

# 14<sup>th</sup> INTERNATIONAL KANGAROO SCIENCE CONTEST 2021

Benjamin Level (Class 5 & 6)

Time Allowed: 90 minutes

## ALL QUESTIONS WORTH 4 POINTS

1. Green Euglena is a small living being, which belongs to the following kingdom:



Bacteria



Protists



Plants

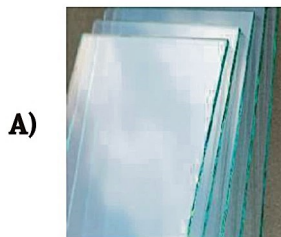


Fungi



Animals

2. Which of the following allows the passage of the electric current?



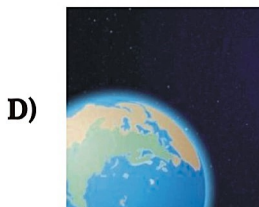
Glass



Plastic



Dry wood



The vacuum



The human body

3. Which of the following are algae?

- A) Seaweeds and Mushrooms    B) Lichen and Ferns    C) Worms and Euglena  
D) Volvox and Spirogyra    E) Amoeba and Pine

4. Which of the following is not an aggregation state?

- A) Solid state    B) Magnetic state    C) Gaseous state  
D) Liquid state    E) Plasma

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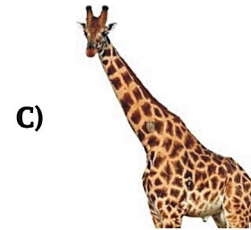
5. The spine protects the spinal cord. Which of the following animals has spine?



Scorpion



Octopus



Giraffe



Corals



Crab

6. Which of the following statements is true?

- A) An electrified material repels a neutral body located near it
- B) All electrified materials attract each other
- C) All electrified materials repel each other
- D) An electrified body repels the neutral body brought into contact with it
- E) A positive electrified body remains positively charged when in contact with the Earth

7. The vertebrate animal that gives birth to living young and feeds them with milk is:



The dolphin



The rohu fish



The crocodile



The penguin



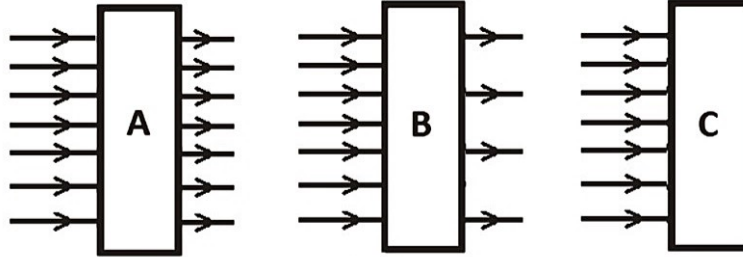
The frog

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8. The next figure shows three bodies, made of PVC (Polyvinyl chloride), ordinary glass and frosted glass, on which a beam of light falls from a large light source.



Make the correct association between the image and the nature of the body material.

- A) A - PVC                      B) B - Ordinary glass                      C) C - Matte glass  
D) B - Matte glass                      E) A - Matte glass

9. The following animals are found in aquatic environment:

- A) Crab and beetle                      B) Starfish and octopus                      C) Jellyfish and seaweed  
D) Frog and scorpion                      E) Shrimp and bee

10. What makes solids, liquids and gases different from each other?

- A) Solid, liquid and gas particles have different sizes  
B) Liquid, solid and gaseous bodies have different colors  
C) It is different distance between the particles  
D) Being in different states of aggregation, they do not have the same temperature  
E) Solid, liquid and gas particles have different shapes

11. Which of the following plants has a capsule that develops spores?

- A) Fern                      B) Pine                      C) Seaweed  
D) Hibiscus                      E) Moss

12. Which of the following is true about the gravitational acceleration?

- A) It has the same value on the surface of all the planets in our solar system  
B) It has the same value everywhere on the surface of the Earth  
C) Its value is proportional to the mass of the body that falls to the surface of the Earth  
D) It is larger at the Equator than at the North Pole  
E) It decreases as we move away from the Earth's surface

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13. When a seed is sown in the ground and watered, it begins to grow. The part of the seed that forms the new plant is:

- A) The testa\*
- B) The cotyledon
- C) The embryo
- D) The endosperm
- E) The stigma



