



## 4<sup>th</sup> NATURAL SCIENCE OLYMPIAD

GRADE 4 TO 6

08 MAY 2014

09:00 - 12:00

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### INSTRUCTIONS

Please read the instructions carefully before answering the questions

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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 most 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 – 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. The student number allocated to you can be obtained from your teacher and consists of eight digits e.g. 08149701

Do not fold the answer sheets.

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**Three hours are allowed to answer the questions**

# Natural Science Olympiad 2014

## Grade 4 to 6

### SECTION A: LIFE SCIENCES

1. What do we call a scientist who studies the weather?

- A. A zoologist
- B. An entomologist
- C. A meteorologist
- D. A botanist

2. To discover if water in a bottle is hot, you would use your sense of...

- A. Smell
- B. Taste
- C. Hearing
- D. Touch

3. A healthy diet needs a balance of many things. Fruit, vegetables and table salt are all good sources of...

- A. Minerals
- B. Carbohydrates
- C. Water
- D. Proteins

4. As South Africans we must be proud of our contributions to the advancement of science and technology to the whole world. Who was the first man to successfully perform a human heart transplant at Groote Schuur Hospital in Cape Town, South Africa?

- A. Sir Isaac Newton
- B. Dr. Christiaan Barnard
- C. Neil Armstrong
- D. Dr. Norman Shumway

5. You can become infected with HIV...

- A. If you share utensils with or drink from the same cup as someone with HIV
- B. If you get bitten by mosquitoes
- C. If you hug someone with HIV
- D. None of the above

6. What colour is a giraffe's tongue?

- A. White
- B. Black
- C. Yellow
- D. Red

7. Newborn babies are born without?

- A. Kneecaps
- B. Hair
- C. Nails
- D. Loose teeth

8. Your sense of taste is based on your tongue. Which part of your tongue tastes the sweet stuff?

- A. The sides of the tongue
- B. The centre of the tongue
- C. The back of the tongue
- D. The tip of the tongue

9. Fauna and flora refer to ...

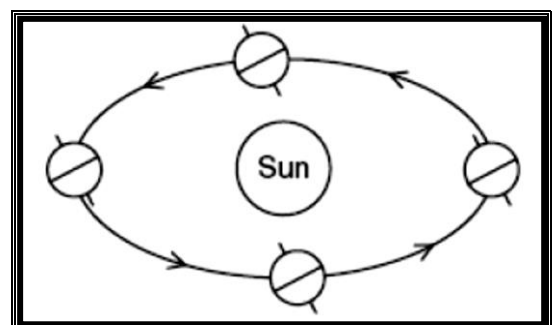
- A. Animals and plants
- B. Soil and water
- C. Solids and liquids
- D. Liquids and gases

10. Above sea level, water will boil at a temperature of about ...

- A. 10 °C
- B. 100 °C
- C. 1000 °C
- D. 10 000 °C

### SECTION B: SPACE SCIENCE AND ASTRONOMY

11. The diagram below shows the Earth at four locations (positions) in its orbit around the Sun.



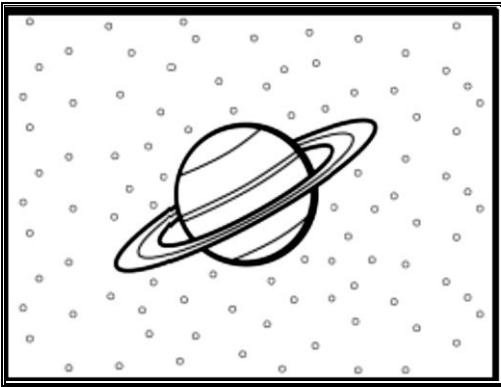
Which motion do the arrows in the diagram represent?

- A. Earth's rotation
- B. The Sun's rotation
- C. Earth's revolution
- D. The Sun's revolution

12. The time it takes the Moon to revolve around the Earth is approximately...

- A. One day
- B. One week
- C. One month
- D. One year

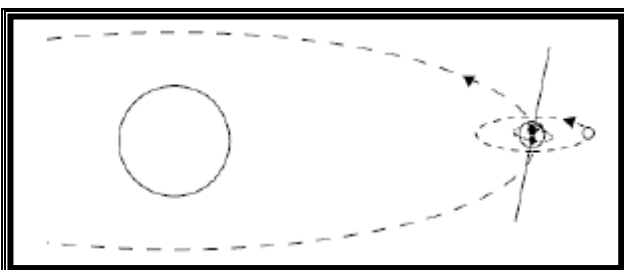
13. Look at the picture below...



Which planet is famous for the beautiful rings that surround it?

- A. Mercury
- B. Pluto
- C. Venus
- D. Saturn

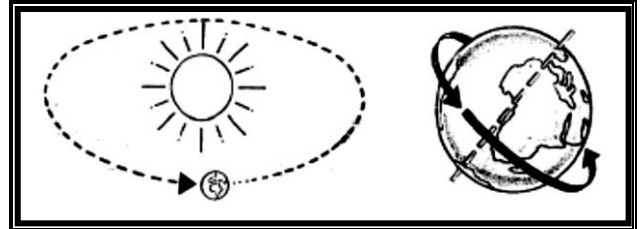
14. The picture below shows the Earth spinning on its axis. What would happen if the Earth spun at half the normal speed?



- A. Days would be colder
- B. Days would be 12 hours long

- C. Days would be hotter
- D. Days would be 48 hours long

15. Earth revolves around the Sun and rotates on its axis as shown below.



Study each of the following statements...

- (i) *The revolution and rotation of Earth takes place at the same time.*
- (ii) *The rotation of Earth on its own axis causes day and night.*
- (iii) *Earth takes 365¼ days to rotate once around its own axis.*
- (iv) *Earth takes 24 hours to rotate once around its own axis.*

Which of the above statements are correct?

- A. All statements are correct
- B. Only (i) and (ii)
- C. All statements except (iii) are correct
- D. Only (ii) and (iv)

16. The diagram below shows a picture of a comet. What are comets often called?



Comet Kohoutek NASA Photo ID: S74-17688

- A. Dirty snowballs
- B. Silly streakers
- C. Filthy dirty balls
- D. Stars

17. How are asteroids and comets different?

- A. Asteroids are much smaller than comets.
- B. Comets orbit the sun, while asteroids orbit Earth.
- C. Comets are made up of rock, ice, and frozen gases, while asteroids are made of rocks and metals.
- D. Asteroids are pieces of Earth, while comets are pieces of the Moon.

