

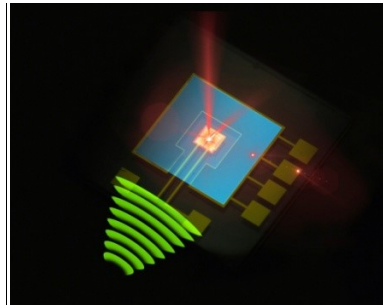
# 13<sup>th</sup> INTERNATIONAL KANGAROO SCIENCE CONTEST 2020

Benjamin Level (Class 5 & 6)

Time Allowed: 90 minutes

## ALL QUESTIONS WORTH 4 POINTS

1. **A radio converts:**



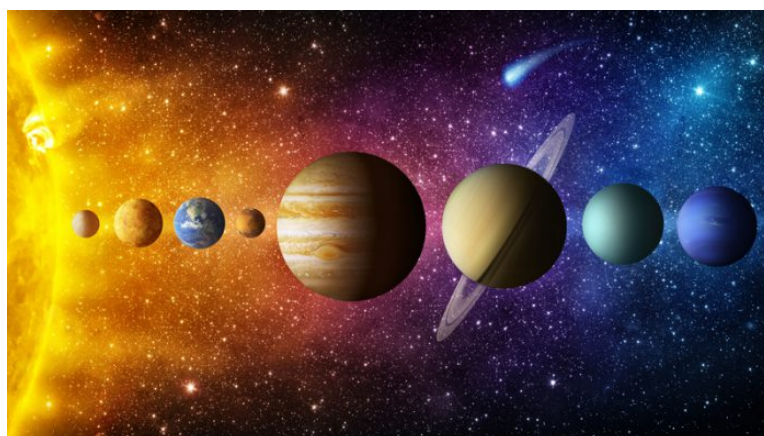
- A) electrical energy to light energy
- B) electrical energy to kinetic energy
- C) light energy to sound energy
- D) electrical energy to sound energy
- E) mechanical energy to sound energy

2. **A mushroom has the following characteristic:**

- A) It reproduces by spores
- B) It is a plant
- C) It lives in the aquatic environment
- D) It has chlorophyll
- E) It contains a single cell



3. **About the Solar System, we can affirm:**



- A) The closest planet to the Sun is Neptune.
- B) Mars is known as the Red Planet.
- C) Saturn is the largest planet in the system.
- D) Uranus is the farthest planet from the Sun.
- E) It contains seven planets and the star Venus.

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4. Green algae and brown algae have the following common character:



- A) They have root, stem, leaves
- B) They live in the terrestrial environment
- C) They consist of one single cell
- D) They feed through photosynthesis
- E) They are part of the bacteria kingdom

5. Which of the following optical instruments provides an upright, virtual image that is equal to the object?

- A) The magnifier
- B) The concave mirror
- C) The convergent lens
- D) The flat mirror
- E) The microscope

6. Which of the following plants produce seeds?



A) Fern



B) Moss



C) Pine



D) Seaweeds



E) Lichens

7. Which of the following is an artificial satellite?

- A) Moon
- B) Comet Halley
- C) Ceres
- D) Vesta
- E) Sputnik-1

8. Which of the following animals does not have spine?

- A) Boa
- B) Ibisbill
- C) Rohu
- D) Crab
- E) Elephant

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9. The distance between an object and its image in a flat mirror is 30cm. If the object is moved away from the mirror through a distance of 10cm, then what will be the distance between the mirror and the object?

- A) 25cm                      B) 50cm                      C) 15cm  
D) 5cm                        E) 40cm

10. Which of the following aquatic animals gives birth to live young and feeds them with milk?



A) Sea turtle



B) Frog



C) Crocodile



D) Penguin



E) Dolphin

11. Which of the following is a concave mirror?

- A) A road mirror                      B) A dew drop  
C) An anti-theft mirror which is used in shops                      D) A dental mirror  
E) The surface of a lake

12. Deforestation has the following consequence:



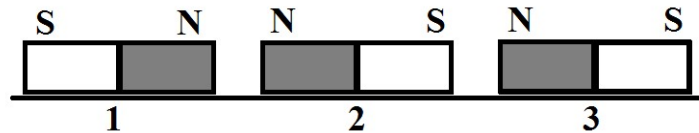
- A) Soil degradation increases  
B) The level of carbon dioxide in the air decreases  
C) The level of oxygen in the air increases  
D) Landslides are reduced  
E) Soil fertility increases

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13. Three magnets are placed close to each other on a wooden board (see the next image). What will happen to magnet 2?



