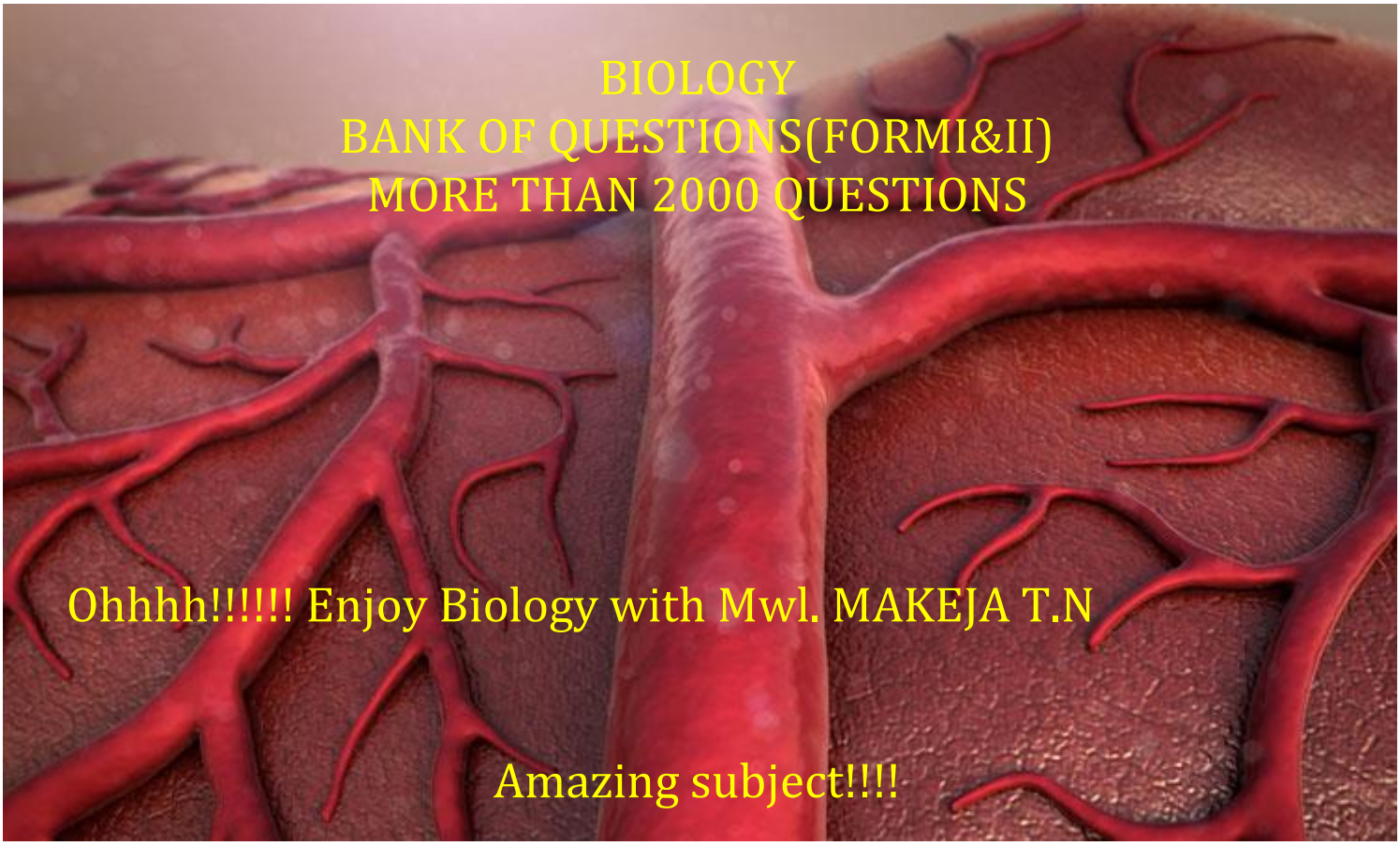

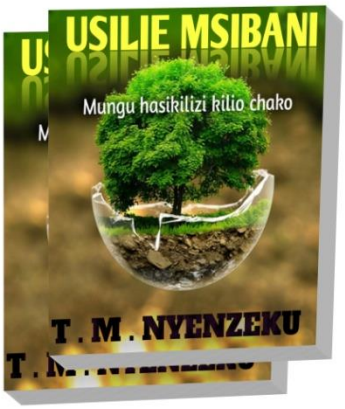

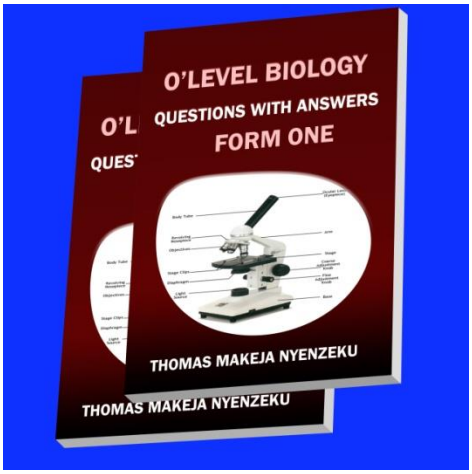

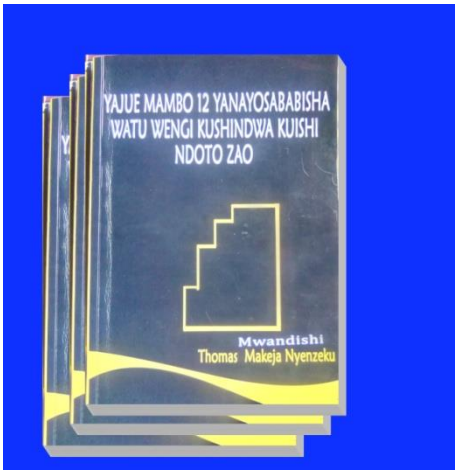

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MORE THAN 2000 BIOLOGY QUESTIONS(FORMI&II)
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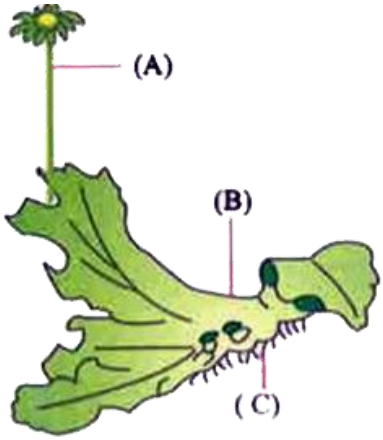
KINGDOM FUNGI

1. Suppose you are in a class and your biology subject teacher brings you an unknown specimen. Which characteristics will you look for to confirm that it belongs to the kingdom fungi?
2. Explain if fungi they are heterotrophs or autotrophs and what that mean (define), explain whether or not they are saprophytes (define) and summarize how fungi obtain their nutrients?
3. List three main types of fungi and give an example of each
4. The photograph below represents a plant in a certain division



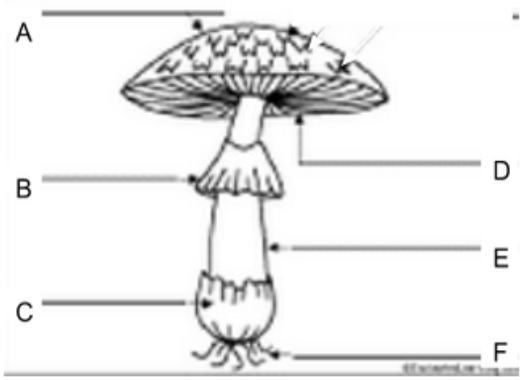
   i) Name the division to which the plant belongs
   ii) With reference to the photography. State three observable features of the division
   iii) Name the parts labelled A, B and C
   iv) Explain how the part labelled C is adapted to its functions
5. Explain five characteristics of kingdom plantae
   i) Classify mosses from kingdom to its division
   ii) Give three advantages of moss plants
6. Briefly state what would happen if there were no fungi in the world

7. Identify the following members of kingdom fungi by writing their common names




A..... **B**..... **C**..... **D**.....

8. Explain four reasons why fungi are different from plants.
9. Study the diagram below and then answer the questions that follows



i) Identify the structure above by its common name
ii) Mention the structures labelled A, B, C, D, E and F
iii) Give three advantages of the organism above
iv) Give the scientific name of the organism above
v) How the structure above differ from plants?

10. Define hyphae. Explain what it does and where it is located.
11. Define mycelium. Explain what it does and where it is located.
12. Which of the four types of fungi are bread mould?
13. List two ways fungi reproduction is classified
14. Choose a word or phrase from LIST A which matches with responses in LIST B

LIST A	LIST B
i) Sac like cells which store ascospore	A. Mycoses
ii) An example of zygomycota	B. Basidium
iii) Female organs of mosses	C. Fungology
iv) Poison produced by fungi	D. Mycology
v) Leaflets of fern plants	E. Thallus
	F. Sporophytes
	G. Gametophytes
	H. Rhizopus
	I. Pinnae

	J. Antheridium K. Stipe L. Penicillium M. Asci frond N. Hyphae O. Archegonium P. Sori Q. Afflatoxin

15. List three types of human diseases caused by fungus.
16. When naming organism what two classification levels do you use to make the scientific name?
17. Why are some protoctists called “plant like”?
18. Fill in the blank spaces

Organism	**phyla**
a) Moss	_____
b) Smut fungi	_____
c) Mucor	_____
d) Puffballs	_____
e) Rhizopus	_____
f) Yeast	_____
g) Mushroom	_____

19. List any three general and distinctive characteristics of kingdom plantae
20. Where are the male gamete produced from in organisms of division bryophyte?
21. List ny three advantages of mosses
22. Outline any two advantage of ferns.
23. Write the order of classification level from the most general to the most specific.
24. Name the phylum to which the following organisms belongs
    a. Bread mould
    b. Mushroom
    c. Yeast
    d. Pin mould
    e. Smut fungi
25. Describe how yeast reproduces.
26. Mention the dominant generation in bryophytes and pteridophytes
27. Name the divisions to which a moss and a fern plant belong.
28. Fill the blanks in the following table below

Phylum	Structure that produce spores	Type of spore
Basidiomycota (club fungi)	……	……..

Zygomycota	……	……..
Ascomycota	……	……..

29. Write short notes on phylum ascomycota, zygomycota and basidiomycota.
30. List five characteristics of members of kingdom plantae
31. Match each item in column A against its corresponding item from column B

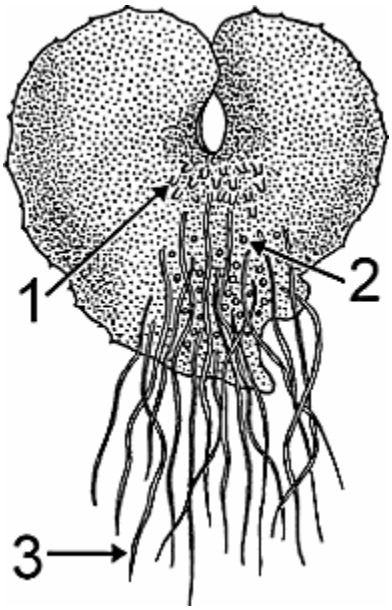
COLUMN A	COLUMN B
i) Sac like structure which produce ascospores ii) An example of zygomycota iii) mucor iv) Group of sporangia in a fern plant v) Female reproductive structures of a fern plant vi) Gametophytes and sporophytes vii) Phylum basidiomycota viii) Poisonous substance produced by fungi ix) Leaflets of a fern plant x) Male reproductive structure of a moss plant	*A.* *Rhizopus* *B.* *Penicillium* *C.* Asci *D.* Pinnae *E.* Aflatoxins *F.* Frond *G.* Antheridia *H.* Archegonia *I.* Sori *J.* Stipe *K.* Hyphae *L.* Stolon *M.* Pin mould *N.* Smut fungi *O.* Altenation of generation *P.*

32. Write TRUE for a correct statement and FALSE for incorrect statement
    a. Yeast can ferment sugar to form alcohol……
    b. Fungi reproduce by means of spores and budding only……..
    c. In pteridophytes the shape of the leaf, size, are the same from one species to another……
    d. A fern plants lacks true roots but have true stem and leaves……
    e. Yeast reproduce asexually by budding……..
    f. Mushroom consist of gills……..
    g. Rhizoids are found in moulds, liverworts, and mosses……
    h. Filicinophyta is the same name to pteridophyta……..
    i. The name of asexual spores in zygomycetes is zygospores……
    j. Mycorrhiza is a symbiotic relationship between a fungus and roots a vascular plants……
    k. A lichen is a symbiotic relationship between an algae and a fungus……..
    l. Example of unicellular fungi are yeast (*sa ccharomyces sp)* and *candida sp…….*
    m. Basidiomycetes are sometimes called club fungi……..
    n. *Azolla sp* is an example of fern plant that is able to fix nitrogen from the air into compound that can be absorbed by plants……..
    o. the scientific name of mushroom and yeast are ***Agaricus compestris*** and ***saccharomyces cerevisiae*** consecutively……..
    p. penicillin is multicellular and produces antibiotics……

q. Yeast is unicellular and useful in fermentantion……..