18. How do astronauts warm their food aboard the orbiter?



*Astronauts aboard the orbiter*

- A. Pop in the microwave
- B. Inject warm water
- C. Heat in the oven
- D. Place the food in the food warmer

19. This planet has a giant hurricane-like storm called the Great Red Spot.

- A. Jupiter
- B. Saturn
- C. Uranus
- D. Pluto

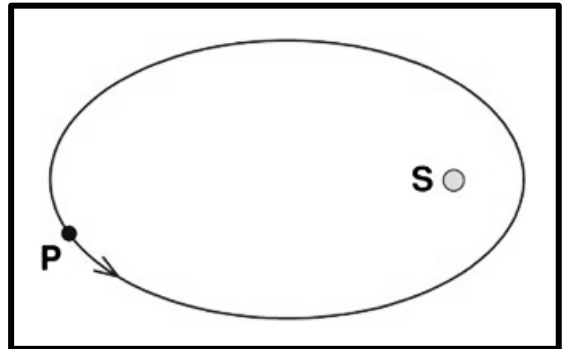
20. Planets that are close to the Sun, ...

- A. move closer and closer to the Sun.
- B. orbit faster than the outer planets.
- C. orbit slower than the outer planets.
- D. move through the asteroid belt.

21. Which of the following is responsible for the seasons of the year?

- A. Sun's rotation on its own axis
- B. Sun's revolution around the Earth
- C. Earth's rotation on its own axis
- D. Earth's revolution around the Sun

22. What do we call the point in orbit where the planet is far away from the Sun?



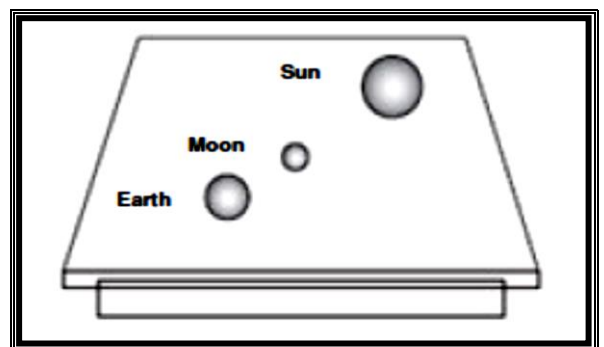
*The Sun and the planet*

- A. Rotation
- B. Precession
- C. Perihelion
- D. Aphelion

23. Which of the following statements is true?

- A. Mars has more moons than any other planet.
- B. Saturn has fewer moons than Mars.
- C. Neptune has fewer moons than Jupiter.
- D. Earth has more moons than Neptune.

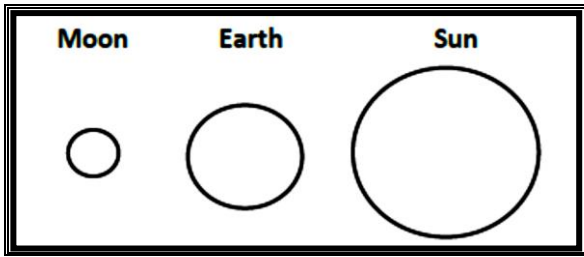
24. Bongani built a model of the Sun, the Moon and Earth as shown below. This model was not drawn to scale.



Which phase of the Moon is shown in Bongani's model?

- A. First quarter
- B. New Moon
- C. Third quarter
- D. Full Moon

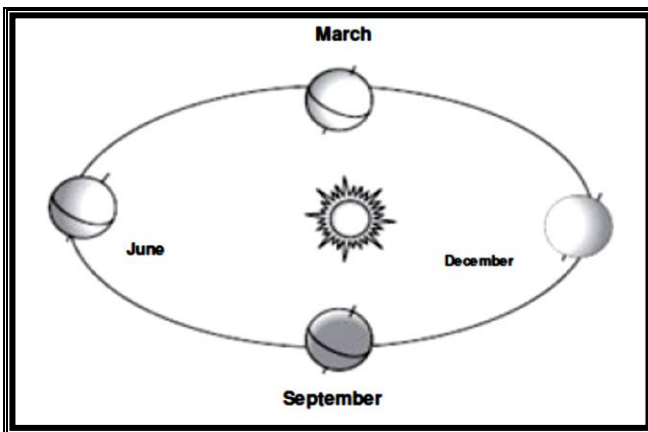
25. Suzan then built her own simple model, shown below, following Bongani's example above.



Which phase of the Moon is shown in Suzan's model?

- A. Full Moon
- B. First quarter
- C. New Moon
- D. Third quarter

26. The amount of direct sunlight the Northern Hemisphere receives changes throughout the year. The diagram below shows the Earth revolving around the Sun.



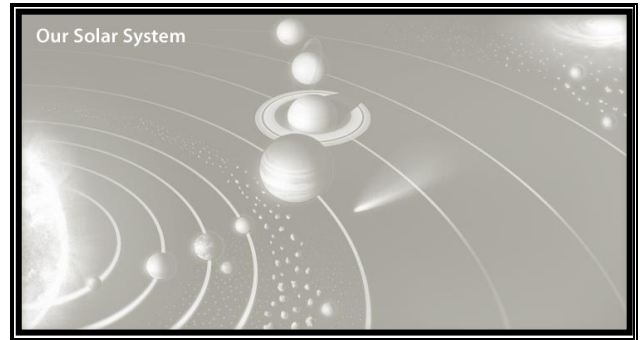
In which month will the Northern Hemisphere receive the least (smallest) amount of direct sunlight?

- A. September
- B. June
- C. March
- D. December

27. Which of the following is responsible for day and night?

- A. Earth's rotation around its own axis
- B. Moon's rotation around its own axis
- C. Sun's rotation around its own axis
- D. Earth's revolution around the Sun

Refer to the picture below to answer Questions 28 and 29. The picture is not drawn to scale.



