



Natural Science – Grade 8

Welcome to your Conquesta Olympiad. When you have decided which of the answers is correct, scratch out the letter in the matching square on your answer sheet. Example:- If the answer to question 4 is c, then scratch out the letter c in the square containing c next to the number 4 (see example 1 below). If you've made a mistake and b should have been the answer, neatly cross out the mistake and then scratch out b (see example 2 below).

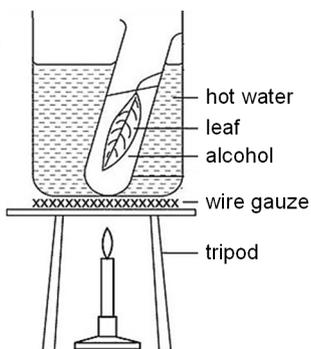
Example 1:- 4. a b ~~c~~ d

Example 2:- 4. a ~~b~~ ~~c~~ d

1. The **reactants** needed by plants for the production of food are

- (a) sunlight, water and carbon dioxide.
- (b) sugar, carbon dioxide and water.
- (c) water and carbon dioxide.
- (d) water, carbon dioxide and fertiliser.

Questions 2 and 3 refer to the experiment on the right, which shows the test for starch in a leaf.



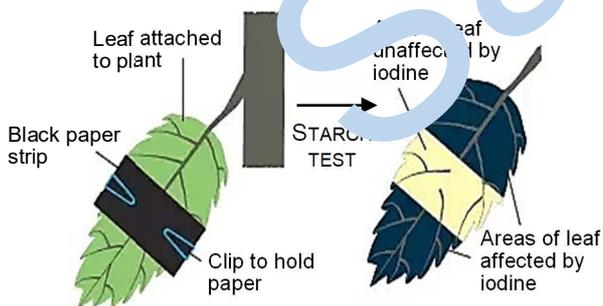
2. The leaf is heated in alcohol to

- (a) change the colour to brown.
- (b) remove the chlorophyll.
- (c) break down the cell walls.
- (d) remove the waxy layer.

3. A possible **conclusion** for the above experiment is

- (a) that starch is present in leaves.
- (b) that starch in leaves will turn brown.
- (c) to find out if a leaf contains starch.
- (d) to find out if a leaf does not contain starch.

Questions 4 and 5 refer to the experiment below, to show that **plants need sunlight for photosynthesis**.



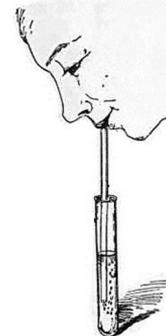
4. The purpose of the black paper is to

- (a) block sunlight from reaching the leaf.
- (b) enable sunlight to reach the leaf.
- (c) hold the leaf up.
- (d) absorb iodine solution.

5. The correct description of the result for the above experiment, is that the area of the leaf

- (a) affected by iodine turned blue-black.
- (b) exposed to light remained brown.
- (c) unaffected by iodine turned blue-black.
- (d) not exposed to light turned blue black.

Look at the picture of an experiment on the right for question 6.



6. The reason for this experiment is to

- (a) investigate whether humans can respire.
- (b) prove that carbon dioxide is used up during respiration.
- (c) prove that clear lime water turns milky in the presence of carbon dioxide.
- (d) investigate whether lime water is clear or milky.

7. The correct 'equation' for the process of aerobic respiration is:

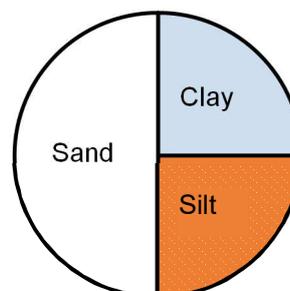
- (a) water + carbon dioxide → glucose + oxygen + energy
- (b) carbon dioxide + water → glucose + oxygen
- (c) glucose + oxygen → water + carbon dioxide + energy
- (d) carbon dioxide + glucose + energy → water + oxygen



8. Which term could be used to describe the number of meerkats in the Tswalu Kalahari Reserve?

- (a) Kingdom.
- (b) Species.
- (c) Ecosystem.
- (d) Population.

Study the information on the loam pie chart below, for questions 9 and 10.



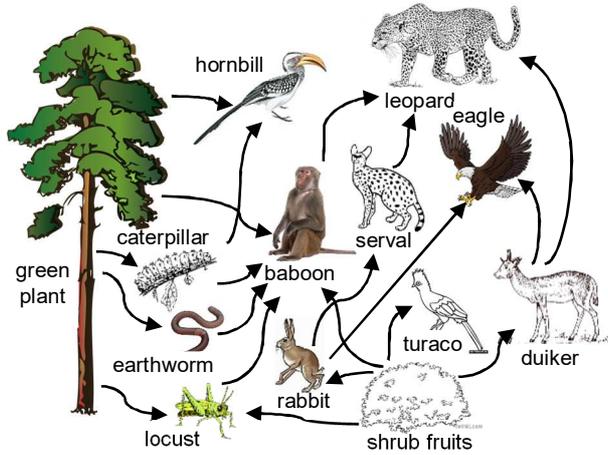
9. Which statement correctly describes what is shown in the pie chart above?