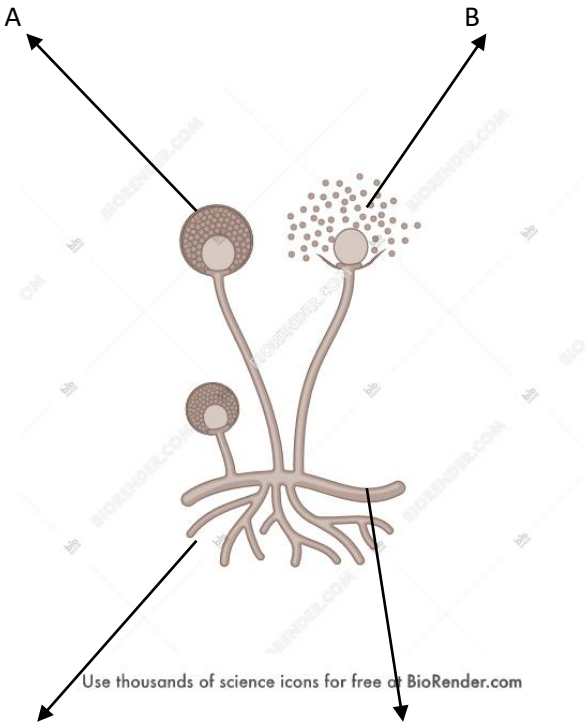
r. Mycelium consist of long slender thread like structures called hyphae……..

33. Name the kingdom of the division plantae in which the gametophyte is a dominant plant body
34. What are the advantages and disadvantages of the members of division filicinophyta
35. Name the chemical substance present in fungal cell wall that is a distinctive feature of the kingdom fungi
36. Majority of people believe that all fungi are harmful organisms. As a biologist explain four ways in which fingi are beneficial to human being
37. Draw a diagram of fern plant and label four parts
    ii). Outline three advantages of fern plant
38. If you put a wet bread in a cupboard after a few days the bread will be covered with organism called fungi
    i) Give a common name of these fungi which grow on bread
    ii) Outline three phyla of the kingdom fungi
    iii) Outline five advantage of the kingdom fungi
39. A bread was put in a wet cupboard. After a few days the bread was covered by thread –like structure which ended in club-shaped structure.
40. study the diagram above and answer the questions that follow



i) give the common name of the structure above
ii) identify the parts labelled 1, 2 and 3

41. the diagram below shows parts of a rhizopus

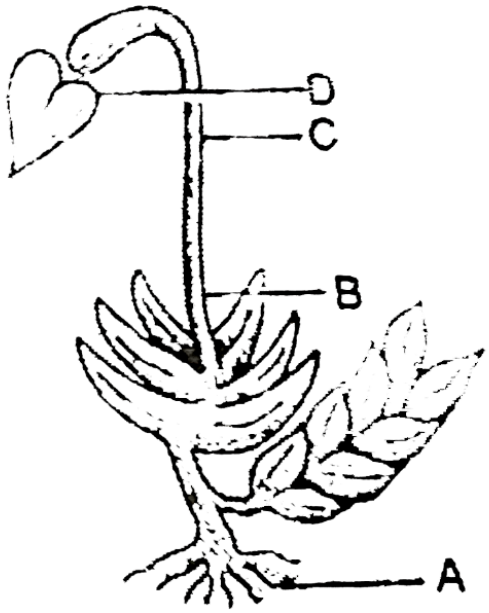


i) to which kingdom does rhizopus belongs
ii) name the parts A, B, C
iii) state a function of part B
iv) what is the function of part C
v) Name another member of the kingdom to which rhizopus belongs, other than yeast and explain how it is of beneficial to humans
vi) Name another member of the kingdom to which rhizopus belongs, other that yeast and explain how it is harmful to the humans

i) Write the common name of the organism grown on the bread
ii) Name the kingdom to which the organisms belong
iii) Name the phyla/division to which the organism belong
iv) Outline five economical importance of the kingdom you have named above

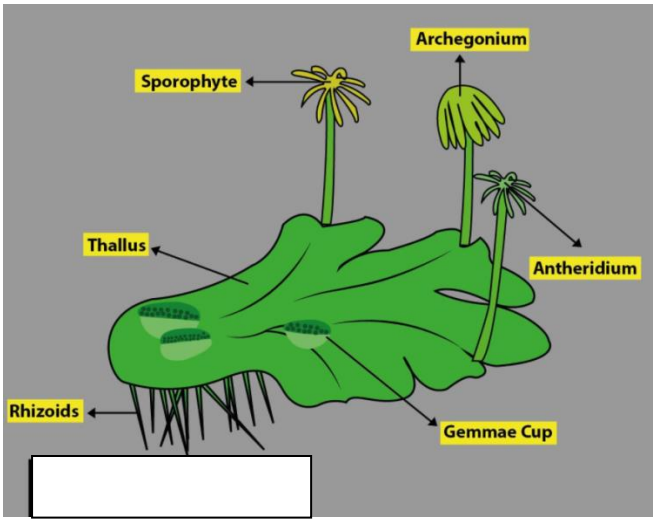
42.

The given figure is of Funarua - a moss plant. The parts indicated by the letters A,B,C,D represents, which of the following structures ?



i) Identify letter A, B, C and D
ii) Give three advantages of the organism named above

43. State three distinctive feature of the kingdom plantae
44. What is the name of the following figure



i) Mention the phyla in which the organism mentioned above belongs
ii) Outline four disadvantages of kingdom fungi

45. Choose the correct answer from the given alternatives
i) The following are diseases caused by fungi in plants and animals except
A. Wheat rust and maize rust
B. Candidiasis

C. Influenza
D. Powdery mildew

ii) Reason for ascomycota to be called ascomycetes or sac fungi
A. The spore can be transferred by wind
B. The spore can be produced sexually
C. Their spores are enclosed in sac like structure called sci
D. They are single celled organisms

iii) The name of asexual spores in zygomycetes.
A. Zygospores
B. Sporangiophores
C. Sporangia
D. Hyphae

iv) Why are bryophytes the most primitive plants on earth?
A. They grow on wet areas
B. They do not produce seeds
C. They reproduce asexually and sexually
D. They lack vascular tissues

v) The following are divisions of the kingdom plantae except
A. Basidiomycota
B. Coniferophyta
C. Pteridophyta
D. Angiospermophyta

vi) The bread mould is an example of
A. Pteridophyta
B. Bryophyte
C. Zygomycota
D. Basidiomycota

vii) Which one of the following is not an example of organisms in kingdom fungi?
A. Mushroom
B. Amoeba
C. Puffballs
D. Yeast

viii) The following are phyla in kingdom fungi. Which one is not?
A. Bryophyte
B. Ascomycota
C. Zygomycota
D. Basidiomycota

ix) Which one of the following is a characteristic of division bryophyte
A. Plant body is not differentiated into roots, leaves and stem
B. They have well developed conductive tissues
C. The plant body is made up of hyphae
D. They store glycogen

x) Which phylum of kingdom fungi contain unicellular organism
   A. Basidiomycota
   B. Ascomycota
   C. Zygomycota
   D. Bryophyte

xi) Fungi obtain energy
   A. Directly from the sun
   B. From inorganic material in their environment
   C. By absorbing organic molecules from dead or decaying organism
   D. From nucleus fussion

xii) Chitin is found in fungi and in …….
   A. Snail shell
   B. The outer shell of insects
   C. Some plant cell walls
   D. Tortoise shell

xiii) Fungi
   A. Do not contain chlorophyll
   B. Have cell walls that contain chitin
   C. Do not produce their own food
   D. All of the above

xiv) A hyphae is a long string of cell divided by
   A. Spindle fibre
   B. Asci
   C. Septa
   D. Mycorrhiza

xv) The individual filamentous that make up the body of a fungus are called…….
   A. Vascular tissue
   B. Hyphae
   C. Rhizoids
   D. Stem cells

xvi) Fungi obtain food by ……
   A. Through photosynthesis
   B. Outside their bodies
   C. Inside their bodies
   D. All of the above

xvii) Fungi are important to an ecosystem as……
   A. Producers
   B. Regulators
   C. Decomposers
   D. Controllers

xviii) Most fungal spores are formed by
   A. The fussing of hyphae

B. The fussing of asci
C. Mitosis
D. Meiosis

xix) An economically important use of fungi is ……..

A. Bread making
B. Production of antibiotics
C. Manufacture of alcohol beverages
D. All of the above

xx) Mushroom, puffball and shelf fungi are example of ……..

A. Club fungi
B. Sac fungi
C. Mould
D. Yeast

xxi) Mushrooms and toadstools are members of the phylum……..

A. Ascomycota
B. Basidiomycota
C. Zygomycota
D. Dueteromycota

xxii)An example of fungus is……..

A. Mushroom
B. Bread mould
C. A yeast
D. All of the above

xxiii) Which of these are in kingdom fungi

A. Mould, algae and yeast
B. Mushroom, mould and yeast
C. Mould, mushroom and lichen
D. Mould, yeast and bacteria

xxiv) All of the following are characteristics of fungi except

A. They acquire their nutrients by absorption
B. Their body plan is a net like mass of filaments called hyphae
C. They are all eukaryotes
D. Their cell walls consist mainly of cellulose

xxv)An example of a unicellular fungus is a ……..

A. Mould
B. Mushroom
C. Yeast
D. Smut fungi

xxvi) Fungi usually store the reserve food material in form of ……

A. Starch
B. Lipid
C. Glycogen

D. Protein

xxvii) All fungi are
- A. Autotrophs
- B. Saprophytes
- C. Parasites
- D. Heterotrophs

xxviii) One of the common fungal disease of man is
- A. Cholera
- B. Plague
- C. Ringworm
- D. Typhoid

xxix) Yeast is unlike bacteria in being ……..
- A. Unicellular
- B. Multicellular
- C. Prokaryotic
- D. eukaryotic

NUTRITION

1. match each item in **column A** against its corresponding item from **column B**

COLUMN A	**COLUMN B**
i) undigested materials excreted from the bowels	A. duodenum
ii) wave like muscular contractions that push food along the oesophagus	B. oesophagus
iii) connect the mouth to the stomach	**C.** rectum
iv) grind food	D. Egestion
v) absorb water from undigested and indigestible food materials	E. Pyloric sphincter
vi) waste is stored here, ready to leave the body	F. Colon
vii) contains an acidic medium for digestion	G. Stomach
viii) first part of the small intestine	H. Faeces
ix) a muscular ring like wave which regulates the passage of food from the stomach into the small intestine	I. Peristalsis
x) the process of passing undigested materials from the body through the enus	J. Molars
	K. Pancreas
	L. Cardiac sphincter
	M. Canines
	N. Ingestion
	O. Pharynx
	P. Saccus intericus

2. Write TRUE for a correct statement and FALSE for incorrect statement.
   - **a.** Renin coagulate fats……..
   - **b.** Swallowing of food is assisted by peristalsis of the oesophagus muscles……

c. Gastric juice is secreted in the ileum……..
d. Glucose is the final product of digestion for starch and other carbohydrates……
e. The intestinal juice contains maltase, sucrose, lipase, lactase and peptidase enzymes……
f. Pepsinogen is an inactive form of pepsin……..
g. Digestion of protein starts in the mouth……
h. The presence of villi in the ileum facilitates absorption of digested food……..
i. Water is not needed in the digestion process……
j. Lipase enzyme convert milk to simple sugar……
k. Enzyme in the duodenum work under acidic conditions……
l. Canines help to crush and grind food into small particles for easy swallowing……..
m. The first part of the small intestine is called duodenum……..
n. The hardening of milk in the stomach is brought by pepsin enzyme……
o. The function of salivary gland in the mouth is to secrete amylase enzyme……..

