



**SOUTH AFRICAN AGENCY FOR SCIENCE AND TECHNOLOGY ADVANCEMENT
10th NATURAL SCIENCE OLYMPIAD**

GRADES 4 - 6

2020

INSTRUCTIONS

Please read the instructions carefully before answering the questions

This is a multiple choice paper. Please answer all the questions on the answer sheet provided. Each question is followed by answers marked A, B, C, and D. **Only one answer is correct.** Choose the correct answer and shade the corresponding circle on the answer sheet completely, using an HB pencil.

NB! The answer sheets are marked electronically – do not make any other dots or marks on the answer sheet. Select only one answer for each question or your answer will be discarded. **Ensure that you shade your selection clearly.**

Note that the question numbers 1 to 100 on the answer sheet moves from top to bottom in several columns. Ensure that the number of your selection on the answer sheet corresponds with the number of the question in your examination paper. Should you make a mistake, please erase the incorrect answer completely

The use of **non-programmable** electronic calculators is permitted.

To avoid disqualification - You are required to complete **all** the information requested on the answer sheet. Please complete the information in script, as well as shade the corresponding blocks. If the corresponding blocks are not shaded appropriately, your results will be returned without a name and you will be disqualified. Do not fold the answer sheets.

Three hours are allowed to answer the questions

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1. Which of these are animals with a constant body temperature? ...
 - A. birds and mammals.
 - B. mammals and fish.
 - C. fish and amphibians.
 - D. birds and fish.

2. What causes solids, liquids and gases to change phase?
 - A. Heating and cooling
 - B. Boiling
 - C. Freezing
 - D. Melting

3. Producers, consumers and decomposers are dependent on each other for their.....
 - A. growth.
 - B. reproduction.
 - C. breathing.
 - D. survival.

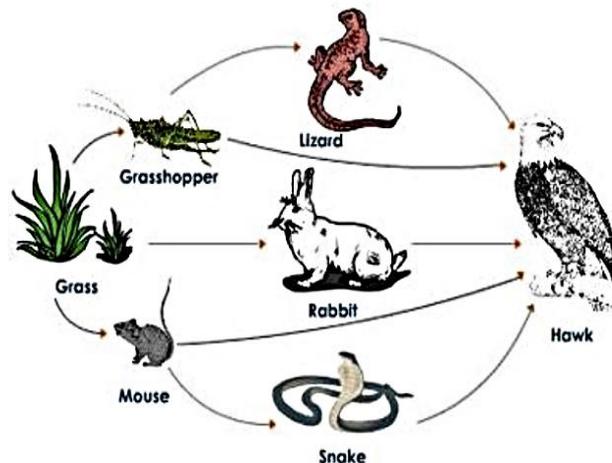
4. The Earth's Lithosphere consists of ...
 - A. land, water and air.
 - B. rock, soil and minerals.
 - C. trees, grass and air.
 - D. trees, rivers, air and rock.

5. Which one of the following is NOT a life process?
 - A. Breathing
 - B. Thinking
 - C. Growing
 - D. Reproducing

6. Which of the following can be found in the habitat of a living organism?
 - A. Food
 - B. Shelter
 - C. A place to hide from danger
 - D. All of the above

7. Which of the following statements is correct about phases of matter?
 - A. Solids keep their shape.
 - B. Liquids can flow and are able to take the shape of a container.
 - C. Gases, such as air, tend to spread out, have no definite shape and the particles have complete freedom of motion.
 - D. All of the above statements are correct.

8. Identify which one of the following organisms supplies energy to more than one organism in the food web.



- A. Lizard
 - B. Mouse
 - C. Snake
 - D. Hawk
9. Which one of the following statements is NOT true about the Sun?
 - A. The Sun is a star.
 - B. The Sun is made up of very hot, molten rock.
 - C. The Sun is the closest star to the Earth.
 - D. The Sun provides heat and light to living things on Earth.

 10. Which one of the following statements dealing with energy is incorrect?
 - A. Forms of energy include heat, light and sound.
 - B. Energy is stored in sources such as food, coal, and diesel.
 - C. Machines and appliances need an input of energy to make them work.
 - D. People can create energy.

 11. Plants need ... to grow.
 - A. light, water and air
 - B. light, water and warmth
 - C. light, water, soil and air
 - D. oxygen, water and soil

 12. Which one of the following statements is NOT true?
 - A. All animals need a habitat where they can get water and food.
 - B. All animals need a habitat to escape from danger.
 - C. All animals need a habitat for shelter.
 - D. All animals need a habitat as a place where they can hunt.

13. Choose the medium through which sound will travel the fastest.

- A. hot air
- B. cold air
- C. cold water
- D. cold steel

14. Choose the correct statement:

- A. Sound produced by a drum is always louder than the sound produced by a whistle.
- B. Sound produced by a whistle is always louder than the sound produced by a drum.
- C. Sound produced by a drum has a lower pitch than the sound produced by a whistle.
- D. Sound produced by a drum has a higher pitch than the sound produced by a whistle.

15. Arrange the following bodies in order from smallest to largest.

Sun	Earth	Moon	Continent
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- A. Continent, Moon, Earth, Sun
- B. Moon, Sun, Continent, Earth
- C. Earth, Moon, Sun, Continent
- D. Moon, Sun, Continent, Earth

16. The fruits shown below can be divided into two categories based on their basic structure:



Which of the following two categories represent a correct division?