\* The seed coat = the testa

14. We can say that:

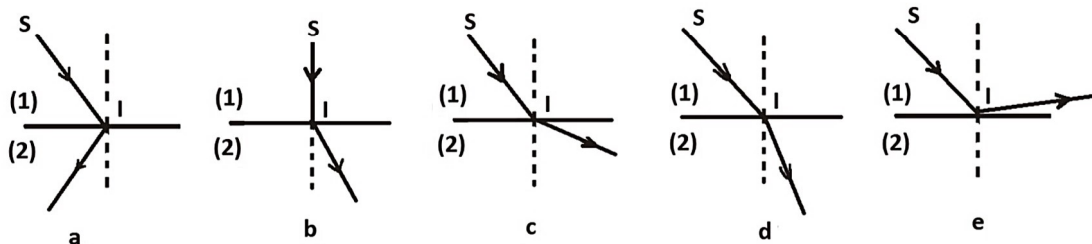
- A) A train has less kinetic energy than a car moving at the same speed
- B) There is kinetic energy in the stretched sling of the catapult
- C) When we pick up a brick, it can do work due to the potential energy
- D) Chemical energy is a form of kinetic energy
- E) One form of energy can't be changed into another form

15. The bean seed and the corn seed have the following common feature:



- A) Each contains one cotyledon
- B) They have an embryo, which protects them
- C) They contain two cotyledons
- D) They are kidney shaped
- E) They store food in the cotyledon

16. From the light source S, the incident beam SI propagates to the separation surface between air (1) and water (2). Which of the following images shows the situation described above?



- A) a
- B) b
- C) c
- D) d
- E) e

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**17. Which of the following cellular components is present in the plant cell, but is missing in the animal cell?**

- A) Cell membrane                      B) Chloroplasts                      C) Cytoplasm  
D) Nucleus                                E) Vacuole

**18. The Earth's magnetic field is more intense:**

- A) At the 45<sup>th</sup> parallel                      B) At the equator                      C) At the Tropics  
D) Only at the geographic North Pole    E) At the two poles

**19. The plant organ located in the soil has the following role:**



- A) It attracts insects for pollination  
B) It eliminates water through transpiration  
C) It absorbs carbon dioxide from the air.  
D) It absorbs water for photosynthesis  
E) It produces seeds after fertilization.

**20. About friction we can say that:**

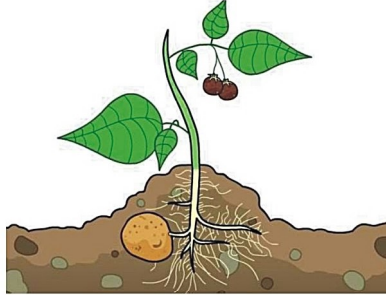
- A) It slows down the object and stops its motion.  
B) It has the same direction as the motion.  
C) It has no advantages.  
D) It does not change the speed of movement of bodies on rough surfaces.  
E) During downward fall of the parachutists, their weight forces and the air friction have the same direction.

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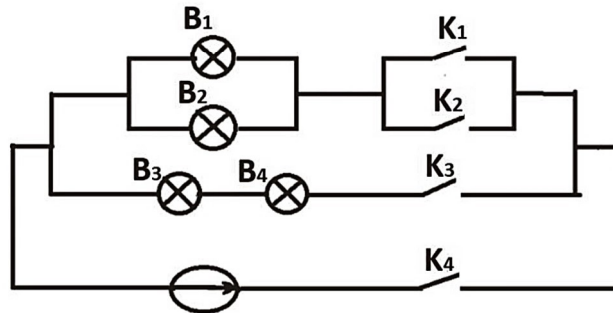
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21. Which of the following describes the correct order in which the water and mineral substances absorbed from the soil move through the plant?



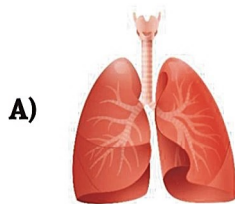
- A) Root → Stem → Leaves  
B) Leaves → Stem → Root  
C) Root → Leaves → Stem  
D) Stem → Root → Leaves  
E) Stem → Leaves → Root

22. Which of the switches from the next image must be closed so that bulbs B1 and B2 light up?

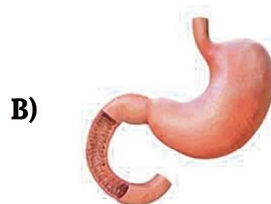


- A)  $K_1$  and  $K_2$   
B)  $K_1$  and  $K_4$   
C)  $K_1$  and  $K_3$   
D)  $K_2$  and  $K_3$   
E)  $K_3$  and  $K_4$