3. Fill in the blanks using the following words

Hydrochloric acid, pepsin, duodenum, oesophagus, coagulation, alkaline, acidic and renin

a. The acidic condition in the stomach is provided by ……
b. The digestive enzyme in the ileum function better under …… medium
c. Food moves through the ……. By peristalsis to the stomach
d. The conversion of protein into peptide in the stomach is done by ……. enzyme
e. The hardening of milk in the stomach is called …….. this in facilitated by an enzyme called……

GASEOUS EXCHANGE

1. Match each item in column A against its corresponding item from column B

COLUMN A	COLUMN B
i) Lung ii) Guard cells iii) Lenticels iv) Bronchioles v) Gaseous exchange vi) Anaerobic respiration vii) Alveolus viii) Trachea ix) Stoma x) Exhalation	A. Specialised cell in plants that control opening and closing of the stomata B. Movement of gases across the respiratory surfaces C. Part of the respiratory system that allows the passage of air to and from the lungs D. A thin tube that branches from a bronchus within the lung. E. Chemical reaction that release energy from food molecules in the absence of oxygen F. Breathing out air from the lungs G. One of the million of tiny sacs within the lungs where gaseous exchange occurs

	H. Small opening in the plant that control the passage of gaes and water I. One of the small pores on the bark of woody plants which is responsible for gaseous exchange J. Specialized organ for gaseous exchange in mammals, reptiles and birds

TRANSPORT OF MATERIALS IN LIVING THINGS

1. **Choose the best answer from the choices given.**
   - i) Which of the following does not cause cardio vascular disease_____ A. Dietary fiber B. Smoking C. faith food D. lack of exercise ( )
   - ii) The best method of preventing STDs in unmarried people is _____ A. To practice assertive behavior B. To have only one sexual partner C. To use contraceptive pills D. To abstain from sex ( )
   - iii) Which of the following disease is caused by a protoctista _____ A. Arteriosclerosis B. Tuberculosis C. Syphilis D. Malaria ( )
   - iv) Sphygmomanometer is an instrument used to measure _____ A. Hypertension B. Arteriosclerosis C. Diastole D. Systole ( )
   - v) Single circulation is observed in complex organisms like _____ A. Amoeba B. Reptiles C. Fish D. Tadpole ( )
   - vi) Which of the following organisms is a member of kingdom monera _____ A. Plasmodium B. Vibric cholera C. Paramecium D. Euglena ( )
   - vii) _____ Are conditions or factors that can change or be charged in an experiment. A. Hypothesis B. Variable C. Problems D. conclusions ( )
   - viii) Which of the following apparatus is made of up of Iron _____ A. Test tube B. Pouter C. Crucible D. Spatula ( )
   - ix) If you do not have gloves, you can also use _____ to protect your hands. A. socks B. plastic C. tins D. a piece of cloth ( )
   - x) The following is not transported by blood plasma? A. Faces B. Nutrients C. Respiratory gases D. Hormone ( )

2. Which statement is false about division bryophyta?

A. Lack vascular tissue
B. Found in moist areas
C. Need water for fertilization
D. Has sporophyte as dominate stage

2. Which of the following is true about digestion of starch
   A. Occur in mouth and oesophagus
   B. Occur in mouth only
   C. Enzyme digesting starch are produced in the stomach
   D. Its end product of digestion is absorbed in lacteal
3. The chemical compaund that can cause death in blood is

   A. Oxyhaemoglobin
   B. Carboxyhaemoglobin
   C. Carbominohaemoglobin
   D. Carbonhaemoglobin
4. Which of the following is odd one out
   A. Mycobacterium tuberculosis
   B. Escherichia coli
   C. Treponema pallidum
   D. Salmonella typhi
5. After cholera outbreak resident of kasamwa village were vaccinated against the disease. The type of immunity carried out here will be
   A. Artificial active immunity
   B. Artificial passive immunity
   C. Natural active immunity
   D. Natural passive immunity
6. Which of the following is not a sIgn of gonorrhea?
   A. Swollen lymph nodes
   B. Yellow discharge from vagina/penis
   C. Irregular menstruation
   D. Itching in private parts
7. Among the following are functionS of nucleus. Which one is not?
   A. Determine the chemical process that take place in a cell
   B. Initiate cell division
   C. Control function of all parts of the cell
   D. Determine hereditary characteristics of a cell
8. The following are list of laboratory apparatus. Identify the odd one out
   A. Poorter
   B. Quadrat
   C. Sweep net
   D. Fishing net
9. Nyantimu was bitten by a bee. Which of the following should not be done
   A. Wash the area with soap and water
   B. Apply baking soda to the area
   C. Careful remove sting with your finger or sharp object
   D. Apply cold compress to remove pain
10. Identify a gas that is dangerous to ozone layer if released into the atmosphere
   A. Carbondioxide
   B. Nitrogen dioxide
   C. Sulphur dioxide
   D. Methane
11. Which of the following are examples of animal tissue
   A. Muscles, blood, bone

B. Brain, bone, liver
C. Skin, heart, brain
D. Muscles, liver, skin

12. What does the concept of good health imply?
    A. A state of physical, sexual and mental fitness
    B. Being physically, mentally and socially fit
    C. A state of family well being
    D. Reproductive health and family care
13. Which of the following cell structures differentiates an animal cell from from a plant cell?
    A. Cytoplasm
    B. Cell wall
    C. Pancreatic juice
    D. Nucleus
14. The blood vessel which carry blood from the lungs to the heart is called…….
    A. Pulmonary artery
    B. Vena cava
    C. Pulmonary vein
    D. Renal artery
15. The lowest rank of classification is called
    A. Class
    B. Kingdom
    C. Species
    D. Genus
16. What will happen when a red blood cell is placed in more concentrated solution
    A. Crenation
    B. Turgidity
    C. Haemolysis
    D. Plasmolysis
17. Arteries have thick muscular wall because they transport blood
    A. At low pressure
    B. At high pressure
    C. Toward the heart
    D. Away from the heart
18. People with talking behaviour while eating are considered to have
    A. Bad manner
    B. Table manner
    C. Talkative manner
    D. Chatty manner
19. The liquid induced into the body of an organism so as to increase antibody production is known as
    A. Tissue fluid
    B. Lymph
    C. Vaccine

D. Plasma

20. The by product in photosynthesis process are
    A. Carbohydrate and water
    B. Carbondioxide and oxygen
    C. Oxygen and water
    D. Oxygen and air
21. The structures found in bacteria are
    A. Plasmid, flagella and cilia
    B. Cytoplasm, cilia and plastids
    C. Cell wall, plasmid and flagella
    D. Cell membrane, flagella and hair
22. Which of the following structure is a site of respiration
    A. Chloroplast
    B. nuclear
    C. Ribosomes
    D. Mitochondria
23. A blood vessel which conveys deoxygenated blood away from the heart is called…….
    A. Capillaries
    B. Arteries
    C. Vein
    D. Pulmonary vein
24. Wich of the following connect the arteries to vein
    A. Septum
    B. Capillaries
    C. Venule
    D. Arteriole
25. Which of the following indicate the passway of water through a plant?
    A. Root hair-xylem-stomata
    B. Stomata-root hair-xylem
    C. Xylem-stomata-root hair
    D. Root hair-stomata-xylem
26. The following are example of water bone diseases
    A. Malaria and bilharzia
    B. Yellow fever and typhoid
    C. Diarrhoe and malaria
    D. Cholera and typhoid
27. One of the distinctive featuture of kingdom fungi is possesssion of …….
    A. Plasma membrane
    B. Cytoplasm
    C. Chitin material
    D. Cell membrane
28. The taxonomic category of organisms belonging to the same class but not to the same family is…….

A. Species
B. Genus
C. Order
D. Phylum
E. Kingdom

29. The function of sunlight energy in the human skin is to stimulate the synthesis of?
    A. Vitamin A
    B. Vitamin C
    C. Vitamin D
    D. Vitamin E
30. Night blindness in human body is avoided by eating?
    A. Orange
    B. Carrot
    C. Red meat
    D. Green vegetable
31.

32. Matching item question

LIST A	LIST B
i) Supplies blood to the heart ii) Loss of mineral in which they move deeper beyond plant roots iii) An organism that cause typhoid iv) Classification based on few external features v) Has the same origin but different function	A. Epidemic disease B. Sporadic disease C. Niche D. Trophic lvel E. Cell specialization F. Cell defferentiation G. Coronary artery H. Septum I. Leaching J. Eutrophication K. Salmonella typhi L. Typhoid coli M. Sytoplasmic streaming N. Pseudopodia O. Taxonomy P. Artificial classification Q. Natural classification R. Homologous structure S. Analogous structure

33. Match each item in list A with a correct response in list B by writing its letter

LIST A	LIST B
i) The highest rank in classification ii) A group of organism that can interbreed to produce fertile offspring iii) A sub-group of kingdom plantae in which ferns belongs iv) A group of genera with similar characteristics	A. Kingdom B. Phylum C. Class D. Species E. Family F. Genus G. Order H. Kingdom monera I. Kingdom pteridophyta J. Phylum bryophyta K. Kingdom plantae

34. Write TRUE or FALSE

i) All cells contain chloroplast……
ii) Cholera is transmitted through contaminated food……..
iii) Photosynthesis is important because it release carbon dioxide in the atmosphere…….
iv) Anaerobic respiration is one of the causes of muscles fatigue……
v) Ventricles have thicker walls than auricles……..
vi) Colon is a special site for absorption of digested food materials…….
vii) Unicellular organism is made up of one cell only……
viii) Gaseous exchange in mammals take place in the nose and mouth…….
ix) One enzyme can act on several food substances……..
x) Anaemia is a condition in which a patient has few erythrocytes……..

35. The following are matching items. Match the term in List B by writing its number in the gap in List A.

LIST A	LIST B
i) ____ is made of genetic material in the protein coat. ( )	A. Organic matter
	B. Bicuspid values
ii) _____ is the clumping of red blood cells. ( )	C. Sickle cell anemia
	D. Leukemia
iii) _____ it occur in mitochondria. ( )	E. Biofilm
	F. Virus
iv) _____ is the study of structures of organisms. ( )	G. Tricuspid value
	H. Toxin
v) _____ is discarded vegetable and dead animal. ( )	I. Transpiration
	J. Respiration

vi)	_____ it is caused by over production of white blood cells ( )	K. Semi lunar values
vii)	It prevent the back flow of blood from pulmonary artery into the & right ventricle ( )	L. Physiology
viii)	It prevent back flow of blood from the right ventricle into the atrium ( )	M. Anatomy
ix)	It prevent the back flow of blood from the left ventricle into the left Atrium ( )	N. Agglutination
		O. Platelets
x)	_____ substance released by bacteria that protect them from the harmful substance such as drugs	P. Septum
		Q. Sino atria node

36. Write TRUE or FALSE

i) The main function of the lymph nodes is to produce while blood cells _____
ii) All vein carry deoxygenated blood towards the heart _____
iii) Both plant and animal cells contain chloroplast _____
iv) A large vein that empties into the left atrium of the heart is called pulmonary vein _____
v) Lymph has the same components as tissues fluid but more Amino acid _____
vi) Inferior vena cava transport deoxygenated blood from the upper parts of the body _____
vii) Genital artery carry blood from the gonads _____
viii) Jugulars vein carry deoxygenated away from the head and neck toward the heart _____
ix) Left ventricle receive deoxygenated blood from the lungs _____
x) Pulmonary artery carry oxygenated blood from the lungs into the heart _____

37. a) Define The following terms
   i. Cell differentiation
   ii. Classification
   iii. Taxonomy
   iv. Species
   v. Binomial nomenclature

   b) Why is classification important? Give three points.
   c) Give the scientific names of the bacteria that cause the following disease.
      i. Tuberculosis
      ii. Syphilis

38. a) **Define the following terms**.
   i. Osmosis
   ii. Active transport
   iii. Plasmolysis
   iv. Turgidity
   v. Tonsillectomy
   vi. oxosmosis

   b**) Explain what will happen when-**
   i. Animal cells are put in hypotonic solution.
   ii. Plant cells are put in hypertonic solution.
   iii. Animal cells are put in isotonic solution.