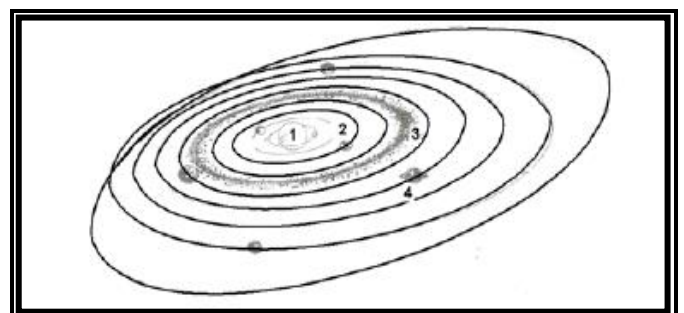
28. What is the name of the biggest planet which lies 5<sup>th</sup> on the outward spiral from the Sun?

- A. Venus
- B. Jupiter
- C. Mercury
- D. Mars

29. Our planet Earth lies in which position on the outward spiral from the Sun?

- A. Fourth
- B. Third
- C. First
- D. Eighth

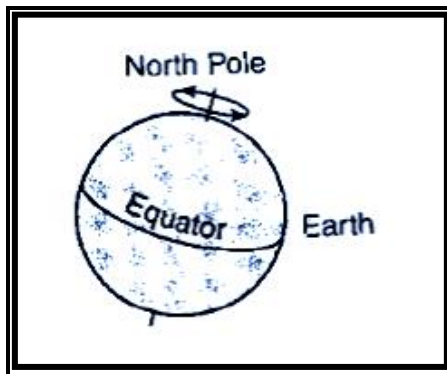
30. A solar system refers to a star and all the objects that travel in orbit around it. Our solar system is located in an outward spiral of the Milky Way galaxy.



Identify the Milky Way in the sketch of our solar system above.

- A. 1
- B. 2
- C. 3
- D. 4

31. The diagram below shows a view of our planet Earth. The arrows represent the Earth's...



- A. Force of gravity  
 B. Axis  
 C. Revolution  
 D. Rotation

32. Why does the Moon shine?

- A. The Moon is a source of light.  
 B. The Moon reflects light from the Sun.  
 C. The Moon is like the Sun at night.  
 D. The Moon is the first planet closest to the Sun.

33. What do we call pieces of rock passing through space?

- A. Flying saucers  
 B. Comets  
 C. Spaceships  
 D. Meteors

34. During a solar eclipse...

- A. The Moon passes through Earth's shadow.  
 B. The Moon passes between Earth and the Sun.  
 C. The Moon can be seen as a crescent.  
 D. The Sun is blocked out by Earth.

35. Each year Earth moves once around...

- A. Mars  
 B. Venus  
 C. The Sun  
 D. The Moon

36. Footprints left on the Moon by Apollo astronauts will remain visible for at least 10 million years because...

- A. The Moon does not move.  
 B. The astronauts used shoes with deep markings.  
 C. The astronauts do not want to remove them because they want to be remembered.  
 D. There is no air, volcanic activity or erosion on the Moon.

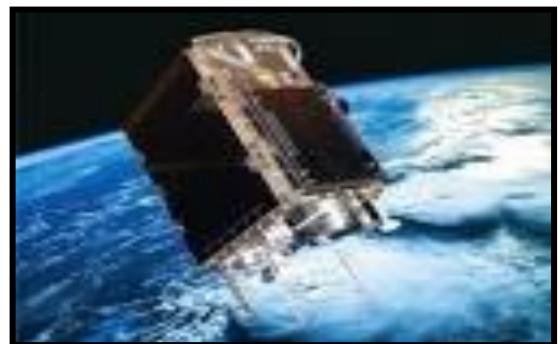
37. The internal structure of the sun is made up of three zones. What are they?

- A. The core, the radioactive zone, the convective zone  
 B. The core, the helium zone, the convective zone  
 C. The core, the radioactive zone, the hydrogen zone  
 D. The core, the helium zone, the hydrogen zone

38. Who was the only Apollo moonwalker to fly on the Space Shuttle?

- A. Neil Armstrong  
 B. Mark Shuttleworth  
 C. Galileo Galilei  
 D. John Young

39. When was South Africa's second satellite, **SumbandilaSat**, launched?



***Sumbandila Sat***

- A. April 1994  
 B. June 2010  
 C. July 1918  
 D. September 1999

**SECTION C: GENERAL CONTENT KNOWLEDGE**

40. What is the source of all energy on earth?

- A. Lightning
- B. Batteries
- C. Electricity
- D. The Sun

41. The statements below refer to matter. Which of these statements are true about matter?

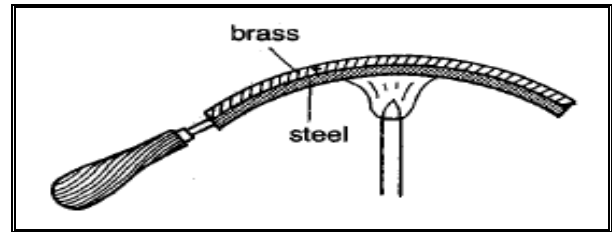
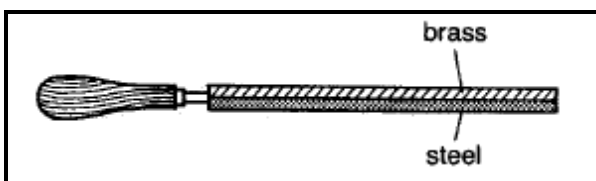
- (i) Matter is anything that has mass.
- (ii) Light is matter.
- (iii) Matter can exist in three states: solid, liquid and gas.
- (iv) A spaceship ceases (stops) to be matter when it is in space because it has no weight.
- (v) Matter can be in different shapes.
- (vi) Water has no definite shape therefore it is not matter.

- A. (i), (ii) and (iii)
- B. (ii), (iii), (v) and (vi)
- C. (i), (iii) and (v)
- D. All of the above statements

42. Mass, weight, hardness, colour, temperature and texture are some of the properties that change when a material is either heated or cooled. If an ice cube was put in a pan and placed in a warm room for one hour, the physical properties of the ice cube that will change as it melts to a liquid are:

- A. mass and weight
- B. weight and temperature
- C. hardness and texture
- D. mass and colour

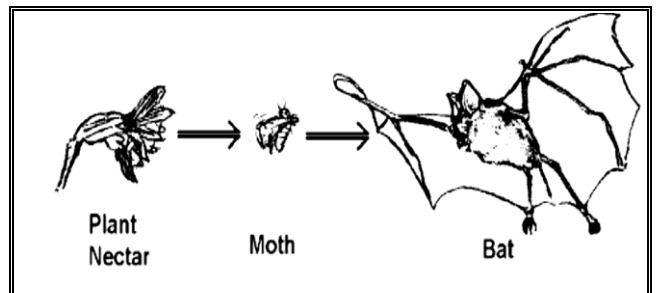
43. Refer to the diagrams below which show a bimetallic strip. A bimetallic strip consists of two strips of metal, one made of steel and the other made of brass. These strips are attached to each other and then to a handle. If you hold a bimetallic strip to a flame, it bends.