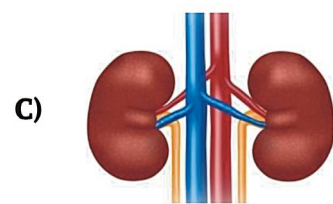
23. Select the organs that filter the blood and remove the residual substances from it:



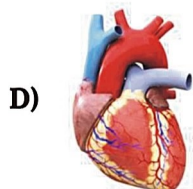
The lungs



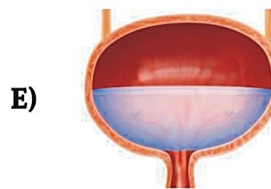
The stomach



The kidneys



The heart



The bladder

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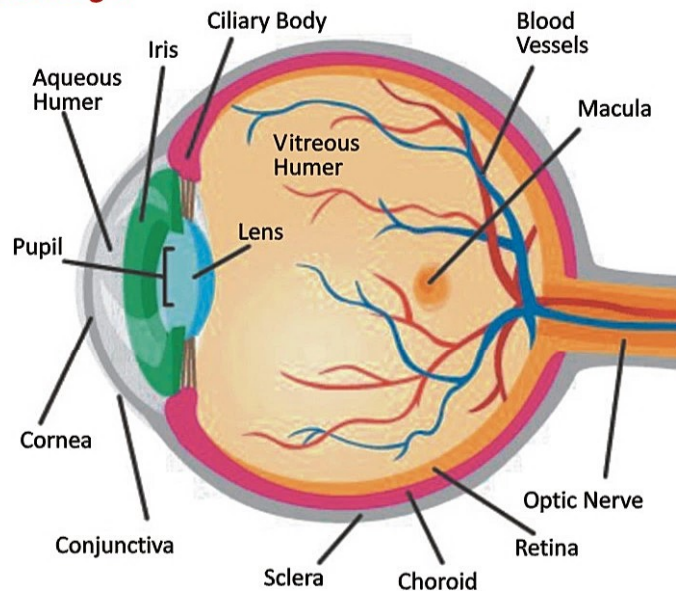
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24. Which of the following is a true statement about forces?

- A) We can see them
- B) We can smell them
- C) We can know about their existence only through the effects they produce
- D) They all produce the same effects
- E) They act only on moving bodies

25. Which of the following gives the correct path of light rays entering the human eye and forming the image?



- A) Cornea → vitreous humour → lens → aqueous humour → retina
- B) Aqueous humour → lens → vitreous humour → retina → cornea
- C) Cornea → aqueous humour → lens → vitreous humour → retina
- D) Lens → aqueous humour → cornea → vitreous humour → retina
- E) Cornea → iris → aqueous humour → vitreous humour → retina

26. When a liquid changes to a solid we can say that:

- A) The phenomenon is called melting
- B) If the liquid is water, it will change into vapors or gas
- C) If the liquid is water, the heat energy is lost from the liquid to surroundings
- D) Particles vibrate faster
- E) The forces of attraction between particles become weaker

27. Oxygen is necessary for living things to oxidize substances and to produce energy. Oxygen is permanently produced in the process of:

- A) Sweat
- B) Respiration
- C) Germination
- D) Circulation
- E) Photosynthesis

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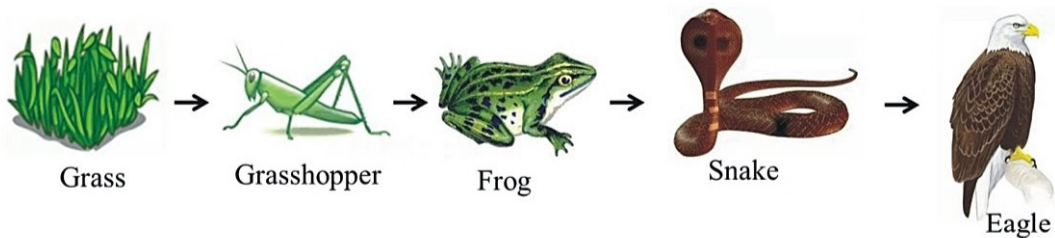
28. What is the opposite process of boiling?

- A) evaporation                      B) condensation                      C) melting  
D) freezing                              E) distillation

29. Identify the parasitic organism among the following living things:

- A) Earthworm                              B) Taenia                              C) Jellyfish  
D) Octopus                                E) Coral

30. The image below shows the feeding relationships between the components of a forest ecosystem. Select the correct association:



- A) Decomposers - grass                      B) Producers - snake                      C) Consumers - grass  
D) Decomposers - frog                      E) Consumers - eagle