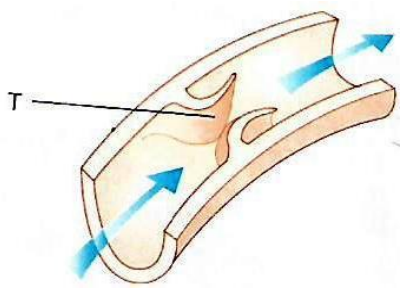
iv. A ring of bark from the plant is removed.
v. Capillaries had thick walls

39. a) Give three differences between Osmosis and Diffusion.
b) Give three examples of life processes you know
c) Explain how paramecium avoid bursting as a result of excessive uptake of water by Osmosis
d) How concentration gradient affect the rate of diffusion.

40. a) While performing a surgery two blood vessel were cut by mistake. One blood vessel had blood flowing at high pressure and the other had blood flowing at low pressure.
i. Name the two blood vessel.
ii. Briefly explain why blood was flowing at high pressure in one blood vessel and blood flowing at low pressure in another vessel?

41. a) The heart has its own supply of blood from vessels that run all over its surface.
i. Name these two vessels.
ii. In some people these vessels can because blocked by a blood clot. Explain the condition that will happen when these blood vessels named in.
iii. Name three symptoms of the condition named in 8 (a)iii.
iv. Explain why the left ventricle have thick muscular wall.
b) Give five differences between Artiness and Veins

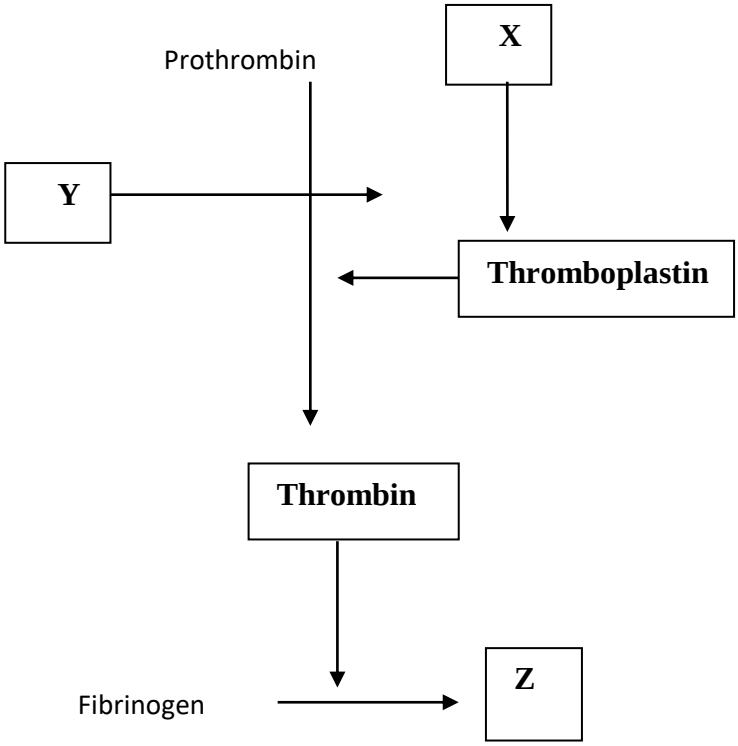
42. a) i) How lymphatic system is connected to the blood circulation system.
ii) With the aid of diagram. Explain how tissue fluid is formed.
iii) How tissue fluid differ from the blood.
iv) Explain why a person suffering from sickle cell Anemia is associated with fatigue or excessive tiredness
b) The diagram below represents a blood vessel.



i. Name the type of blood vessel.
ii. Identify structure T.
iii. What is the function of structure T.

43. a) Explain why blood from a donor whose blood group A cannot be transfused into a recipient whose blood group is B?
b) Explain the way does the red blood cells are adapted to their functions they perform.

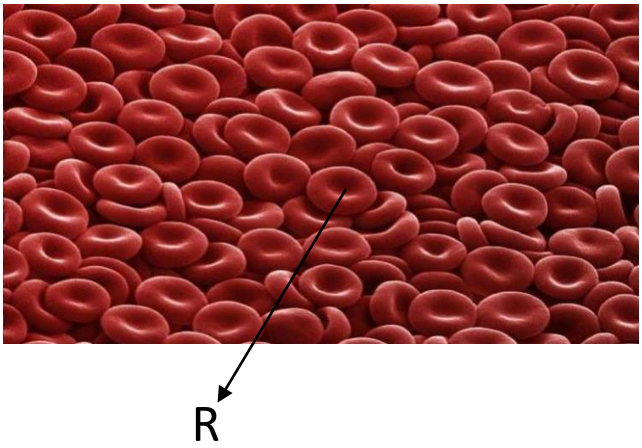
c) The flow chart below is a summary of the blood clotting mechanism in man.



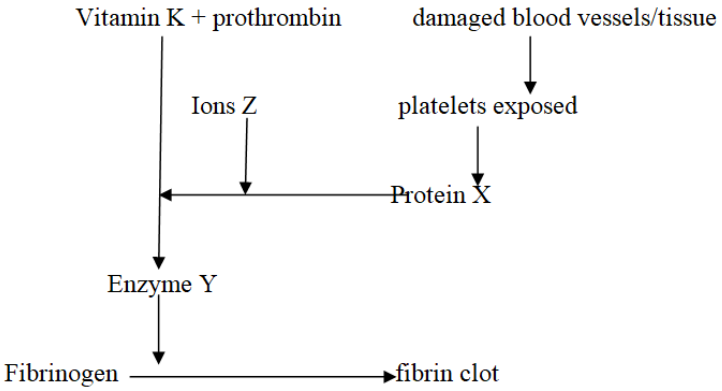
i. Name the blood cell represented by X
ii. Name the metal ion represented by Y.
iii. Name the end product of the mechanism represented by Z.

44. Student of mkangala secondary school-Geita took a blood smear from the finger tip and examined it under a microscope
    i) Which was the most abundant cell type that he observed? Describe one cell and stste its function.
    ii) A number of cell that he observed had large lobbed nuclei and their outline looked like that of the amoeba. What name did he give such cells?
    iii) What is the function of the cell that were observed?
45. A footballer fell down during a match and bruised his knee. Drop of blood were seen to flow out through the bruise for 20 minutes and then were seen to stop. Describe the process which brought about the cessation of blood flow at the injury.
46. a). A patient went to bugando hospital and was told that her blood pressure was 120/70. What does the denominator represent?
    b). where do the heart contraction originate from?
    c). explain why the heart contractions are said to be myogenic
    d). how can we control and prevent hypertension?
    e) how diastole differ from systole
47. Most arteries transport oxygenated blood. However the pulmonary artery carries deoxygenated blood. Explain this observation
    a) All the blood from the body circulates through the heart yet the vessel applying the heart with blood are the coronary arteries. Explain the necessity for coronary arteries.

48. How are red blood cells suited to perform their function?
49. In a certain person, blood took long time to clot after a cut. What vitamin deficiency was the person likely to have being suffering from?
50. Study the diagram bellow and answer the questions that follow

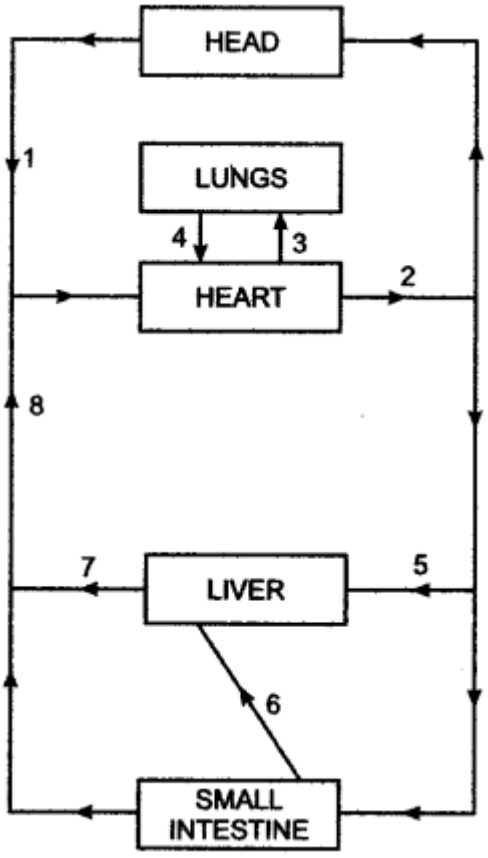


    i) Name the type of cell named R
    ii) Describe the structure of the cell named above
    iii) State three adaptation of the cell named above
    iv) Give one function of the cell named above
51. Human blood belongs to four blood groups A, B, AB, O.
    i) What blood group antigens are contained in each of these blood groups?
    ii) What blood group antibodies are found in blood of individuals, whose blood are A, B, AB and O in each case?
    iii) What is the difference between A+ (positive) and B- (negative) blood?
    iv) An unknown sample of blood was found to agglutinate with blood from a donor whose blood group was O. what was the blood group of the unknown sample of blood?
    v) A group O person is known as a universal donor explain
    vi) A group AB person is a universal recipient. Explain.
52. State two function of mammalian blood other than the transport of substances
53. Give four adaptations of the capillaries to its function
54. Study the figure below and then answer the questions that follows



i) what mechanism is elaborated by the diagram
ii) identify the enzyme Y, ions Z and protein P

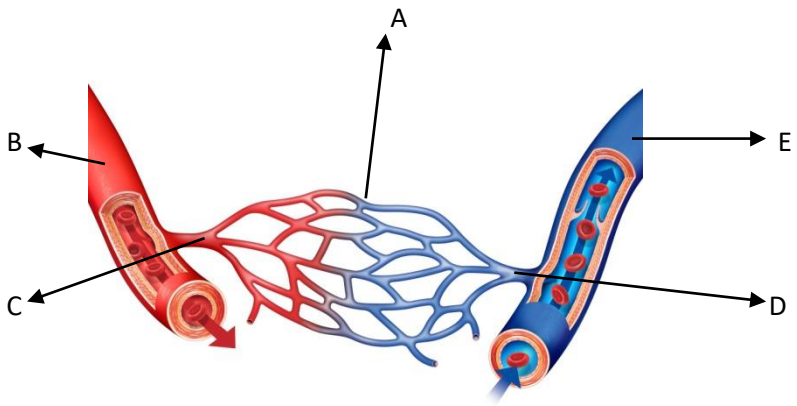
55. What are the structural differences between arteries and veins
56. Study the figure below and answer the questions that follows



i) What does the figure represent?
ii) Identify by its name the blood vessels 1, 2, 3, 4, 5, 6, 7 and 8
iii) What is the function of the blood vessel 6, 4, 3 and 5
iv) What is the difference between 4 and 3

57. Give two requirements for active transport to take place

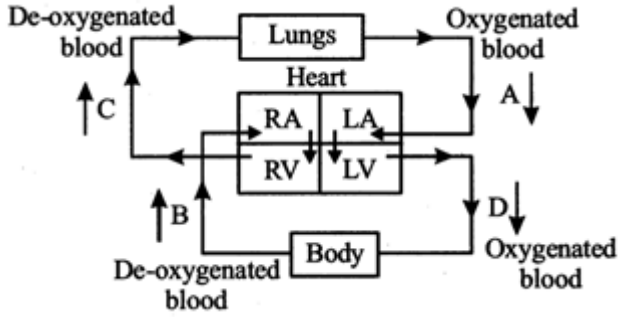
58. What are pneumatophores
59. Describe the photosynthetic theory that explains the mechanism of stomata opening and closure.
60. Which structure
    a). separates oxygenated from deoxygenated blood blood in the heart?
    b). prevent backward flow of blood in the pulmonary vein?
    c). transport oxygen and digested food to the heart tissues?
    d). transport digested food from the gut to the liver
    e). initiates heart contraction
61. a).Describe the blood clotting process
    b). list two differences between red blood cell and white blood cells
    c). what are the components of blood
    d). in which form is oxygenated in blood?
62. a). what is agglutination?
    b). list the precautions taken during blood transfusion
    c). how can erythroblastosis foetalis be corrected using the modern technology?
63. Study the diagram below and answer the questions that follows



i) Name the structure labeled A, B, C, D and E
ii) How the structure labeled is A adapted to its function
iii) Explain how tissue fluid is formed

64. People can die when they inhale gases from burning charcoal in poorly ventilated rooms. What compaund is formed in the human body that leads to such deaths?
65. State two protein in the blood which are responsible for determining the blood group of a person
66. A surgeon performing an operation cut two blood vessels by mistake. He noticed that from one of the blood vessels, blood spurt out, while from the other, blood flowed out steadily. Identify giving reasons, each of the blood cut.
67. Give five reasons why transport system is necessary in higher animals
68. Additional of urea to flowering plants so as to grow faster in earthen pot results in the dealth of the plant after a while. What can be the cause?