- A. Category 1: pawpaw, peach and banana
Category 2: avocado, strawberry and pineapple
- B. Category 1: pawpaw, peach and avocado
Category 2: banana, strawberry and pineapple
- C. Category 1: pawpaw, strawberry and avocado
Category 2: banana, pineapple and peach
- D. Category 1: pawpaw, pineapple and banana
Category 2: avocado, strawberry and peach

17. Consider the scales (mass meters) below and determine by how much the mass measured by scale X differs from the mass measured by scale Y



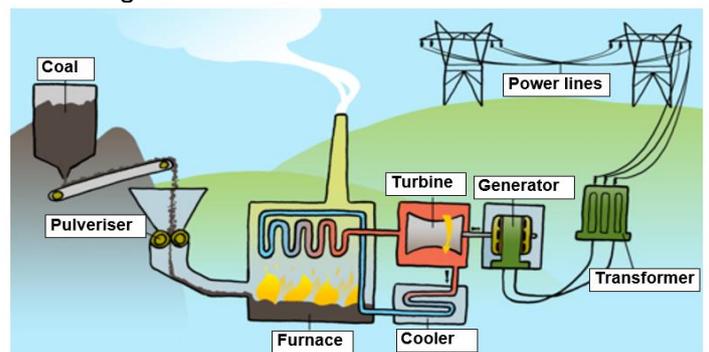
Scale X

Scale Y

- A. The difference in mass measured by scale X and Y is 60kg.
 - B. The difference in mass measured by scale X and Y is 40kg.
 - C. The reading on scale X is 120kg and on scale Y is 160kg.
 - D. The reading on scale X is 110kg and on scale Y is 150kg.
18. Consider the following energy sources and pick the odd one out.

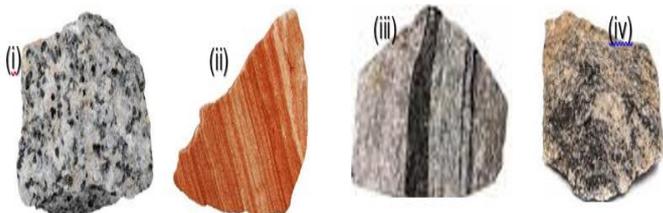
Bread	Sunlight	Gas used for cooking	Diesel
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- A. Bread
 - B. Sunlight
 - C. Gas used for cooking
 - D. Diesel
19. Which one of the following substances can rust?
- A. Glass
 - B. Non-metal
 - C. Iron
 - D. Stainless steel
20. Which power station in South Africa does not make use of the source of energy shown in the diagram below?

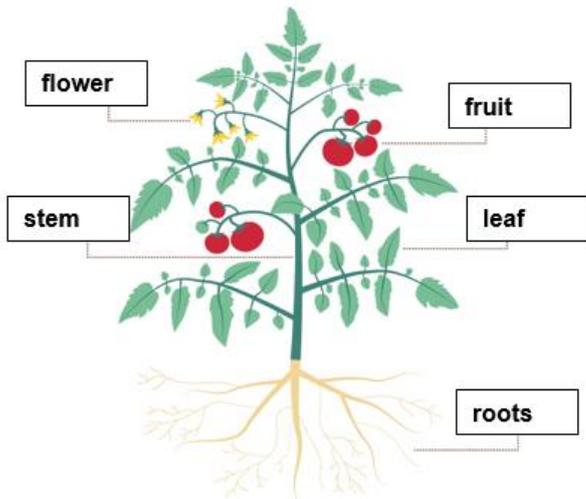


- A. Medupi
- B. Koeberg
- C. Matimba
- D. Kusile

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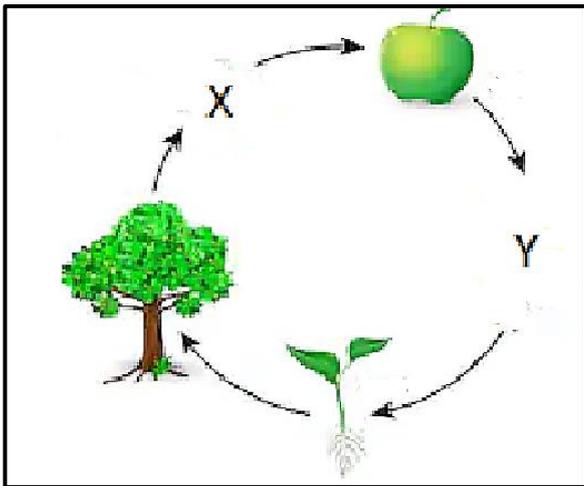
21. Which type of soil contains a fair amount of decomposed matter?
- A. Sandy soil
B. Clay soil
C. Loamy soil
D. Wet soil
22. Which type of soil can retain the greatest amount of water?
- A. Sand
B. Clay
C. Silt
D. Loam
23. What do plants need to produce their own food?
- A. Water, air and energy from the Sun.
B. Water, carbon and energy from the Sun.
C. Energy from the Sun, oxygen and water.
D. Energy from the Sun, carbon dioxide and water.
24. Which one of the following food chains correctly indicates the flow of energy in an ecosystem?
- A. Grass → Lion → Human
B. Cow → Grass → Lion
C. Grass → Goat → Human
D. Leaf → Bird → Goat
25. Identify two requirements for fuel (diesel or petrol) to combust (burn) inside motor car engines.
- A. Heat and light
B. Oxygen and light
C. Heat and oxygen
D. Carbon dioxide and heat
26. Which one of the following statements is correct regarding fossils?
- A. Body fossils are formed from the soft parts of plants and animals.
B. Trace fossils are formed from hard parts of plants and animals.
C. Body fossils are formed from the hard parts of plants and animals, while trace fossils are formed from traces (e.g. footprints) left behind by animals.
D. Footprints are an example of body fossils.
27. Which one of the following statements is false (NOT correct)?
- A. Bone is where most blood cells are made.
B. Bone serves as a storehouse for various minerals.
C. Bone is dry and a non-living supporting structure.
D. Bones support the body and protect its organs.
28. Which of the following properties of aluminium make it suitable for the manufacturing of cooking utensils such as pots and pans?
- (i) Good thermal conductivity
(ii) Good electrical conductivity
(iii) Ductility
(iv) High melting point
- A. (i) and (ii)
B. (i) and (iii)
C. (ii) and (iii)
D. (i) and (iv)
29. Consider the rock types shown in the diagram. Which of these rocks are most likely sedimentary rocks?
- 
- A. (i) and (iii) are sedimentary rocks
B. (ii) and (iii) are sedimentary rocks
C. (i) and (iv) are sedimentary rocks
D. Only (i) is a sedimentary rock
30. Which one of the following statements gives a correct comparison of mains electricity and direct current electricity?
- A. Mains electricity is at a much lower voltage than direct current electricity.
B. Mains electricity is made available to a household by means of a wall socket, while direct current electricity is produced by an electrical cell or battery.
C. Mains electricity is less dangerous than direct current electricity.
D. Mains electricity and direct current electricity flow in one direction, from positive to negative terminals.