A bimetallic strip held to a flame bends because...

- A. The steel strip expands more than the brass strip.
- B. The brass strip expands more than the steel strip.
- C. Both metal strips expand equally.
- D. Neither of the two metal strips expand.

Refer to the diagram of a food chain below to answer questions 44.

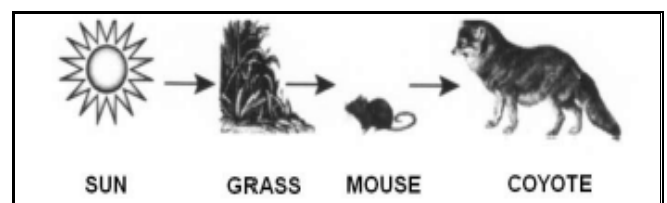


44. Which of the following statements about moths and bats are true?

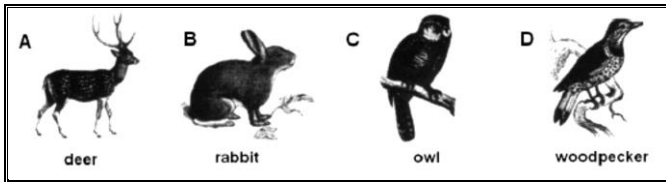
- (i) Moths are herbivores.
- (ii) Bats are carnivores.
- (iii) Bats hunt for their food.
- (iv) Many moths have mouthparts which are adapted to suck up plant nectar.

- A. All statements are true
- B. Only (ii) is true
- C. All statements except (i) are true
- D. Only (i), (ii) and (iii) are true

45. The diagram below shows a simple food chain.

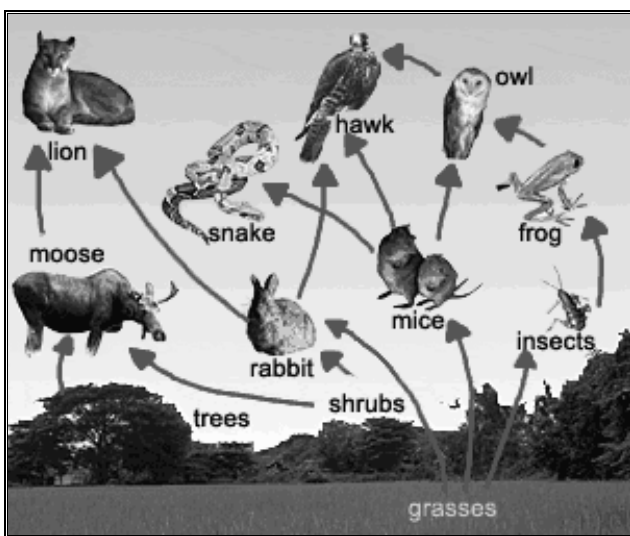


Which of the animals shown below would compete with the coyote?



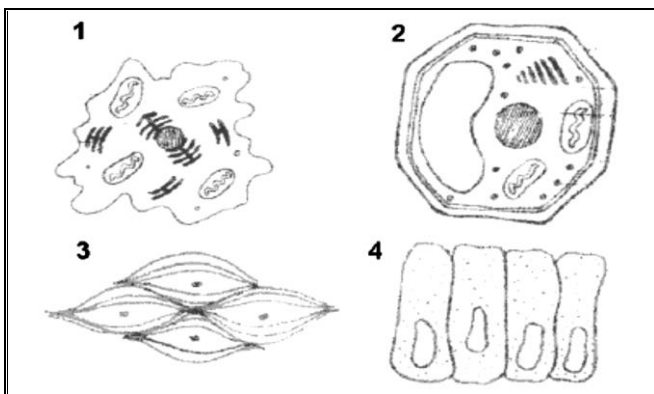
- A. Deer
- B. Rabbit
- C. Owl
- D. Woodpecker

46. In the picture of a food web below, which organisms are producers?



- A. Insects, mice, rabbit and moose
- B. Grasses, shrubs and trees
- C. Frog and snake
- D. Owl, hawk and lion

47. A cell is the smallest part of a living organism that is able to function on its own. Living cells come in all shapes and sizes.



Study the drawings above and arrange the cells in the following order:

Animal cell → skin cell → plant cell → muscle cell

- A. 1; 4; 2; 3
- B. 3; 1; 2; 4
- C. 4; 1; 3; 2
- D. 2; 4; 1; 3

48. The burning of fossil fuels has contributed to an increase of carbon dioxide in the atmosphere. What is a possible effect that an increased amount of carbon dioxide is likely to have on our planet?

- A. Too much acid rain
- B. Damage of the ozone layer
- C. A cooler climate
- D. A warmer climate

49. You are trying to dissolve two tablespoons of salt in a glass of water. What can you do to make the salt dissolve faster?

- A. Use colder water
- B. Use larger pieces of salt
- C. Stir rapidly
- D. Use less water

50. Which statement about your experiment in Question 49 above is true?

- A. The salt which dissolves in the water is called the solvent.
- B. The salt which dissolves in the water is called the solution.
- C. The water is called the solute.
- D. The water with dissolved salt is known as the solution.

51. Naledi was helping her mother to cook one day and used a metal spoon to stir the food she was cooking. She forgot to remove the spoon from inside the pot. As the pot was boiling, she opened the lid in order to remove the spoon. Unfortunately, she burnt her hand. Why do you think she got burnt?

- A. There was a chemical reaction between the metal spoon and Naledi's hand.
- B. The metal spoon conducted electricity to Naledi's hand.



- C. The metal spoon conducted heat to Naledi's hand.
- D. The metal spoon insulated Naledi's hand.