69. Suggest how life style and diet may cause problems with the circulatory system
70. Briefly describe the process of blood circulation in human beings.
71. Study the figure below and then answer the questions that follow



i) What does the figure above represent?
ii) Identify the blood vessels labeled A, B, C, and D

72. Why does the heart beat faster during exercise?
73. **Write the term from the box that best matches each of the phrases below**

Cardiac cycle, arteriosclerosis, veins, vena cava, pulmonary vein, semi lunar valve, hypertention, hepartic portal vein. Adenoid, tonsillectomy, lymphoma, plasma

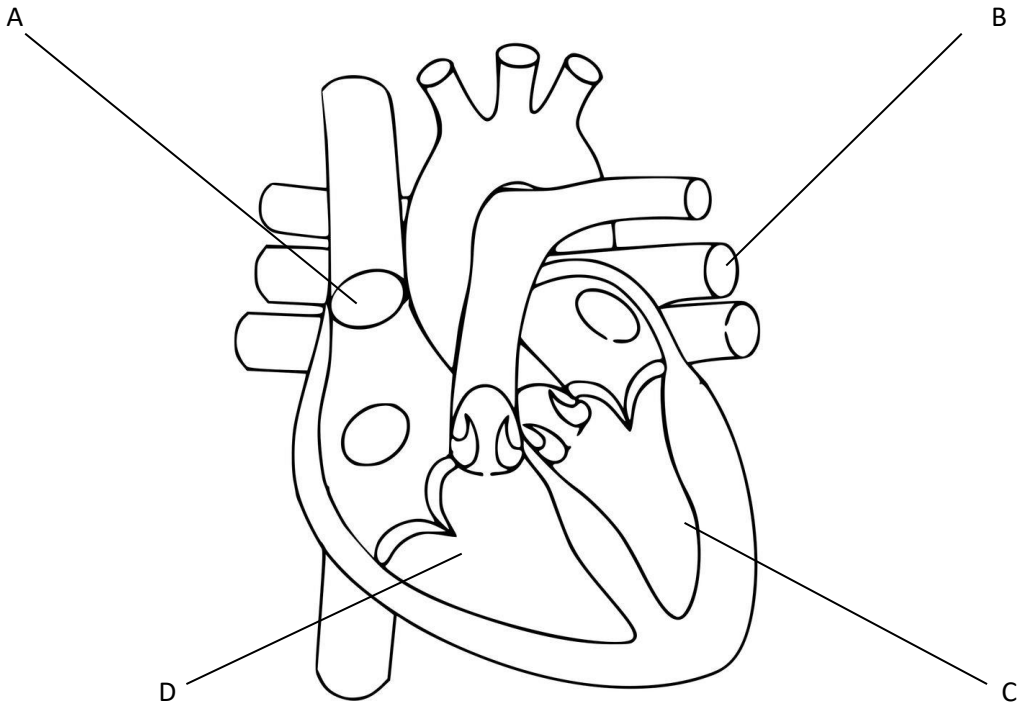
i) A large veins that empties into the left atrium of the heart**……**
ii) A valve between the left atrium and left ventricle of the heart……..
iii) The tube that form a branching system and carry blood the heart……
iv) It carry digested food from the small intestine to the liver……
v) Hardening and narrowing of an artery……
vi) A disorder in which high blood pressure is the primary symptom……..
vii) Fluid part of the blood……
viii) Surgical removal of tonsils……..
ix) A lymphoid organ……..

74. Match the following terms in group A with the phrases that best explain them in group B

LIST A		**LIST B**
i)	anaemia	A. an excessive increase in white blood cells in the bloob
ii)	leukemia	B. formation of a clot in a blood vessel
iii)	haemophilia	C. ability of blood cell to clump together
iv)	haemorrhage	D. Inability of blood to carry enough oxygen
v)	agglutination	E. Inability of blood to clot

vi) allergy	F. Heavy loss of blood
vii) thrombosis	G. overeaction of body to antigens

75. The diagram below represents a section through a mammalian heart.



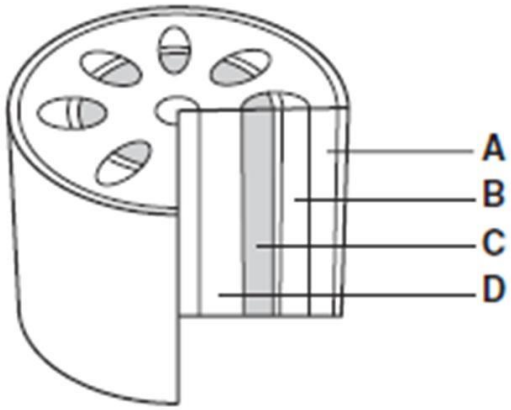
i) Using arrows to indicate the direction of blood flow in and out of the heart
ii) State the difference betweens between blood vessels labbled A and B
iii) Explain why the chamber labbled C has thicker muscular walls than the chamber labeled D
iv) What is the function of peacemaker or Sinoatrial node (SAN)
v) What is the function of chordae tendineae

76. Explain the following
    i. Animal cell burst in pure water and shrivels up in a concentrated solution.
    ii. Plant cell do not burst in pure water
77. Similar types of three animal cells were placed in three different solution namely A, B and C respectively. After some time a cell in solution A burst, a cell in solution B shrank and shriveled and the cell in solution C did not change
    i. Which types of solution were A, B and C
    ii. Explain the reasons for such observation
78. Answer the following questions briefly
    i) Mention three factors that affect the rate of diffusion
    ii) Give two processes in living things which occur by diffusion

iii) Explain how unicellur organisms like amoeba avoid bursting as a result of excessive absorption of water by osmosis

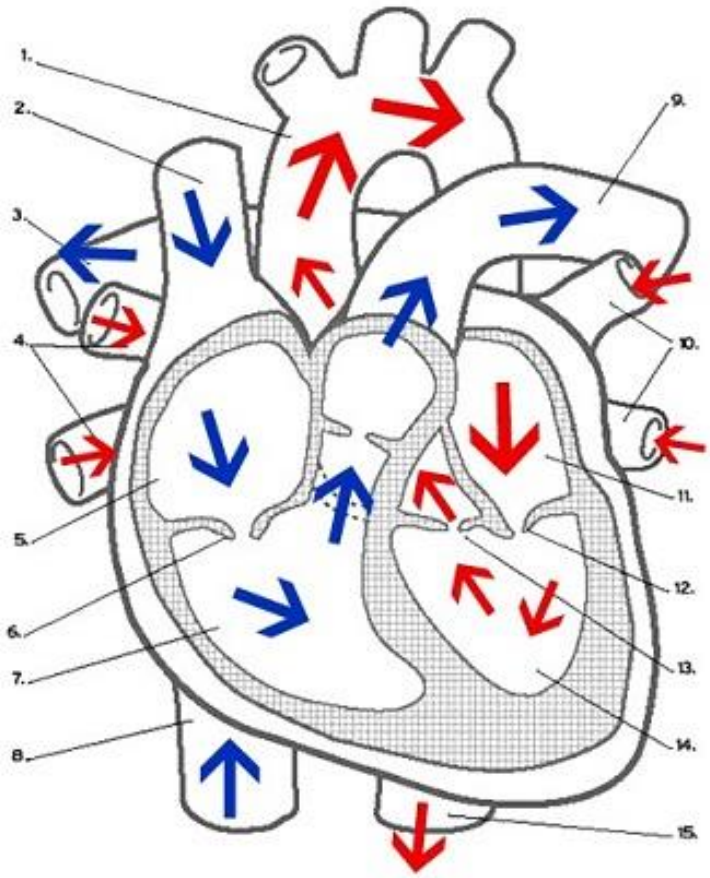
79. Explain how being thick walled muscular and elastic helps arteries to transport blood from the heart to the rest of the body.
80. Arteries do not need valves. Explain
81. Small organism such as amoeba and paramecium do not need the blood circulatory system. Explain

82. Distinguish between the following terms
    i) Diffusion and osmosis
    ii) Hypertonic solution and hypotonic solution
    iii) Plasmolysis and haemolysis
    iv) Turgor pressure and wall pressure
    v) Osmotic pressure and osmotic potential
83. Define the following terms
    i) Mass flow
    ii) Isotonic solution
    iii) Deplasmolysis
    iv) Turgid
    v) Flaccid
84. What are the factors affecting the rate of osmosis
85. Explain the factors that affect the rate of active transport
86. Explain why blood in arteries flow in pulse
87. Give reason why small organisms such as amoeba do not need elaborate gaseous exchange system
88. Explain why the left ventricle has a muscular thick wall than the right ventricles.
89. Describe what would happen to the flow of blood in the left side of the heart. If the bicuspid valves stops to function effectively
90. What is the role of lymph nodes in the human body?
91. Briefly describe the process of blood circulation in human being
92. Explain the meaning of translocation and how it occur
93. Explain how the following contribute to the movement of water up to the xylem vessel
    i. Capillarity
    ii. Root pressure
94. What is blood transfusion?
    b) Explain the considerations to be taken before blood transfusion is carried out.
    c) State two function of mammalian blood other than transport of substances.
95. Define the following terms
    i) Capillarity
    ii) Transpiration pull
    iii) Root pressure
    iv) Transpiration stream
96. Differentiate between cohesion and adhesion force'
97. Study the following diagram and then answer the questions that follow



i) Name the structure labeled A, B, C, and D
ii) Which letters forms the vascular bundles
iii) Is the arrangement of vascular dandles in the diagram above occur in monocotyledone stem or dicotyledone stem? Give reason to support your answer.

98. What is the average resting rate of the human heart in beats per minute?
99. State two factor that decrease heart rate and one factor that increases it
100. The diagram shows a vertical section through the human heart

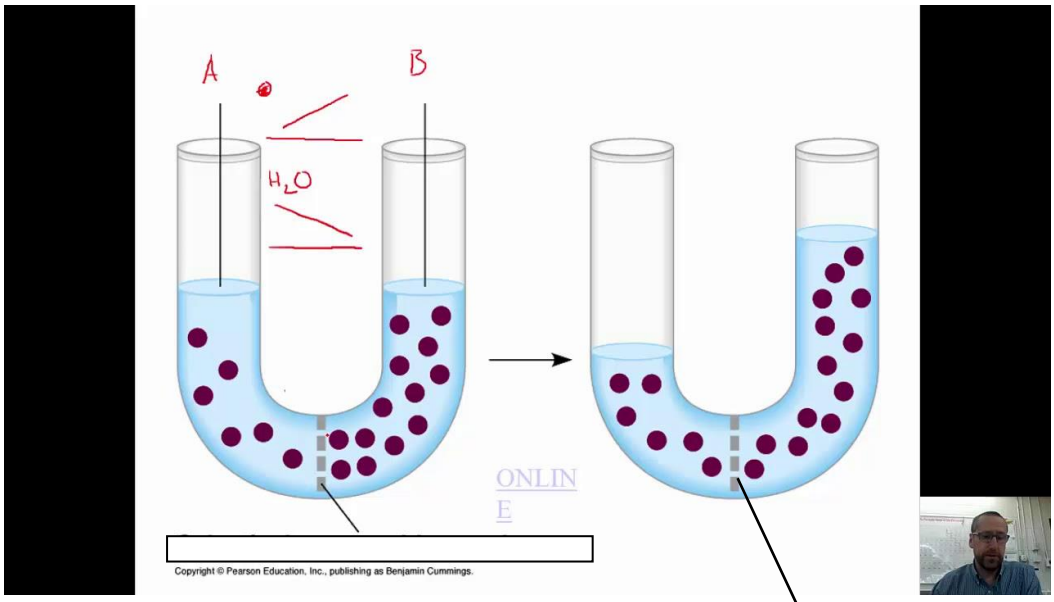


i) Name the parts labeled 1-15
ii) To where does 9 carry blood
iii) What is the function of 12
iv) Name the artery that supply the heart muscles with blood
v) Name the structure that separate the right side and the left side of the heart…….