31. Consider the diagram of a plant below. Identify which part of the plant is primarily responsible for making food for the plant.



- A. Roots
- B. Fruit
- C. Flower
- D. Leaf

32. The picture below shows a life cycle of an apple tree. Identify what X and Y represent.

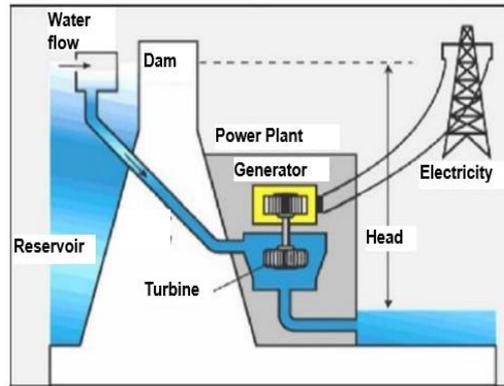


- A. X represents a seed and Y represents a flower.
- B. X and Y represent a flower.
- C. X represents a flower and Y represents a fruit.
- D. X represents a flower and Y represents a seed.

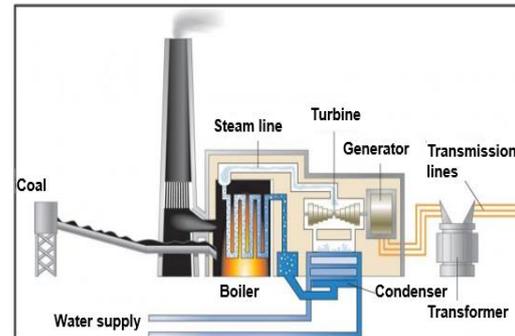
33. Select a mineral which is NOT a metal from the list below.

- A. Gold
- B. Diamond
- C. Silver
- D. Copper

34. What type of electric current is supplied by the two power stations in the diagrams below?



Power station X



Power station Y

- A. Power station X and Y supply the same type of electric current.
- B. Power station X supplies hydro-electric current while Y supplies coal-electric current.
- C. Power station X supplies direct electric current while Y supplies alternating electric current.
- D. Power station X supplies more reliable electric current than power station Y.

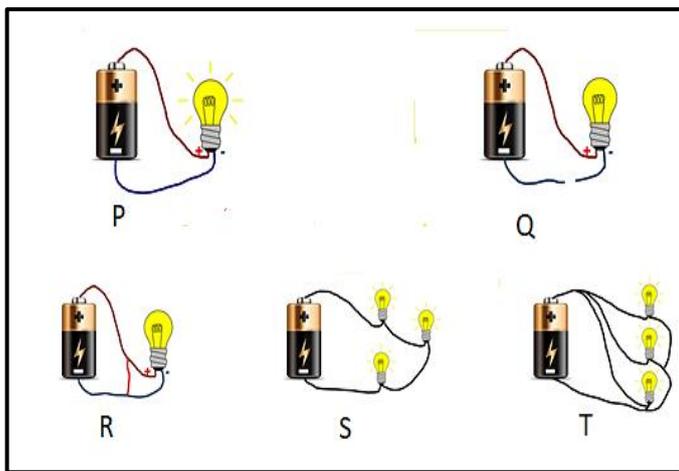
35. Choose the correct statement.

- A. It takes the Earth 24 hours to travel around the Sun in an orbit.
- B. It takes the Sun 24 hours to revolve around the Earth.
- C. It takes the Earth 365 days to revolve around the Sun.
- D. The Earth is much bigger than the Sun.

36. Which one of the following statements best describes what happens during the process of photosynthesis?

- A. Sugar is formed and oxygen is released during the process of photosynthesis.
- B. Carbon dioxide and oxygen are used during the process of photosynthesis.
- C. Sunlight is used and starch is formed during the process of photosynthesis.
- D. Sunlight is used and carbon dioxide is released during the process of photosynthesis.

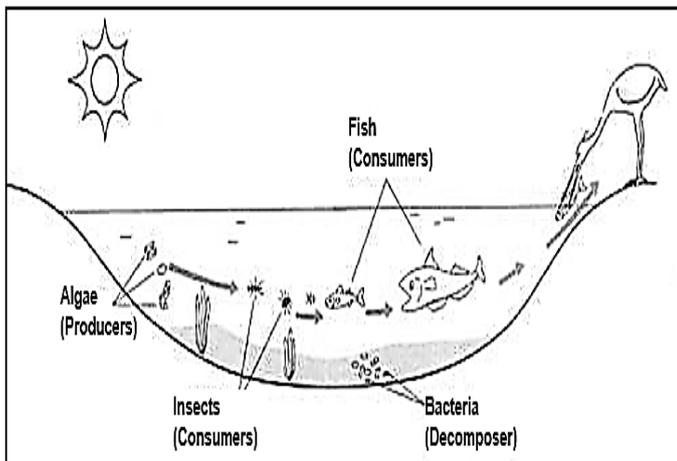
37. Which combination of terms are correct when considering a mixture of sugar and distilled water.
- Sugar is the solvent, water is the solute and the mixture of sugar and water is the solution.
 - Sugar is the solute, water is the solution and the mixture of sugar and water is the solvent.
 - Sugar is the solvent, water is the solution and the mixture of sugar and water is the solute.
 - Sugar is the solute, water is the solvent and the mixture of sugar and water is the solution.
38. Consider the circuit diagrams shown below. In which circuit will the electric current flow but the bulb(s) will not produce light