- (a) The composition of clay, silt and sand in a soil type.
- (b) The composition of sand only.
- (c) The composition of clay only.
- (d) The composition of silt only.

10. Which row in the table below, shows the correct proportions of clay, sand and silt from the pie chart?

	Clay	Sand	Silt
(a)	0,5 %	1%	0,5%
(b)	0,25 %	0,5%	0,25%
(c)	30%	50%	20%
(d)	25%	50%	25%

Study the food web below, for questions 11 – 14.



11. Select the correct **full** food chain from the food web above, that includes the mouse.

- (a) shrub fruit → locust → rabbit → baboon → leopard
- (b) green plant → rabbit → eagle
- (c) shrub fruit → rabbit → serval → leopard
- (d) rabbit → serval → leopard

12. Which organism is both a primary and secondary consumer?

- (a) Serval. (b) Caterpillar. (c) Duiker. (d) Baboon.

13. Which organism is both a secondary and tertiary consumer?

- (a) Leopard. (b) Turaco. (c) Hornbill. (d) Eagle.

14. Which of the following will be the result if all leopards were to become extinct? **The**

- (a) producers will be destroyed.
- (b) baboons, servals and duikers will increase in number.
- (c) eagles will decrease in number.
- (d) decomposers will decrease in number.

Questions 15 and 16 refer to the cactus plant.

15. The cactus plant can be classified as

- (a) Hydrophyte (water loving plant)
- (b) Xerophyte (loves dry regions).
- (c) Mesophyte (likes moderate water).
- (d) Mycophyte (multicellular plant).

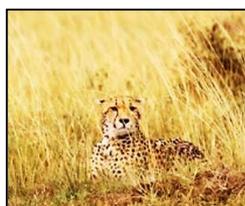


16. The main adaptation for the cactus to survive in certain conditions, is that it has

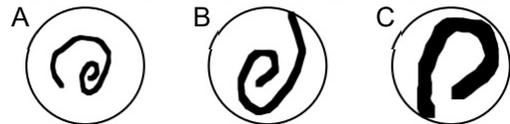
- (a) fleshy stems to store water.
- (b) no roots and absorbs surface water.
- (c) thorns to store water.
- (d) floating leaves.

17. The picture of the cheetah is an example of

- (a) mimicry.
- (b) predator-prey relationship.
- (c) camouflage.
- (d) a feeding relationship.



The diagram below shows the field of view (FOV) of an object, magnified with a microscope under 3 different magnifications, namely A, B and C.



18. The order in which the object above is magnified, from highest to lowest, is

- (a) B, C, A. (b) A, B, C. (c) B, A, C. (d) C, B, A.

19. Which of the following statements is correct?

- (a) Viruses can be seen with a light microscope.
- (b) Viruses are larger than bacteria.
- (c) Viruses are smaller than bacteria, and can only be seen with an electron microscope.
- (d) Bacteria can only be seen with a light microscope.

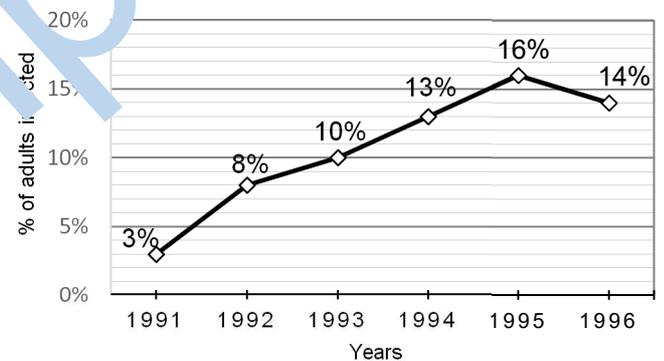
20. The correct sequence of matter from the simplest to most complex, is

- (a) atom → molecule → cell → tissue.
- (b) molecule → atom → tissue → cell.
- (c) cell → molecule → tissue → atom.
- (d) cell → atom → molecule → tissue.

21. Which of the following statements about malaria is **incorrect**?

- (a) It is an air-borne disease.
- (b) It has two hosts.
- (c) It is caused by a protist.
- (d) It is carried by the female Anopheles mosquito.

Questions 22 and 23 are based on the line graph below, that shows the percentage of adults infected with HIV from 1991 – 1996.



22. In which year was the percentage of adults affected with HIV the highest?

- (a) 1996 (b) 1995 (c) 1991 (d) 1994

23. The average percentage of HIV infected adults over the period 1991 – 1996, is

- (a) 14%. (b) 10,6%. (c) 3%. (d) 64%.

24. Choose the correct order in which the immune system protects the body from disease, from the statements below.

1. Bacteria enter the body.
2. The antibodies destroy the bacteria.
3. The body makes antibodies.
4. The antibodies stay in the body waiting for the next attack by the same bacteria, and you have become immune to the disease.

- (a) 4, 1, 3, 2 (b) 1, 3, 2, 4
- (c) 1, 2, 3, 4 (d) 2, 3, 1, 4