101. Answer the following questions briefly;

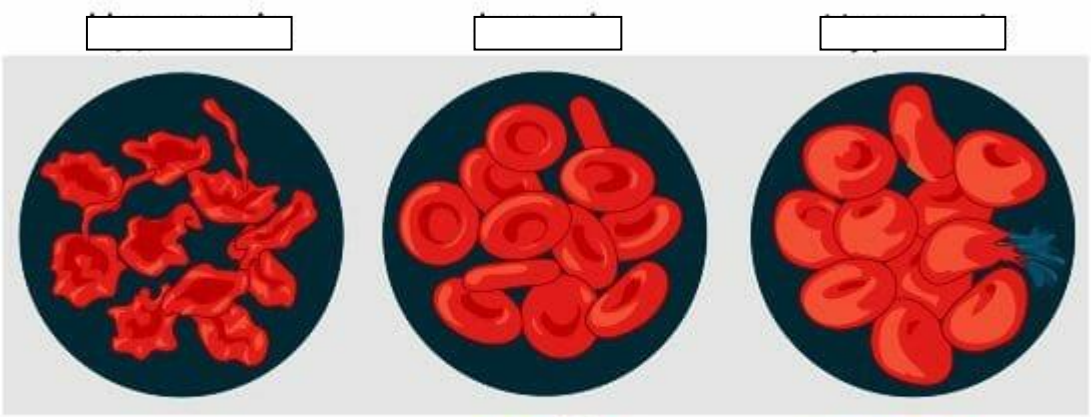
a) Explain four envronmental and plant factors that affect the rate of transpiration.
b) Mention and explain factors that facilitate the water uptake in plants
c) State the role of the following in photosynthesis
    i) Water
    ii) Sunlight
    iii) Carbondioxide

102. In an investigation of a certain physiological process. Students set up apparatus as illustrated bellow



a) Name the physiological process being investigated
b) Account for the observation made at the end of the experment
c) State the likely identity of G
d) Identify the solution labbled A and B

103. Study the diagram below and answer the questions that follows



i) What type of solution are A, B and C
ii) Explain the biological process that has taken place in A and C
iii) What would happen if a plant cell is placed in solution A and C

iv) Explain why amoeba can successful survive in solution C

104. Explain the factors that affect the rate of active transport

105. Explain what would happen if:

a) Spleen and tonsils are removed from the body

b) Capillary had thick walls

c) Left ventricle had thin walls

106. Explain each of the following physiological observation:

a) Sportsmen release little concentrated urine at the end of a streneous exercise

b) A rabbit has high oxygen demand than a camel

107. State the role of each of the following in the mammalian respiratory system

a) Mucus

b) Cartilage ring

c) Epiglottis

108. Explain why

a) One can swallow food while upside down?

b) Digestion of starch does not continue in the stomach?

c) Food in the duodenum is alkaline?

d) One is adviced to eat rouphages although they do not have any nutritional?

109. Draw a well labeled diagram of a villus found in the digestive system

110. Study the following table and answer the questions that follow

Substance	Transported by blood	
	From	To
Oxygen	M	Whole body
N	Liver	Kidneys
P	Intestine	Whole body

i) Name the letter M, N and P

111. Name the digestive juice produced by the liver and state the content of that juice

112. Why a person with blood group AB^- not always considered as a universal recipient

113. Explain why cell turgidity is necessary in plants?

114. Explain why it is not healthier to sleep in a closed room with many potted plants?

115. Explain why it is dangerous to sleep in a poorly ventilated room with a charcoal burner on?

116. Explain why blood is termed as tissue although it is fluid in nature

117. Differentiate between the following terms

118. Name the substance made of the following nutrients that are involved in blood clotting

i) Protein

ii) Vitamin

iii) Enzyme

iv) Mineral element

119. Protein are large molecules made up of long chains of amino acid joined together through a bond called……

120. State the main rple of the following minerals in plant
   i) Magnesium
   ii) nitrogen

121. What is a tissue?
   a) Name three animal and plant tissues
   b) State the structural difference between the cell wall and the cell membrane
   c) Describe the function of blood plasma

122. Explain the function of the following parts of a compound microscope
   a) Stage
   b) Eye piece
   c) Slide
   d) Dody tube
   e) Revolving nosepeace

123. Answer the following questions briefly
   a) Explain four environmental and plant factors that affect the rate of transpiration
   b) Mention and explain factors that facilitate the water uptake in plants

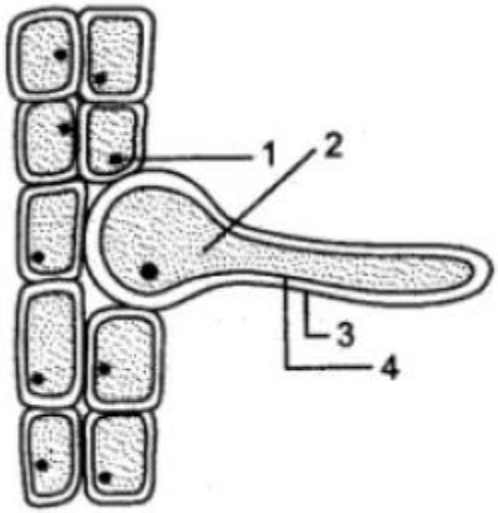
124. State the role of the following in photosynthesis
   a) Water
   b) Sunlight
   c) Carbon dioxide

125. Matching item question

LIST A		**LIST B**
i)	Continuous column of water from the roots to the leaves	A. Osmosis
ii)	Loss of water from the stems in form of water droplets	B. Diffusion gradient
iii)	Transport of food substances from the leaves to other part of the plant	C. Semi-permeable membrane
iv)	Solution with equal concentration as surrounding regions	D. Hypotonic solution
v)	The process that occur when plant cell gain water and burst	E. Isotonic solution
vi)	Prevent back flow of blood into left ventricle	F. Mass flow
vii)	The clumping together of blood	G. Active transport
viii)	The hardening of arteries	H. Translocation

ix) Movement of fluid in vessels in large quantities	I. Transport
x) The difference in concentration of molecules between two regions	J. Guttation
	K. Transpiration
	L. Bicuspid valve
	M. Tricuspid valve
	N. Semi lunar valve
	O. Thrombosis
	P. Arteriosclerosis
	Q. Haemolysis
	R. Crenation
	S. Transpiration stream
	T. Transpiration pull

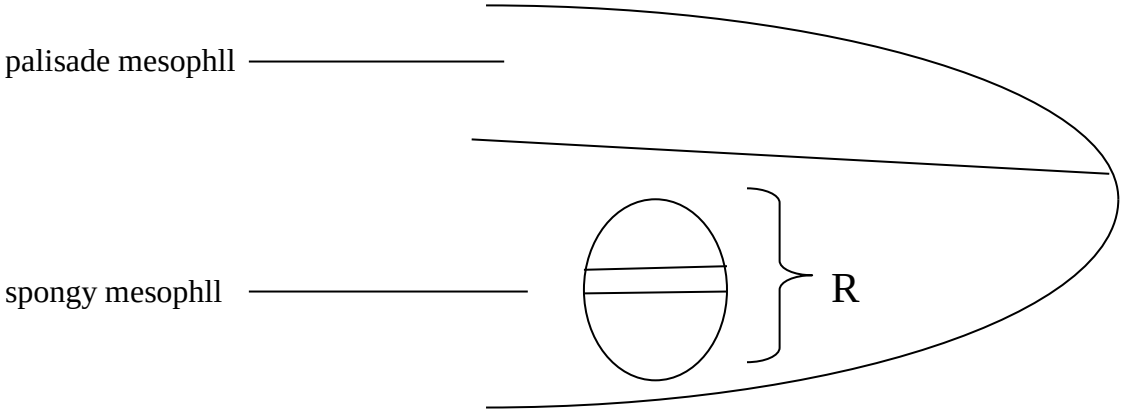
126. The diagram below shows part of plant root



a) Name the parts labeled 1, 2, 3 and 4
b) What is the role of the structure labeled 1
c) Name the process by which mineral salts enters into the plants
d) State two ways in which xylem is adapted to its function

e) Explain how water moves from the soil until it reaches vascular bundles
f) Name two forces involved in water uptake in the cell above
g) List two factors that affect the rate of active transport

127. The following diagram show a tissue plan of a vertical section through part of a leaf



a) Identify with a letter X the position of the xylem and identify with a letter P the position of the phloem
b) Name structure R
c) Explain why large multicellular plants need a transport system

128. Translocation occur through the sieve tube elements by ……..1……..sucrose is loaded into the phloem at regions of the plant kown as…….2…….. this mechanism is ……..3…… the additional of sucrose ……4…… the water potential of sieve element sap. This causes water to enter from surrounding tissue by ……5……. which in turn increases the ……6…… of the sap

	1	2	3	4	5	6
A	Active transport	Sources	Active	Rises	Osmosis	Concentration
B	Mass flow	Sources	Active	Lowers	Active transport	Pressure
C	Mass flow	Sinks	Passive	Rises	Diffusion	Concentration
D	Mass flow	Sources	Active	Lowers	Osmosis	Pressure

What is the correct answer **{ }**

129. Suggest why it beneficial to the plants for the carbohydrates to be transferred throughout the plant in the form of sucrose rather than as an alternative carbohydrate
130. How is transport in the phloem similar to and different from transport in the xylem?
131. What makes young herbaceous plant remain upright?
132. Explain why xylem vessels have no cytoplasm and nucleus?
133. Explain why xylem is mechanical tissue
134. Name the
a) Materials that strengthen xylem tissue

b) Tissue that is removed when the bark of dicotyledonous plant is ringed

135. Explain how drooping of leaves on a hot sunny day is advantageous to plant?

136. What is the role of vascular bundles in plant nutrition?

137. Suggest the reason for the following

a) In tomatoes plants, drops of water are seen along leaf margins in the morning

b) Farmers remove leaves of banana plant before planting

138. Three potato pieces of equal weight were left in three types of solutions (A,B and C) overnight. The weight change of potato pieces

	Before putting in the solution(weight of potatoes)	**After putting in the solution (weight of potatoes)**
Solution A	2gm	1.5gm
Solution B	2gm	2gm
Solution C	2gm	2.5gm

a) Identify the solution A and C

b) Discuss the reason for not having any change in the pieces put in solution B

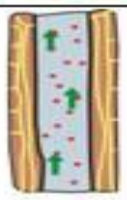
139. In a classroom experiment, teacher placed splitted colacasia one each in two beaker A and B containing different solutions. After 30 minutes the following changes were observed as shown below. By observing the changes identify the solutions and explain the reasons for that changes

140. In most woody trees epidermis breaks to form a lens shaped opening. Name this opening that permit gaseous exchange

141. In the early morning droplets of water can be found at the tip of grass leaves, name the phenomenon. Can you give an explanation for this phenomenon

142. a) name two tissues which are thickened with lignin

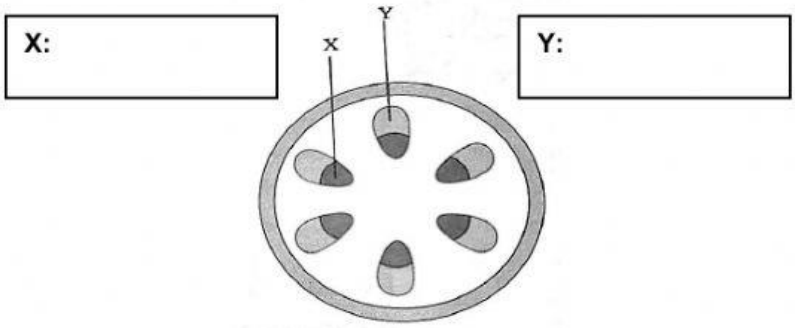
143. matching item question

Column A		Column B	
(A)		(P)	White blood cells
(B)		(Q)	Blood platelets
(C)		(R)	Red blood cells
(D)		(S)	Capillaries
(E)		(T)	Phloem
(F)		(U)	Xylem
(G)		(V)	Stethoscope

A	B	C	D	E	F	G

3.4 Transport system in plants

1. Diagram below shows a cross-section of the celery stem.

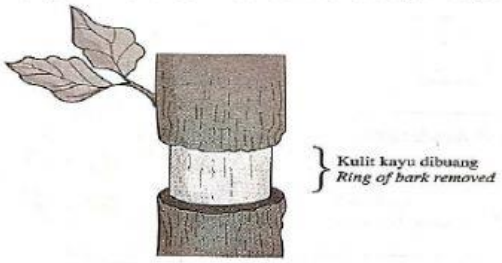


(i) Label X and Y in the diagram above.

(ii) The function of Y is to transport _____ produced by plants during _____ to other parts of the plant.

(iii) Water moves in the stem through the _____ tubes from the roots to the _____ to carry out _____.

2. Diagram below shows an experiment carried out to study the pathway of food in plants.



(i) What observation can be made in the experiment ?

The part above the ring becomes _____.