- Circuit S
 - Circuit R and T
 - Circuit R
 - Circuits Q and R
39. Which one of the following statements about the movement of the Earth is correct?
- One Earth-rotation takes about one year while the revolution of the Earth about the Sun takes about 24 hours.
 - One Earth-rotation takes about 24 hours while one revolution of the Earth about the Sun takes about a year.
 - The Earth orbits around its own axis.
 - Earth rotation is what brings about seasons.
40. Vitamins, minerals and proteins are supplied to your body when suitable amounts of ... are included in your diet.
- whole grain food
 - fatty fish
 - plant oils
 - nuts

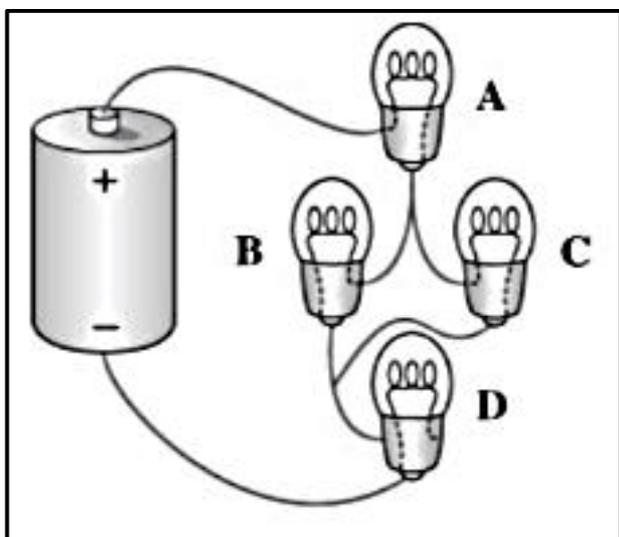
41. A diet containing the correct amount of carbohydrates, proteins, fats, fibre, vitamins, minerals and water needed to fulfil the bodies energy requirements is called a ...
- balanced nutrition
 - balanced diet
 - perfect diet
 - food pyramid
42. Which one of the following diseases is not related to a poor diet?
- Hypertension
 - Type 2 Diabetes
 - Heart disease
 - Bilharzia
43. The state of matter which is sometimes invisible has ...
- closely packed particles in a regular pattern.
 - particles that are closely packed, but in no fixed pattern.
 - particles that are far apart from each other and moving in all directions.
 - particles that vibrate in fixed positions.
44. A solution may contain ...
- only one solvent but many solutes.
 - many solvents but only one solute.
 - only one solvent and one solute.
 - many solvents and many solutes.
45. Which one of the following is NOT generally considered a function of a wetland.
- Filters water
 - Controls floods
 - Provides habitat
 - Controls the spreading of invasive plant species.
46. Energy in an ecosystem.
- is released
 - is absorbed
 - flows
 - None of the above
47. The main source of energy in an ecosystem is ...
- the Sun.
 - chemical fuels.
 - both (A) and (B).
 - none of the above.

48. Consider the the diagram of a pond ecosystem.



Which one of the following relationships is correct when analysing the information in the diagram?

- A. Fish consume insects and algae.
 - B. Water offers the fish a suitable habitat.
 - C. The Sun provides food for the insects.
 - D. Bacteria consume algae.
49. Four similar bulbs are connected in an electrical circuit as indicated in the diagram.



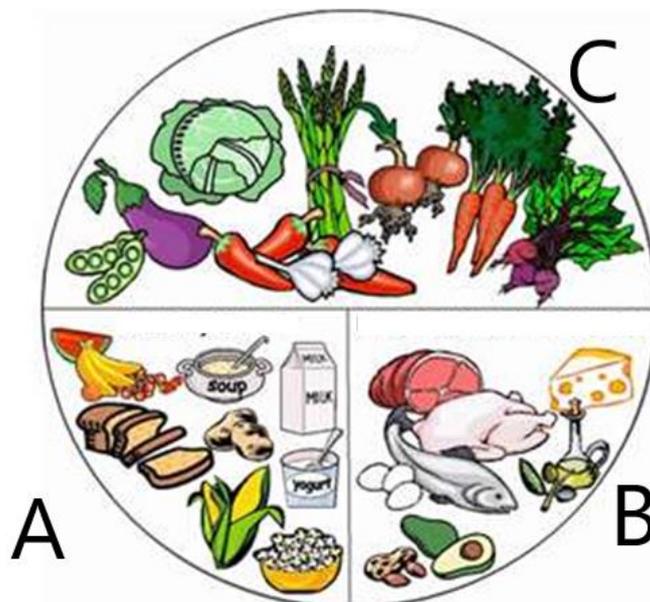
Which one of the following statements is TRUE when considering the brightness of bulbs A, B, C and D?

- A. Bulbs A, B, C and D burn with the same brightness.
- B. Bulb A burns brighter than bulb B, bulb B burns with the same brightness as bulb C and bulb C burns brighter than bulb D.
- C. Bulb A and D burn with the same brightness, but burn more brightly than bulbs B and C.
- D. Bulb A burns brighter than bulb B, C and D.

50. Identify the correct statement by comparing the gases used and released by plants and animals.

- A. Plants use carbon dioxide and release oxygen during respiration, while animals use oxygen and release carbon dioxide during respiration.
- B. Plants use carbon dioxide and release oxygen during photosynthesis, while animals use oxygen and release carbon dioxide during respiration.
- C. Plants use oxygen and release carbon dioxide during photosynthesis, and animals use oxygen and release carbon dioxide during respiration.
- D. Animals breath in oxygen and breath out carbon dioxide, while plants do not breath.

51. Consider the following food group wheel. Choose the correct statement about the function of the nutrients in each food group.



- A. The food in group A contains nutrients which are important for building strong bones and teeth.
- B. The food in group B contains nutrients which are important for storing energy and providing protection for nerves.
- C. The food in group C contains nutrients which are important for providing energy.
- D. The food in group C contains nutrients which are important for the building of strong bones.