52. Which statement explains most accurately what happens when you burn your hand?

- A. The pain is felt; pain changes into chemical impulses; impulses travel to the brain for interpretation; and impulse travels from the brain to muscles to react to pain.
- B. The pain is felt; pain travels to the brain; and pain travels from the brain to muscles to react to pain.
- C. The pain is felt; pain changes into electrical impulses; and impulse travels from the brain to muscles to react to pain.
- D. The pain is felt; pain changes into electrical impulses; impulses travel to the brain for interpretation; and impulse travels from the brain to muscles to react to pain.

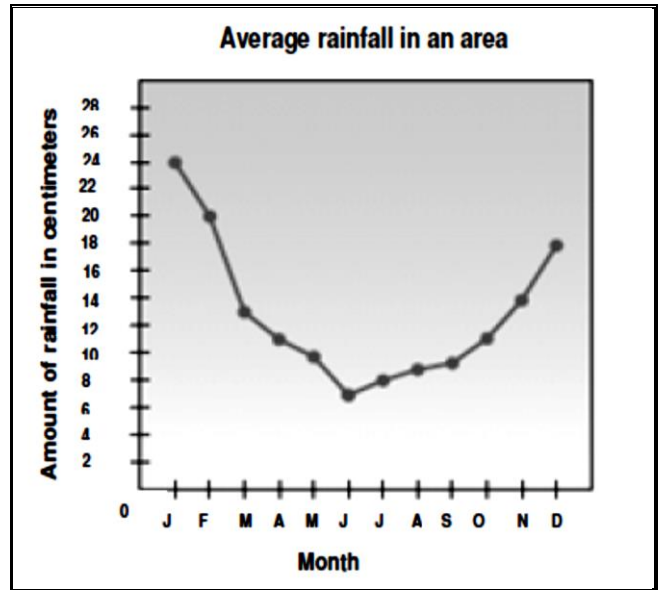
53. Palesa went for a walk in the family garden one morning. She saw droplets of water on the grass. She was confused because she did not see rain the day before. Which one of the following statements best explains Palesa's findings?

- A. At night, the water vapour in the air touching the grass cools down and forms droplets of water known as dew.
- B. Palesa didn't hear the rain fall at night as she was asleep.
- C. Grass gives off water at night.
- D. This is all part of the water cycle.

54. You work for a telephone company and have been given a task to erect telephone poles in a new township. When would be the best time to erect the telephone poles if you must consider issues like safety, contraction and expansion of metals?

- A. On a hot day
- B. On a windy day
- C. On a cold day
- D. During the night

**The graph below shows the average rainfall in an area. Study the graph and use it to answer Questions 55, 56 and 57 below.**



55. How much more rain fell in January than in December?

- A. 24 centimeters
- B. 6 centimeters
- C. 18 centimeters
- D. 4 centimeters

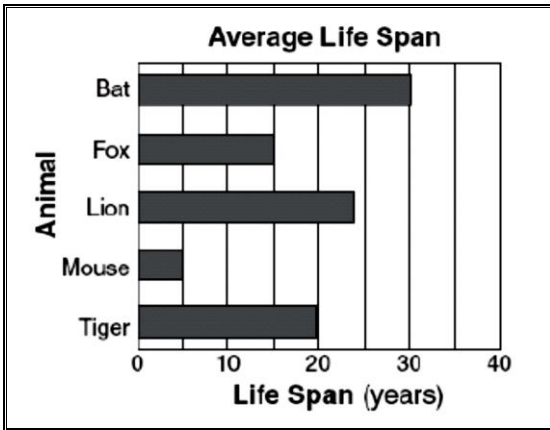
56. Which month is the driest in this area?

- A. August
- B. June
- C. January
- D. All the months

57. How much rain fell in November?

- A. 6 cm
- B. 28 cm
- C. 10 cm
- D. 14 cm

**The bar graph below shows the average life span of five different animals. Use the graph to answer questions 58 and 59.**



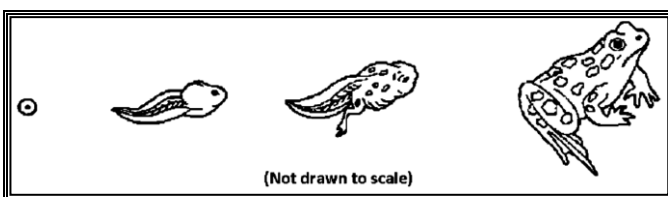
58. We can conclude from the bar graph that the life span of a bat is...

- A. Half the life span of a fox.
- B. 15 times more than that of a fox.
- C. 15 times less than that of a fox.
- D. Twice the life span of a fox.

59. The approximate life span of a lion in years is ...

- A. 20
- B. 25
- C. 23
- D. 30

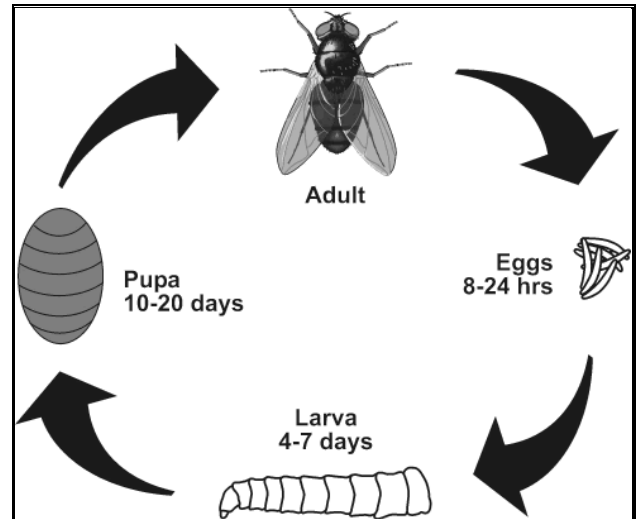
60. Metamorphosis refers to the changes which animals undergo in order to look like their parents.



The animal in the illustration above undergoes...

- A. Partial change.
- B. Complete metamorphosis.
- C. Incomplete metamorphosis.
- D. No change at all.

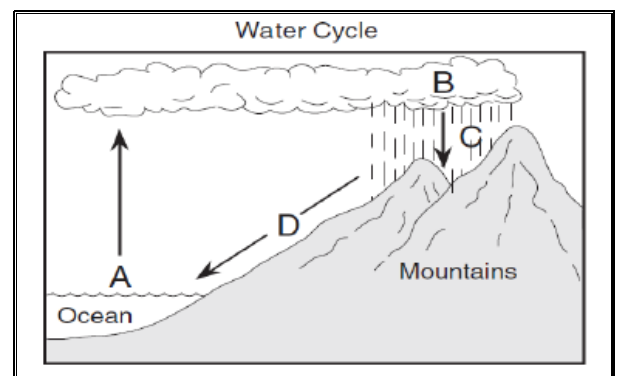
61. Provide a caption (title) for the diagram below, from the options given below.



