking
B. Distillation
C. Hydro processing
D. Digestion
29. Which of the following would be best to replenish topsoil that has been lost due to erosion?
A. Frequently plowing a field
B. Decomposition of organic material
C. Planting trees
D. Clear cutting
30. Space X designs and builds rockets. Which of the properties would NOT be as important to consider for the material used in the construction of a rocket?
A. Density
B. Conductivity
C. Malleability
D. Melting Point
31. Unbalanced forces are produced by which of the following?
A. Gravity
B. Work
C. Momentum
D. Acceleration
32. Which of these is NOT a reaction to an external stimulus?
A. Animals shedding fur in the summer
B. A rash developing on skin due to contact with allergen
C. Red and itchy eyes due to tiredness
D. A plant growing towards a window
33. Methane is one of the simplest organic compounds. It is composed of which of the following elements?
A. H and C
B. C and N
C. N and S
D. O and H
34. Brown eyes are a dominant trait in humans. Therefore, a blue eyed child must have inherited the recessive gene from
A. one parent.
B. both of the parents.
C. one parent and a dominant gene from the other parent.
35. Which of the following fuel sources is made from renewable resources?
A. Propane
B. Natural Gas
C. Ethanol
D. Plutonium