52. Compare the monthly cost of using bulb A with that of using bulb B, both for a period of 120 hours per month at a cost of R1,30 per kWh.

Bulb A



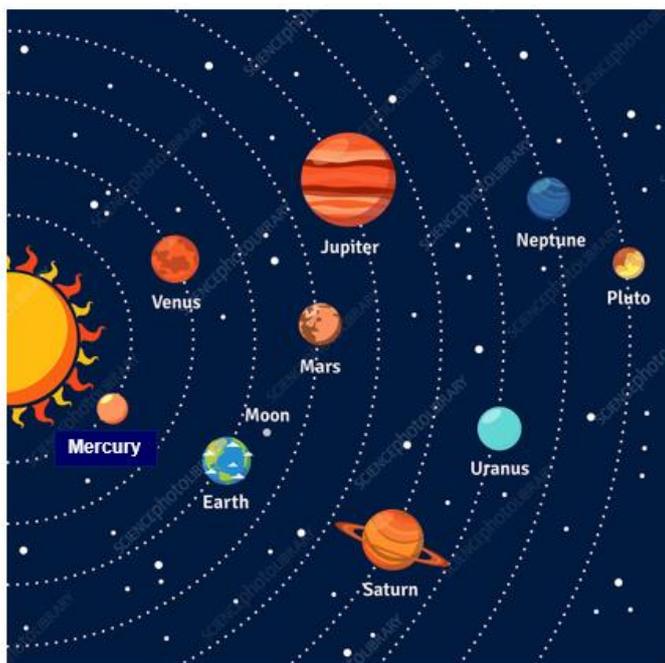
100W

Bulb B



5W

- A. Monthly cost of using bulb A is R156.00 and that of bulb B is R7.80
 B. Monthly cost of using bulb A is R1.56 and that of bulb B is R0.78
 C. Monthly cost of using bulb A is R15.60 and that of bulb B is R0,78
 D. Monthly cost of using bulb A and B is the same
53. Consider the diagram of the Solar System below. The correct ascending order of distance of the planets from the Sun is ...



- A. Mars, Earth, Jupiter, Saturn
 B. Earth, Mars, Jupiter, Saturn
 C. Mars, Earth, Saturn, Jupiter
 D. Earth, Jupiter, Mars, Saturn

54. The minimum thickness of a plastic shopping bag which complies with legal standards in South Africa is ...

- A. 40 micron
 C. 50 micron
 D. 80 micron
 E. 100 micron

55. Which one of the following types of pollution can cause an outbreak of cholera?

- A. Air pollution
 B. Water pollution
 C. Land pollution
 D. Noise pollution

56. Rhino horn consists of...

- A. the same type of bone that makes up its skull.
 B. the same type of protein that makes up hair
 C. the same type of cartilage found in a knee cap.
 D. muscle tissue.



57. When you inhale (breath in), your ribs move ...

- A. inwards.
 B. outwards.
 C. downwards.
 D. upwards.

58. Bread is a(n) ...

- A. muscle building food.
 B. energy giving food.
 C. nerve protecting food.
 D. bone building food.

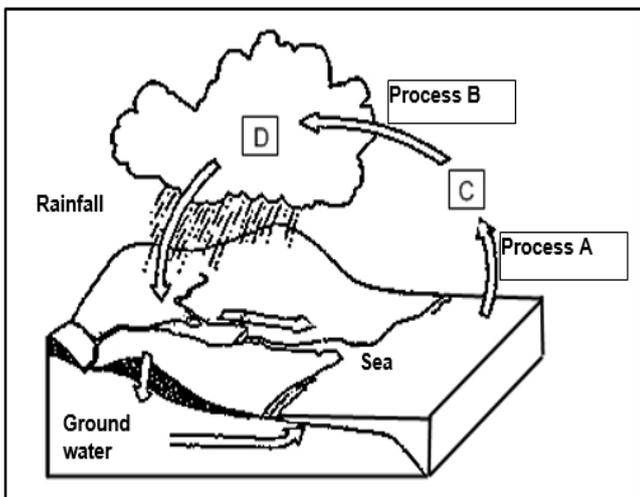
59. Tiny pores on the surface of leaves are called ...

- A. chlorophyll.
 B. stomata.
 C. leaf stalks.
 D. laminae.

60. How many bones are there in an average person's body at birth?

- A. 33
 B. 303
 C. 270
 D. 206

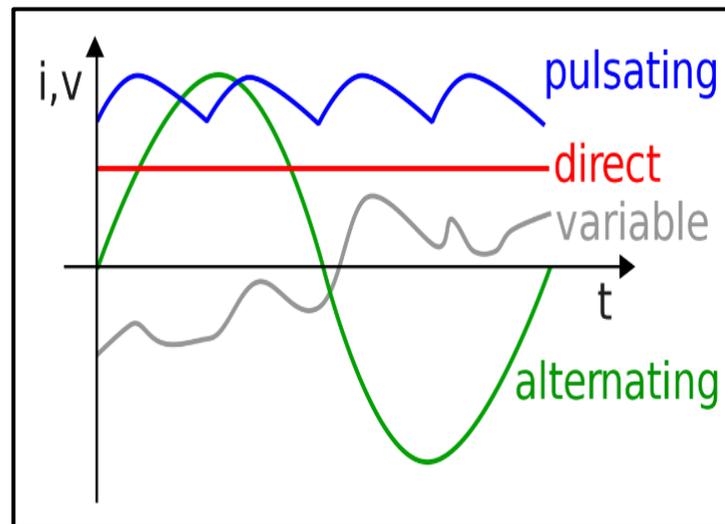
61. Which one of the following environmental problems is not related to the combustion of fossil fuels?
- Air pollution
 - Water pollution
 - Nuclear radiation
 - Climate change
62. Which of the following is not a physical property of matter?
- Phase (solid, liquid, gas)
 - Hardness
 - Shape
 - Flammability
63. Bread placed out on a fire turns brown then black if left for too long on the fire. What is needed for this chemical change to take place?
- Heat energy needs to be added (endothermic reaction).
 - Heat energy needs to be taken away.
 - A certain amount of time needs to pass.
 - The bread needs to be taken out of the wrapper.
64. Consider the following labelled diagram of the water cycle:



Choose the correct statement.