- A. The life cycle of a butterfly
- B. The life cycle of a housefly
- C. The life span of a housefly
- D. How a fly changes colour

62. The letters A, B, C and D are used to represent processes which take place in the water cycle. David provided the following labels for the diagram:

LETTER	PROCESS
A	Precipitation
B	Condensation
C	Rain
D	Run off



Which process is not correctly labelled?

- A. Precipitation
- B. Condensation
- C. Rain
- D. Run off

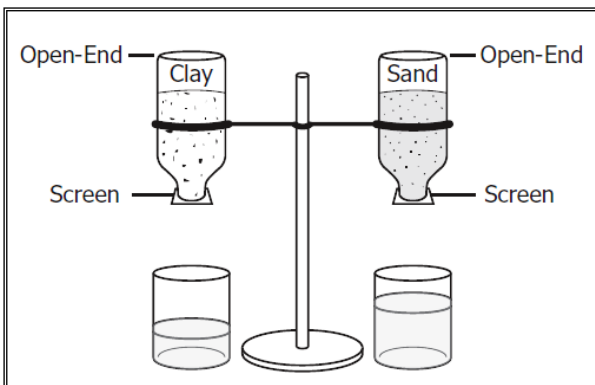
63. Provide the correct name of the process referred to in Question 45 above.

- A. Ocean
- B. Conduction
- C. Evaporation
- D. Lightning

64. Choose the correct answer which best describes the characteristics of the different types of soil.

	SAND	LOAM	CLAY
A	Holds a lot of air and little water	Holds some air and water	Holds little air and plenty of water
B	Holds some air and water	Holds little air and plenty of water	Holds a lot of air and little water
C	Holds little air and plenty of water	Holds a lot of air and little water	Holds some air and water
D	Holds a lot of air and water	Holds a little air and water	Holds some air and water

65. John and Mary, who are both in the same Grade Five class, want to learn which of the two soils holds more water. They put clay in one bottle and sand in the other as shown below. They then put equal amounts of water in the bottles. Some of the water drained into beakers.

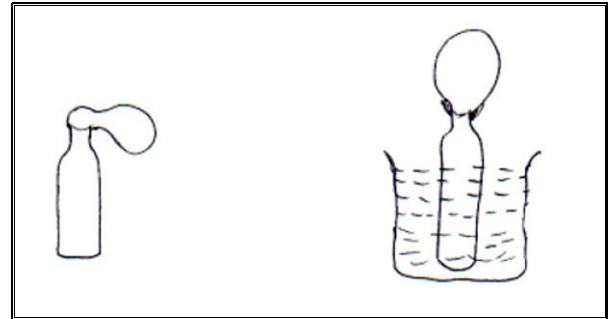


Which of these is the manipulated, independent variable?

- A. Type of soil
- B. Type of beaker
- C. Amount of water
- D. Number of bottles

66. You have always been a very inquisitive learner and wanted to investigate (find out more about) the properties of air. In your experiment, you stretched a rubber balloon over the neck of an

empty bottle. You then placed the bottle in a dish of hot water. To your surprise, the balloon inflated (got bigger). What could be the reason for this result?



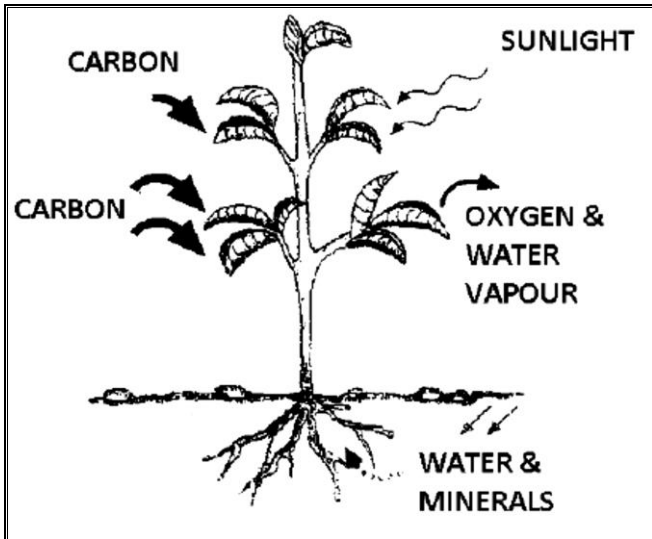
- A. The steam of the hot water caused the balloon to stretch.
- B. As the steam moved upwards, it pulled the balloon with it.
- C. Steam from the hot water in the dish filled the balloon.
- D. The warmer air in the bottle expanded and moved into the balloon.

67. Read the following statements and decide as to which are true for a liquid.

- (i) A liquid does not have shape, but it takes the shape of the container in which it is.
- (ii) There are no air spaces between the particles of a liquid.
- (iii) A liquid can be measured.
- (iv) When a liquid is heated, it expands.

- A. Only (i) and (iv) are true.
- B. All statements are true except (ii).
- C. Only (ii) is true.
- D. There are no true statements.

68. During the process of photosynthesis, plants use the light from the Sun, chlorophyll within their leaves and a gas from the air to make their own food. What is this gas called?



- A. Oxygen
- B. Hydrogen
- C. Carbon dioxide
- D. Nitrogen

69. What African tree species has roots that are about 120 meters deep?

- A. Wild fig tree
- B. Baobab tree
- C. Marula tree
- D. Pine tree

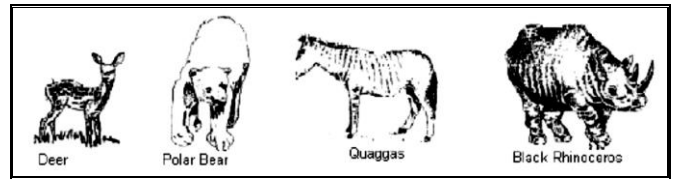
70. How long does it take the leaves of a sensitive plant shown below to fold up after they have been touched?