- A) It will stay as it is  
B) It will approach magnet 1  
C) It will rotate itself 180°  
D) It will approach magnet 3  
E) It will be oriented perpendicular to the line joining magnets 1 and 3
14. The turtle and the swamp frog have the following common characters:



- A) They belong to the reptiles group  
B) They breathe through lungs  
C) They belong to the amphibians group  
D) They lay eggs in the aquatic environment  
E) They are invertebrate animals
15. Which statement is true about light?
- A) It propagates at the same speed in any environment  
B) It cannot propagate in vacuum  
C) It propagates only in a straight line  
D) It only comes from natural light sources  
E) When it comes from the Sun, it reaches the surface of the Earth after 15 minutes

16. The petals of the rose are colorful for:



- A) attracting insects  
B) photosynthesis  
C) insect reproduction  
D) plant protection  
E) breathing

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- 17. When an apple detaches itself from a tree and falls towards the surface of the Earth, we say that:**



- A) At the moment of detachment it has the maximum kinetic energy
  - B) Immediately before reaching the Earth it has the maximum potential energy
  - C) If no external forces are involved during the fall, the mechanical energy is preserved
  - D) At the moment of detachment it has elastic potential energy
  - E) At the moment of detachment it has no energy
- 18. When referring to reproduction, the common characteristic of pine and apple trees is that:**
- A) they have flowers with colored petals
  - B) they have seeds formed by the flower
  - C) they have fruits that contain seeds
  - D) they have flowers called cones
  - E) they have flowers that contain the egg cell
- 19. Choose the correct statement regarding optical instruments:**
- A) A periscope helps us to study very small objects located near us
  - B) By using the microscope, we study cosmic objects
  - C) Submarines are equipped with telescopes in order to observe the objects located on the surface of water
  - D) Refracting telescopes are used by philatelists
  - E) The kaleidoscope produces several symmetrical images of the same object with the help of flat mirrors
- 20. Which of the following statements is true about water?**



- A) It is used by plants for feeding
- B) Near the forests the humidity is reduced
- C) In living beings it is present in small quantities only
- D) Germination of seeds takes place only in the absence of water
- E) Deforestation reduces flooding

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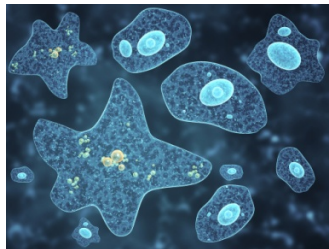
21. In order to reduce the frictional forces with the environment:

- A) Bicyclists stand upright and wear wide clothing
- B) Swimmers keep their arms wide open
- C) We have to consider the fact that there is friction only with water, not with air
- D) Speed skaters wear tight glossy clothes and keep their hands close to their bodies
- E) The friction of a car with the air does not depend upon the shape of a car

22. Which one of the following uses cilia for movement?



A) Euglena



B) Amoeba



C) Paramecium

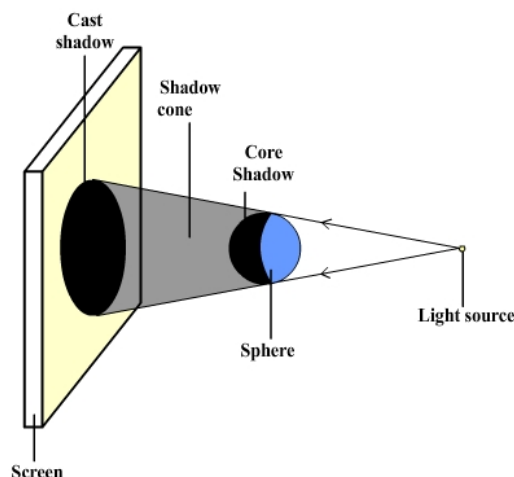


D) Volvox



E) Influenza virus

23. What is true about shadows formation?



- A) When an object is transparent it will form a shadow only if it is much larger than the light source
- B) An object will form a shadow only if it is large enough
- C) An object will form a shadow, if it is opaque
- D) If an object is transparent, it will form a shadow, regardless of its shape and size
- E) An object will form a shadow only if it is in the air

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24. Which of the following coelenterates can be found in the sea:



A) Sponges



B) Corals



C) Worms



D) Molluscs



E) Arthropods

25. Which of the following statements is true about electric current?

- A) It is produced only if the circuit is closed and contains an electric battery
- B) It represents the chaotic movement of electrons through a conductor
- C) It represents an ordered movement of protons
- D) It is measured with an ammeter mounted in series with the battery, when the circuit is open
- E) It has the same value, no matter how many circuit elements are connected to the battery circuit

26. Pollen grains are formed in:

- A) Stalk
- B) Sepals
- C) Petals
- D) Carpels
- E) Stamens

27. Regarding the flat mirror we can say that:

- A) It reflects light diffusely
- B) It forms the image of the objects situated behind it
- C) The image of an object is formed at a distance equal to half the distance between the mirror and the object
- D) It forms upright, VIRTUAL images equal to the size of the objects
- E) It forms upright, REAL images equal to the size of the objects

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28. The part of the flower which produces the seeds after fertilization is:



- A) the egg cell  
B) the style  
C) the plant ovary  
D) the stigma  
E) the anther

29. A meteor:

- A) is the same as a meteoroid  
B) is a small body, made of stone or metal, orbiting outside the Earth  
C) is a meteoroid that has reached the surface of the Earth  
D) due to the friction with the terrestrial atmosphere, it burns completely before it reaches the surface of the Earth  
E) is the same as a meteorite

30. When a light beam falls on the windshield of a car:

- A) the light is fully reflected  
B) the light cannot be absorbed, because the windshield is not black  
C) the light is transmitted through the windshield only if there are passengers in the car  
D) the light phenomena of reflection, transmission and absorption occur simultaneously  
E) only light reflection and transmission phenomena occur simultaneously