- Process A is evaporation, process B is condensation and D is precipitation.
- Process A is evaporation, process B is saturation and D is a cloud.
- Process A is evaporation, process B is condensation and D is a cloud
- Process A is precipitation, process B is condensation and D is a cloud

65. What form of energy is a lightning?
- Heat energy
 - Electrical energy
 - Light energy
 - Chemical energy
66. Energy cannot be ...
- converted or transferred.
 - destroyed or transferred.
 - created or transferred.
 - created or destroyed.
67. Where is the largest solar farm located in South Africa?
- Limpopo province
 - Mpumalanga province
 - Northern Cape province
 - Gauteng province
68. In a ... circuit, all bulbs will switch off when one bulb goes out.
- parallel
 - series
 - closed
 - short
69. Use the information in the diagram and choose the type of electrical current generated at a power station.



- Alternating current
- Variable current
- Direct current
- Pulsating current

70. Which one of the following is NOT required for photosynthesis to take place?

- A. Sunlight
- B. Oxygen
- C. Water
- D. Carbon dioxide

71. A student observes how an ice cube melts into water. Has a chemical reaction taken place during this process?

- A. Yes, because a gas has been given off.
- B. Yes, because a phase change took place.
- C. No, because water is unable to react chemically.
- D. No, because no new substances have formed.

72. A student measures the mass of an ice cube and then allows it to melt. What do you think the mass of water will be after all the ice has melted completely?

- A. Less than that of the ice.
- B. More than that of the ice.
- C. The same as that of the ice.
- D. Water in liquid form has no mass.

73. What can a physical property of a substance tell you about the substance?

- A. What the substance looks like.
- B. How the substance behaves.
- C. How the substance dissolves.
- D. A and B are correct.

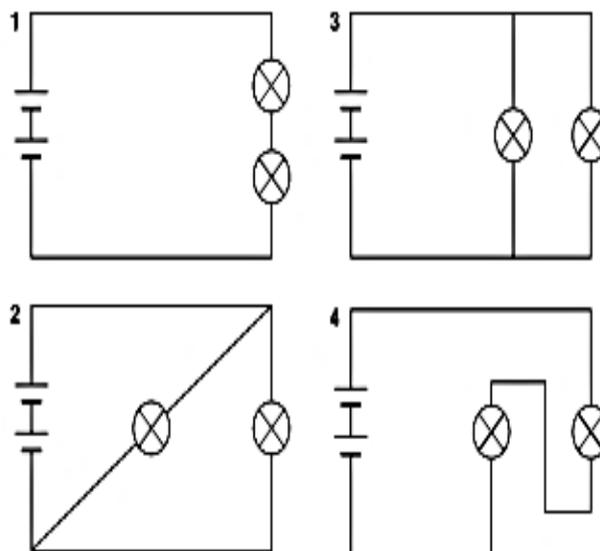
74. Why is the food we eat nearly always cooked?

- A. Food has to be cooked for us to chew it.
- B. Food cannot be digested if eaten raw.
- C. Cooking food causes chemical and physical changes in food.
- D. Food changes colour when it is cooked and looks more appealing.

75. Which one of the following is proof that ice undergoes a physical change when left outside at room temperature?

- A. Ice reacts with oxygen in the air.
- B. Ice changes to water.
- C. Ice is hard and white.
- D. Ice is cold to the touch.

76. Consider the circuit diagrams below. The circuits that have two bulbs connected in parallel are ...



- A. Circuit 1 and circuit 2
- B. Circuit 1 and circuit 4
- C. Circuit 2 and circuit 3
- D. Circuit 2 and circuit 4

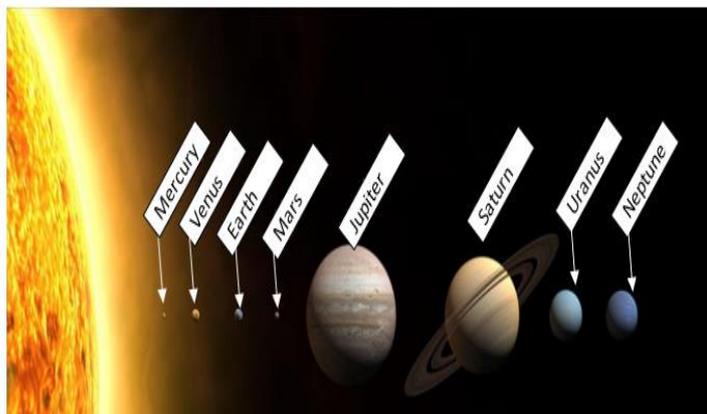
77. As water warms up, it ...

- A. increases in density.
- B. expands.
- C. sinks.
- D. contract.

78. A vehicle running on petrol converts chemical energy, which is stored in petrol, to kinetic energy which in turn is responsible for the motion of the vehicle. More or less what percentage of chemical energy is converted to useful kinetic energy in a vehicle using petrol as fuel?