- A. About ten minutes
- B. About ten seconds
- C. They fold instantly
- D. About two minutes

71. Extinct animals are ones that have disappeared from Earth. There are no more of them because of natural disasters such as floods, earthquakes or

droughts that destroyed all the foods they needed to eat.



Which animals from the pictures above are extinct?

- A. Polar Bear
- B. Deer
- C. Black Rhinoceros
- D. Quaggas

72. Which animal from those listed in **Question 71** is a carnivore?

- A. Deer
- B. Polar Bear
- C. Quagga
- D. Black Rhinoceros

**Amukelani studies the breakfast menu at Wimpy. The menu offers:**

A cup of tea	150kJ
A portion of bacon and eggs	2 600kJ
A bowl of cereal with milk	720kJ
A toasted sandwich	1 800kJ
A glass of milkshake	325kJ

**Use the information above to answer Questions 73 and 74.**

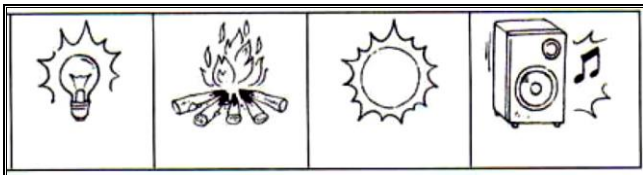
73. How much energy would Amukelani get if he ate the following for breakfast: A glass of milkshake; a bowl of cereal with milk; a portion of bacon and eggs and a cup of tea?

- A. 1 124 kJ
- B. 3 795 kJ
- C. 2 436 kJ
- D. 5 595 kJ

74. How many times more energy will Amukelani get from eating a toasted cheese sandwich as opposed to drinking a cup of tea?

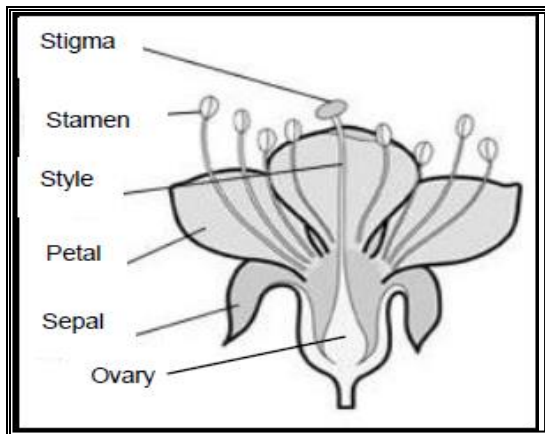
- A. 10 times more
- B. 12 times more
- C. 18 times more
- D. 15 times more

75. Different forms of energy are illustrated in the sketches below. Choose one set of labels, from left to right, for these sketches.



- A. Electrical; heat; heat; sound
- B. Light; heat; light; sound
- C. Electrical; heat; solar; sound
- D. Light; heat; solar; sound

Refer to the diagram below to answer Questions 76 and 77.



76. The pistil in a flower is made up of three parts. Which one of these combinations is correct about the parts which form the pistil?

- A. Stamen; style; ovary
- B. Stigma; style; ovary
- C. Stalk; stigma; anther
- D. Style; petal; ovary

77. Name the female reproductive tissue of a flower, which receives the male pollen grains during fertilization.

- A. Stigma
- B. Stamen
- C. Ovary

D. Style

78. Global warming occurs when gases like carbon dioxide, sulphur dioxide and carbon monoxide prevent heat from escaping from Earth into space.



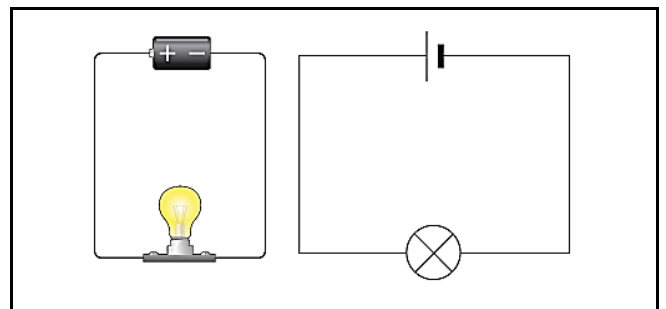
Global warming can result in the following events:

- (i) Melting of ice at the poles
- (ii) Temperature increasing
- (iii) Ocean levels increasing

Rearrange these events into the correct order.

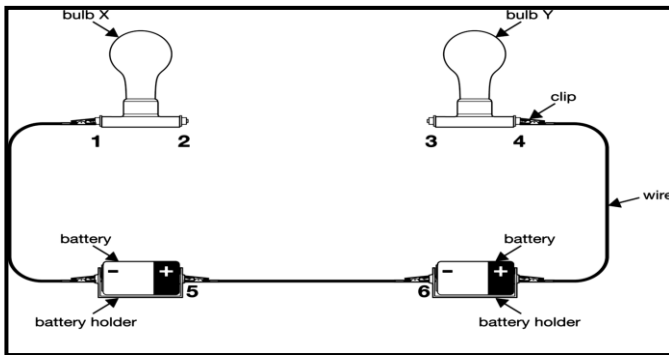
- A. (ii), (iii) then (i)
- B. (i), (ii) then (iii)
- C. (ii), (i) then (iii)
- D. (iii), (ii) then (i)

79. Study the illustration of a simple circuit diagram below. What would happen to the bulb in this diagram?



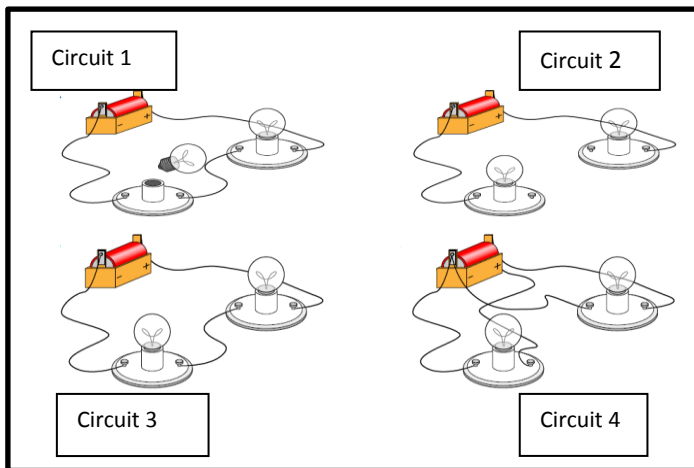
- A. It will eventually stop glowing
- B. The bulb will glow brighter
- C. The bulb will explode
- D. Nothing will happen to the bulb

80. A student wants to complete the circuit to make **only** bulb X light up as shown in the circuit below. Where must the student connect the wire?