(ii) Explain your observation.

- Food transported by the _____ accumulates here.
- But there are no _____ tissues to transport the food down.

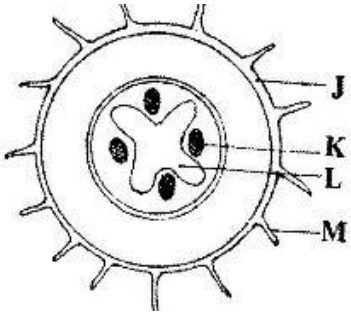
(iii) What will happen to the plant after a long period of time?

The plant will _____.

(iv) Conclusion : The _____ transports _____ from the _____ to all parts of the plant.

LIVEWORKSHEET

144. Study the diagram below and then answer the questions that follows



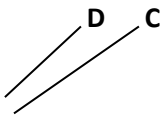
i) Name the structures labeled J, K, L and M
ii) Give one function of the structure K, L and M
iii) From which plant organ was the section obtained? Give two reasons for your answer
iv) Is a diagram derived from a monocot or dicot? Give reason to support your answer

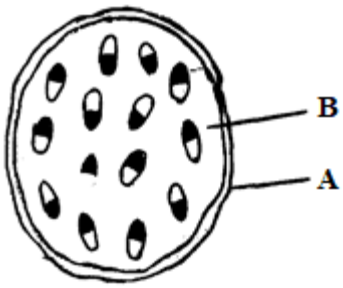
145. Explain with a suitable example, how some parts of the plant can act as both a source and a sink

146. Match the item in list A with the item in list B by writing the letter of the correct responses

LIST A	LIST B
i) Prevent clotting of blood in our body	A. Fibrinogen
ii) Soluble protein	B. Plasma
iii) Occur when blood with similar antigens and antibodies are mixed	C. Blood group AB
iv) Fight pathogens through engulfing	D. Fibrin
v) Rapture of blood vessel leading to brain	E. Leucocytes
	F. Thromboplastin, vitamin k, calcium
	G. Agglutination
	H. Stroke
	I. Heparin
	J. Phagocytes
	K. Compatibility
	L. Thrombin
	M. Incompatibility
	N. Clot
	O. Blood group O

147. Study the diagram below and then answer the questions that follow

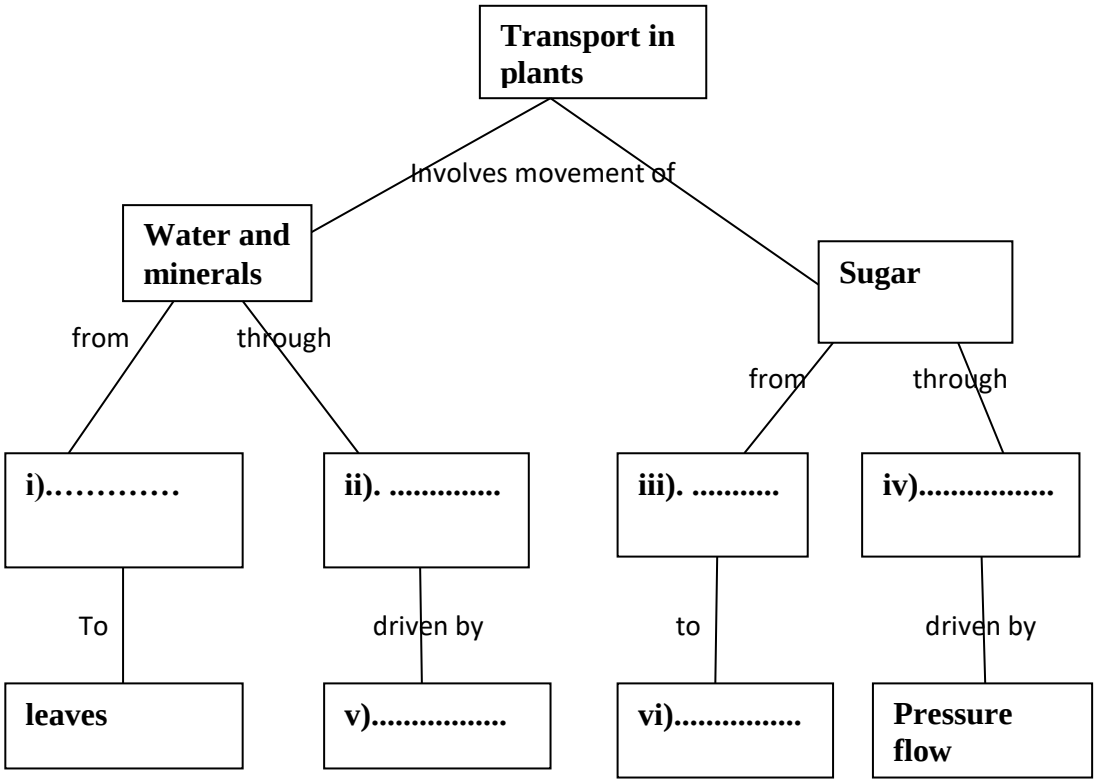




i) Name the structure labeled A, B, C, and D

ii) Is a diagram derived in monocotyledon or dicotyledonous? Give reason to support your answer

148. Fill in the blanks in this concept map to help tie together key concepts concerning transport in plants.



149. State two reasons why it is important for a plants to carry out transpiration

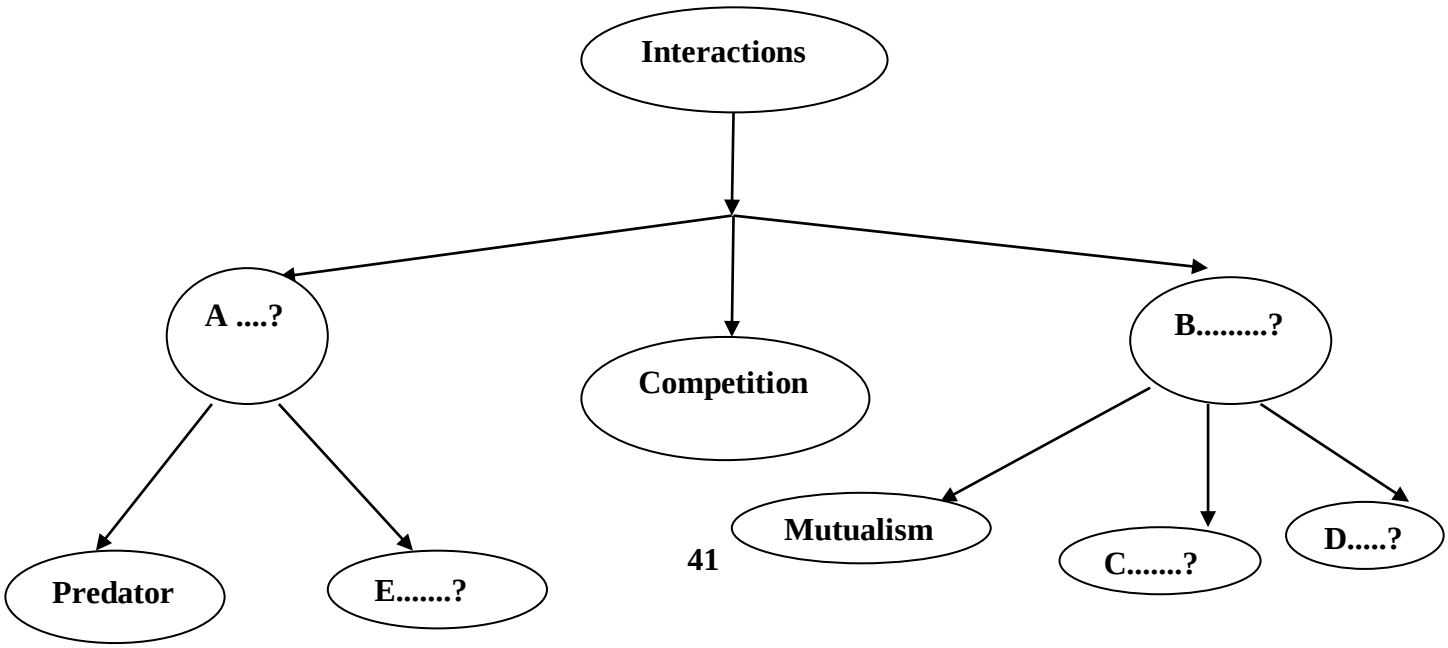
150. Draw and label diagram to show;

i) Movement of water through the root cells to the xylem

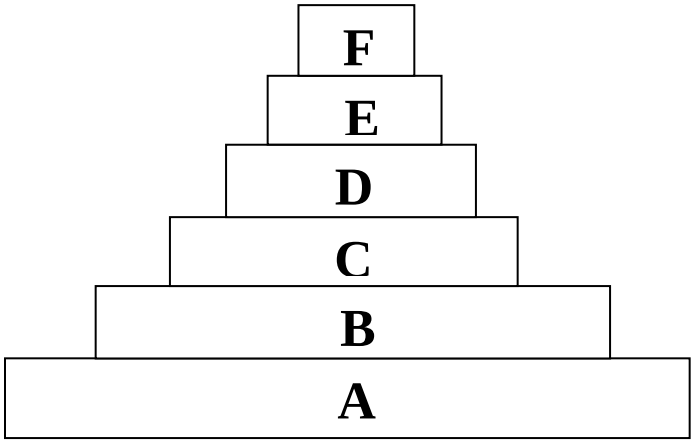
ii) The structure of the phloem

BALANCE OF NATURE

1. Why are food webs a more realistic way of portraying ecosystems than food chain?
2. What is the source of energy for most ecosystems?
3. Name and define four types of consumers.
4. How does the amount of available energy change from one level of an energy pyramid to the next level up?
5. Name the three energy roles of organisms in an ecosystem. How does each type of organism obtain energy?\
6. Name and define three major processes that occur during the water cycle
7. Explain the role of plants in the carbon cycle
8. How producers take in carbondioxide from the atmosphere?
9. How is oxygen returned to the envronment?
10. What change of state occurs when water from the surface of the ocean enters the atmosphere as water vapour?
11. Name five examples of leguminous plants
12. How nitrogen is returned to the environment?
13. What is the role of lighting during nitrogen cycle.
14. What do herbivores and carnivores have in common?
15. Name two biotic and two abiotic factors you might find in a forest ecosystem.
16. Explain how sunlight is used by plants and algae. How is this process important to other living things in an ecosystem?
17. What are two adaptations that prey organism have developed to protect themselves? Describe how each adaptation protects the organism.
18. Copy the concept map about interaction among organism onto a separate sheet of paper. Complete the concept map and add a tittle

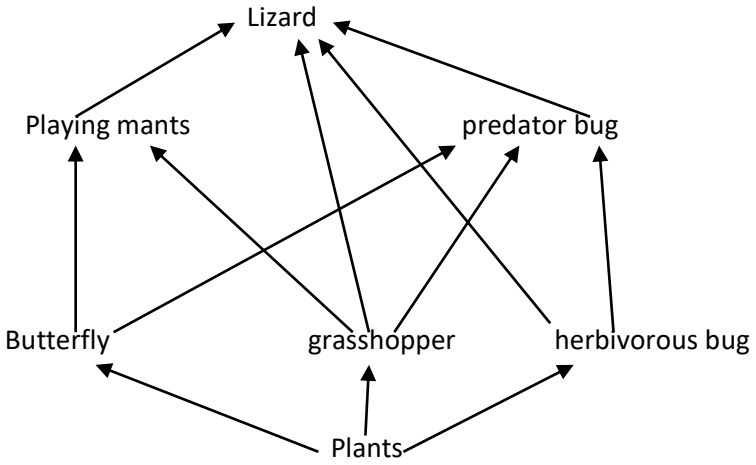


19. The diagram below represent the different trophic level in the ecosystem. Study it and answer the questions that follow



a) Mention a trophic level represented by each letter in the diagram A, B, C, D, E and F
b) Why do the trophic level form a pyramid shape?
c) State the role of the organism in the trophic level represented by letter A and F