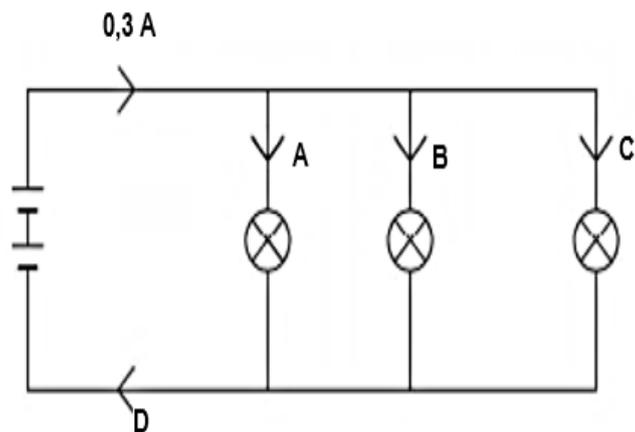
- A. 20%
- B. 55%
- C. 65%
- D. 75%

79. Consider the picture of our Solar system and choose the correct statement.



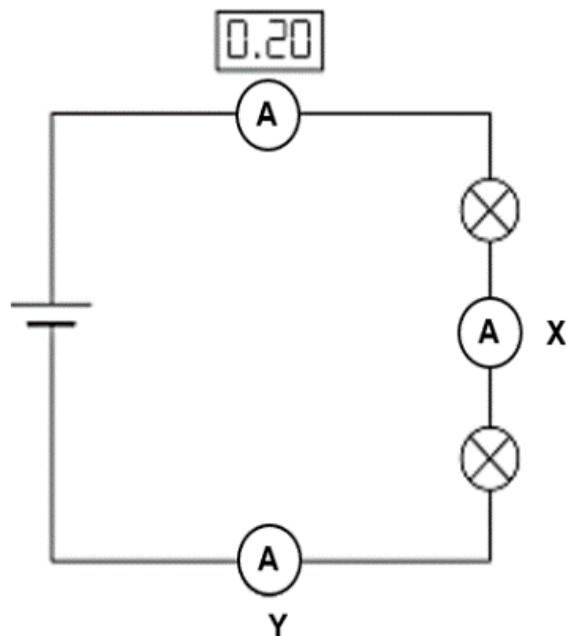
- A. All Planets revolve around the Sun at the same rate.
 B. A large amount of sulphuric acid is found on Venus and Saturn.
 C. The Earth is primarily made up of four elements, namely, iron, magnesium, silicon and oxygen.
 D. All the planets in our Solar System are solid bodies.

Study the diagram below and answer QUESTIONS 80 AND 81: You can assume that all the bulbs in the circuit diagram are identical.



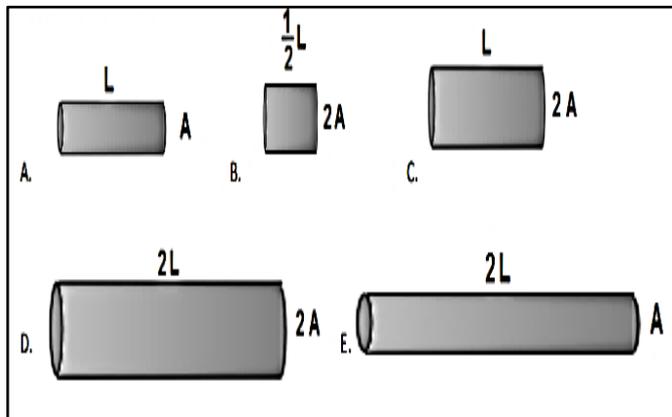
80. Choose the position in the circuit where the current will be 0,1 A.
- A. At A only.
 B. At A and B only.
 C. At A and at B and at C.
 D. At D only.

81. What will happen to the current flowing through bulb B and the brightness of bulb A if bulb C burns out?
- A. The current flowing through bulb B will remain the same.
 The brightness of bulb A will remain the same.
 B. The current flowing through bulb B will increase.
 The brightness of bulb A will remain the same.
 C. The current flowing through bulb B will decrease.
 The brightness of bulb A will remain the same.
 D. The current flowing through bulb B will remain the same.
 The brightness of bulb A will increase.
82. Consider the circuit diagram below: What will the readings on ammeter X and Y be?



- A. $X = 0.10 \text{ A}$; $Y = 0 \text{ A}$
 B. $X = 0.15 \text{ A}$; $Y = 0.10 \text{ A}$
 C. $X = 0.20 \text{ A}$; $Y = 0.20 \text{ A}$
 D. $X = 0.25 \text{ A}$; $Y = 0.30 \text{ A}$

83. All the wires in the diagram below are made of the same material but are of different sizes. The length of the different wires is expressed in terms of L and the thickness of the wires is expressed in terms of A. Identify the wire through which electrical current will flow the easiest?



- A. Wire A
B. Wire B
C. Wire C
D. Wire D and A

84. Consider thermometer readings in the figure below and choose the correct statement



- A. The reading on Thermometer 1 indicates a normal human body temperature.
B. The reading on Thermometer 1 indicate the body temperature of a sick person.
C. The reading on Thermometer 2 indicate a normal human body temperature
D. The reading on Thermometer 2 indicates the body temperature of a person suffering from high fever.

85. The pictures below show teeth covered with tartar and clean teeth. What can be used to remove tartar easily?



- A. A salt solution.
B. A toothpick.
C. High pitched sound waves.
D. Heat.

86. A cloud that touches the Earth is called

- A. snow.
B. fog.
C. sleet.
D. water vapour.

87. Which one of the following observations proves that a candle undergoes chemical changes while burning?

- A. Black smoke (ash) is given off.
B. Hot gases are rising.
C. The wax starts to melt.
D. The candle's colour remain white.

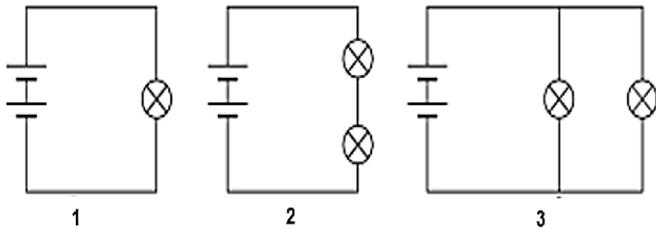
88. Which one of the following observations proves that a candle undergoes physical changes while burning?

- A. Black smoke (ash) is given off; hot gases are rising.
B. The candle wax starts to melt.
C. The flame glows red and orange.
D. Smoke can be smelled.

89. Peter measures 1kg of water, pours it into a container and seals it with a lid. He then puts the container in a freezer. A day later he takes the container out of the freezer and notices the container has expanded (increased in size). Peter then removes the ice from the container. What is the weight of this frozen block of ice?