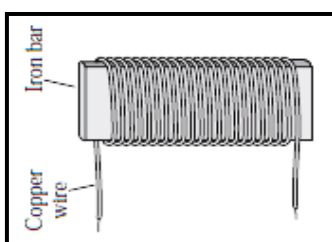
- A. point 1 and point 5
- B. point 2 and point 3
- C. point 2 and point 5
- D. point 3 and point 6

81. Which of the following circuit(s) will have the light bulb or bulbs lighting up?



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

82. Donald wants to make an electromagnet using a copper wire wrapped around an iron bar, as shown in the figure below.



To make the bar an electromagnet, what should Donald do next?

- A. Touch the ends of the wire together.
- B. Connect the wire to a bulb.
- C. Heat the wire around the bar.
- D. Send a current through the wire.

83. Which of the following groups of materials would most likely be used to build an electromagnet?

- A. Bare wire, plastic rod, battery
- B. Bare wire, iron rod, light bulb
- C. Insulated wire, plastic rod, light bulb
- D. Insulated wire, iron rod, battery

84. A toaster changes electrical energy to

- A. heat energy.
- B. solar energy.
- C. sound energy.
- D. magnetic energy.

85. Which of the following can be caused by weathering?

- A. Rocks melting to form magma.
- B. Cracks forming in a boulder.
- C. Glaciers forming on a mountainside.
- D. Pebbles combining to form a large rock.

86. Which section of the Earth is the hottest?

- A. The crust
- B. The mantle
- C. Outer core
- D. Inner core

87. What is the largest species of frog in the world?

- A. Gigantic Frog
- B. Goliath Frog
- C. German Frog
- D. African Frog

88. What is the slowest mammal?

- A. Snail
- B. Millipede
- C. Three-toed sloth

D. Tortoise

89. Which is the heaviest internal organ in the human body?

- A. The stomach
- B. The liver
- C. The large intestine
- D. The heart

90. Which of the following statements is true regarding muscles?

- A. Muscles in your brain help you think.
- B. Muscles help you digest food.
- C. All of your muscles are attached to bones.
- D. All of these statements are true.

91. Assuming that there are 365 days in a year, how many times does your (healthy) heart beat in a year?

- A. 1 000 000
- B. 365 000 000
- C. 22 705 920 00
- D. 37 843 200

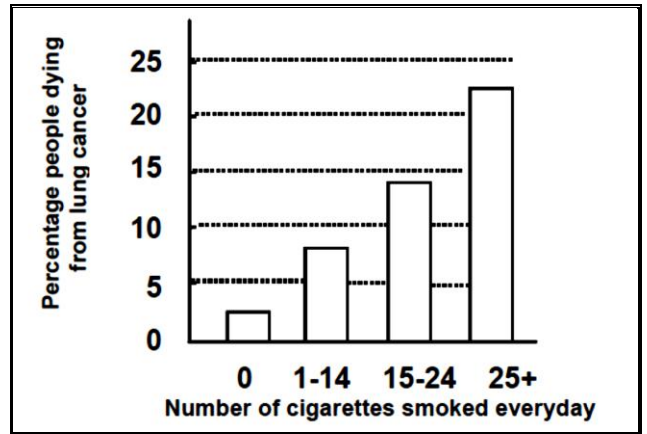
92. How many more bones do babies have than adults?

- A. 394
- B. 206
- C. 94
- D. 300

93. In which part of the human body does one find the strongest muscle?

- A. In the abdomen
- B. In the head
- C. In the stomach
- D. At the jaws

94. The graph below shows the relationship between smoking and the percentage of people dying from lung cancer.



Which of the following statements is true about the graph?

- A. All people who smoke will die of lung cancer.
- B. You will not get lung cancer if you don't smoke.
- C. Less than 15% of people who smoke 15 – 24 cigarettes a day will die from lung cancer.
- D. 25% of people who smoke more than 25 cigarettes a day, will die of lung cancer.

95. Which of the following statements is true based on the graph in **Question 79** above?

- A. You cannot die from lung cancer if you don't smoke.
- B. Smoking increases the chances of one to die from lung cancer.
- C. Smoking reduces the chances of one to die from lung cancer.
- D. Lung cancer is caused by smoking only.

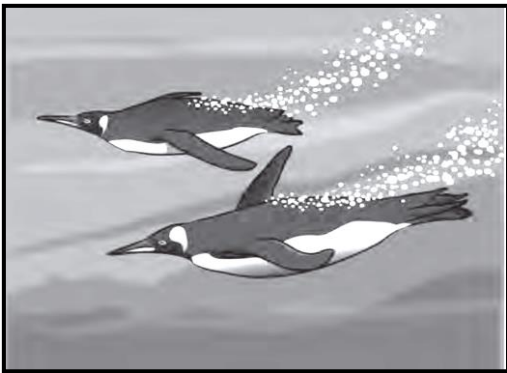
96. A duck's feathers are covered with natural oil that keeps the duck dry. This is a special feature ducks have that helps them to ...

- A. adapt to their environment.
- B. feed their young.
- C. attract a mate.
- D. search for food.

97. The presence of an animal fossil in a rock gives evidence of ...

- A. what hunting behaviour the animal used.
- B. how many babies the animal had.
- C. exactly when the animal was born.
- D. the time period the animal lived in.

98. The complete removal of decomposers from an ecosystem will have the greatest effect on which of the following?
- A. The spread of disease
  - B. The availability of water
  - C. The recycling of nutrients
  - D. The distribution of organisms
99. Emperor penguins are specialised birds that eat fish. Emperor penguins have developed many special characteristics that help them survive in the ocean environment. The figure below shows two emperor penguins swimming in the ocean.



Which of the following characteristics **mostly** helps the emperor penguins to survive in an ocean environment?

- A. Having very little sense of smell.
  - B. Having a very weak sense of taste.
  - C. Having large feathers that absorb water.
  - D. None of the above.
100. At which location are oceans the deepest?
- A. Mid-ocean ridge
  - B. Abyssal plain
  - C. Ocean trench
  - D. Volcanic island

***The End***