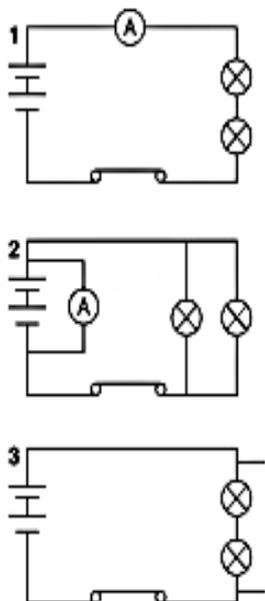
- A. 1 kg
B. 10 kg
C. 10 N
D. Slightly more than the original weight.

Consider the following circuit diagrams and answer questions 90 and 91. You can assume that all the bulbs in the circuit diagrams are identical.



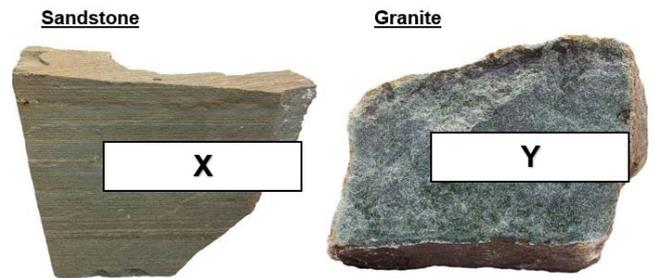
90. The brightness of the bulbs in circuits 2 and 3 would be as follows:
- Circuit 2 = bright; circuit 3 = bright
 - Circuit 2 = bright; circuit 3 = dim
 - Circuit 2 = dim; circuit 3 = bright
 - Circuit 2 = dim; circuit 3 = dim
91. The bulb in circuit 1 would shine ...
- more brightly than the bulbs in circuit 3.
 - less brightly than the bulbs in circuit 3.
 - half as bright as any one of the bulbs in circuit 3.
 - with the same brightness as any one of the bulbs in circuit 3.
92. The symbols that are used for the SI-units of force, kinetic energy and potential energy are ____, ____, and ____ respectively.
- N, Ke and Pe
 - J, Ke and N
 - N, J and J
 - J, N, Pe

93. Consider the circuit diagrams below. The circuit in which the ammeter is connected correctly is ...



- Circuit 1 only
- Circuits 1 and 3 only
- Circuits 2 and 3 only
- Circuit 3 only

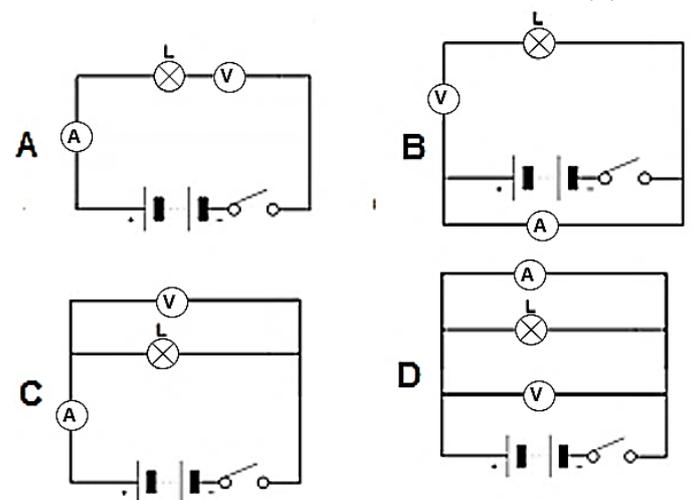
Use the information in the diagram below and answer questions 94 and 95.



94. Which one of the following statements is TRUE?
- Rock X is harder than rock Y.
 - Rock X can contain fossils while no fossils can be found in rock Y.
 - Rock X is an example of igneous rock while rock Y is an example of sedimentary rock.
 - Rock X and rock Y are sedimentary rocks.
95. Of which types of rock are X and Y examples?

	X	Y
A	Igneous	Metamorphic
B	Metamorphic	Felsic
C	Igneous	Sedimentary
D	Sedimentary	Igneous

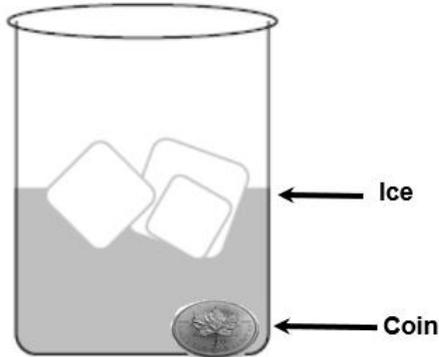
96. A group of learners performs an experiment on the topic electricity. Which of the following circuits can be used to measure the total electric current and potential difference needed to calculate the resistance of the bulb (L)?



- Circuit A
- Circuit B
- Circuit C
- Circuit D

97. It is observed that a coin put in a glass beaker filled with water sinks to the bottom of the beaker. Ice cubes, which are much bigger and much heavier than the coin, float when put in the beaker.

Choose the correct explanation for this observation.



- A. Heavy objects which are large in size float more easily than lighter objects which are smaller in size.
- B. Ice floats on water because it has a lower temperature and is denser than water.
- C. Ice floats on water because it is less dense than water.
- D. The coin has a sharp edge which cuts through the water surface, which then allows it to sink to the bottom of the beaker.
98. The ice cubes in question 97 will float higher in the water if one of the following changes is made.
- A. Heat up the water slightly.
- B. Break the ice cubes into smaller pieces.
- C. Lower the ice cubes very slowly into the beaker.
- D. Dissolve a few tablespoons of salt in the water before placing the ice cubes in the water.
99. What is the length of the equatorial diameter of the Earth?
- A. 15 000 kilometres
- B. 12 756 kilometres
- C. 10 500 kilometres
- D. 36 525 kilometres
100. Which planet has no surface for spacecraft to land on?
- A. Mars
- B. Venus
- C. Mercury
- D. Jupiter

~~~XXX~~~