20. The diagram below represents a feeding relationship in an ecosystem.



a) What is the name of the feeding relationship represented above?
b) What does the sequence plant ⟶ grasshopper ⟶ lizard represent?
c) Name the organisms which are

i. Primary consumers
ii. Primary producers
iii. Secondary consumers

d). Construct five food chain from the feeding relationship above

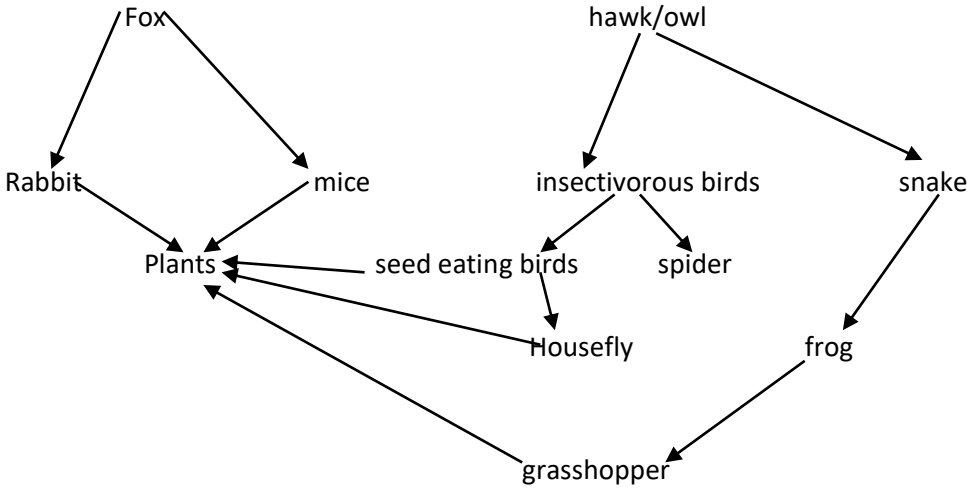
21. An ecologist carried out a survey to estimate the number of organisms in a certain dam. The following table shows the records of the survey

Organisms	**Estimated number**
Microscopic algae	450,000
Small fish	290
Mosquito larvae	5,500
Crocodiles	10
large fish	160

a) Which of the above organisms are called
   i. Producers?
   ii. Primary consumers?
   iii. Consumer of the last order?
b) Which organism is likely to get finished first in the dam? Give a reason to support your answer.
c) Draw a possible food web that shows the energy flow in the dam.

21. Briefly discuss the role played by each of the following in an ecosystem
   a) Green plants
   b) Bacteria and fungi

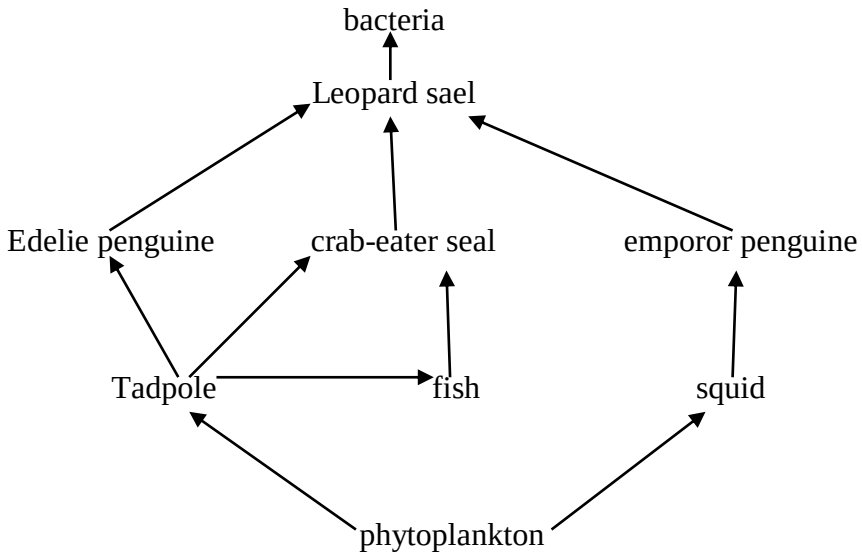
22. Study the diagram below and answer the questions that follow



a) Identify what is wrong in the figure
b) Re-draw the above diagram correctly
c) What trophic level in the feeding relationship is missing
d) What type of feeding relationship is represented by the diagram

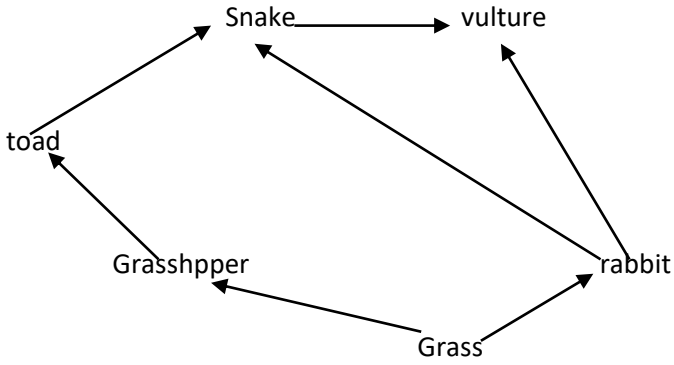
e) What will happen to the population of the hawks if insectivorous birds are removed from the ecosystem
f) Identify the quaternary consumers from from the feeding relationship
g) Identify five primary consumers from the feeding relationship

23. Study the diagram below and answer the questions that follow



a) Identify the type of ecosystem represented by the diagram
b) Identify the type of feeding relationship
c) Identify three secondary consumers from the feeding relationship above
d) What is the role played by phytoplankton and bacteria in an ecosystem

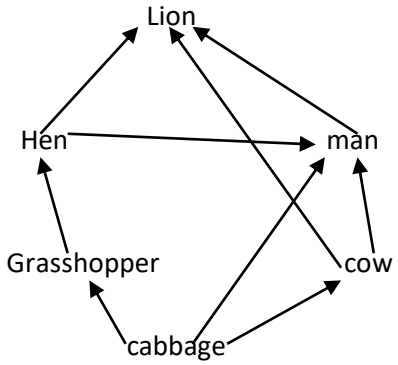
24. Study the following food web then answer the questions that follow



a) What happen if
   i. All grass withered and died

ii. All the snakes were killed
iii. The rabbit doubled in number
iv. The number of toads multiplied

25. Study the figure x bellow then answer the questions that follows



i. Name the feeding relationship represented by the figure x
ii. Predict the missing group in the figure
iii. Construct five food chain from the feeding relationship

26. Give two examples of each of the following group of organism in the trophic level

	Producers	**Primary consumers**	**decomposers**
i.			
ii.			

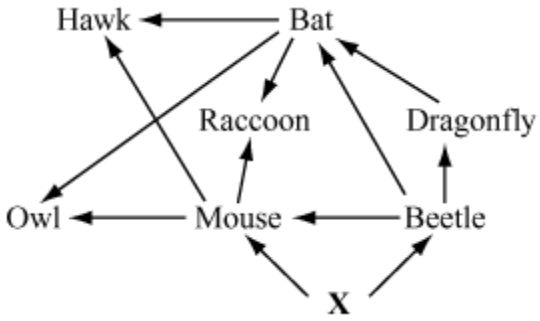
b) Construct a food web using the following organisms shrubs, lion, gazelle,hyne, wildebeest and fungi
I. Name the organism which are producer
II. What is the role of shrubs in your constructed food web

27. Briefly explain the following terms
i) Trophic level
ii) Food chain
iii) Food web
iv) Predation
v) Decomposers

28. Construct a feeding relationship which accomodates the following organisms. Grass, goat sheep, shrubs and man
1) With examples state the meaning of **abiotic** and **biotic** factors of the envronment
2) Differentiate the term food chain from trophic level
3) Construct a food chain by using organisms named in the following list. Grass, fungi, lion and giraffe

29. Give reasons which account for the pyramidal energy transfer diagrams in any ecosystem

30. Study the diagram below and then answer the questions that follows



a. Identify the feeding relationship represented by the diagram above?
b. Identify the missing trophic level represented by letter X and state its role in an ecosystem
c. Identify the secondary consumers from the feeding relationship
d. Identify the final trophic level missing in the figure above?
e. Identify two longest food chains from the feeding relationship above

31. Briefly explain the following terms:

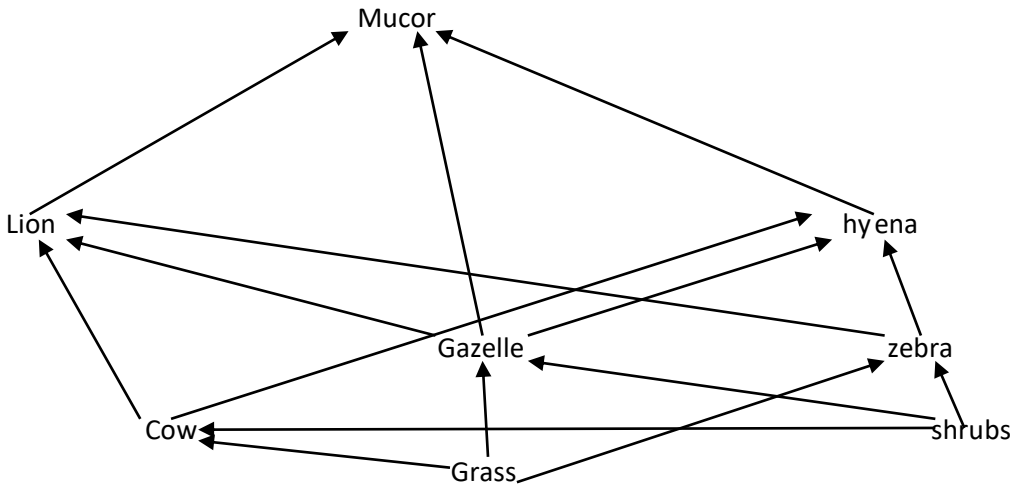
i) Trophic level
ii) Food chain food
iii) Food web
iv) Camouflage
v) Nitrogen fixation

32. With examples briefly explain how the following interaction of living organism take place

i) Predation
ii) Parasitism
iii) Competition

33. What is the importance of recycling of resources?

34. The figure below illustrate the relationship in an cosystem. The arrow means eaten by a diagram



a. i). What is the name given to the feeding relationship above?
b. Construct three food chain from the feeding relationship above
c. Name the organisms which are primary consumers
d. What is the role of mucor in the pattern above?

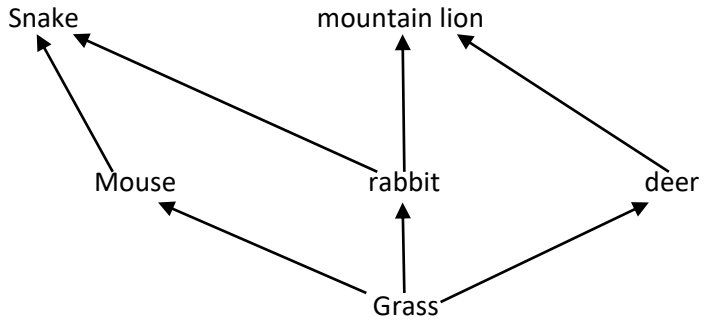
35. Name the carbon cycle processes which are likely to affect the oxygen concentration in the atmosphere

36. How are food chain and food web different?

37. Construct two food chains and food webs using the following organisms
Gazelle, zebra, shrubs, cheetah, rhizopus, grasses, lion, and buffalo

38. Discuss the role of nitrogen fixing bacteria in the nitrogen cycle.

39. Use the diagram of a food web below to answer the questions that follow.



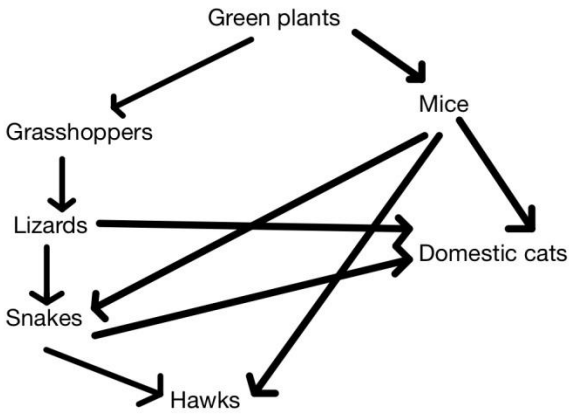
i) Identify the energy role of each organism in this food web. Specify whether they are first trophic level, second trophic level or third trophic level
ii) Which level of the food web contain the greatest amount of available energy?
iii) If a disease were to kill most of the rabbits in this area, predict how the snakes, deer and mountain lions would be affected.

40. How are the desert biome and tundra biome similar? How are they different?

41. Polar bears are very well adapted to life around the arctic ocean. Their white fur camouflages them in the snow. They can swim and hunt in very cold water. Is the distribution of polar bears limited by physical barriers, competition or climate? Explain your answer.

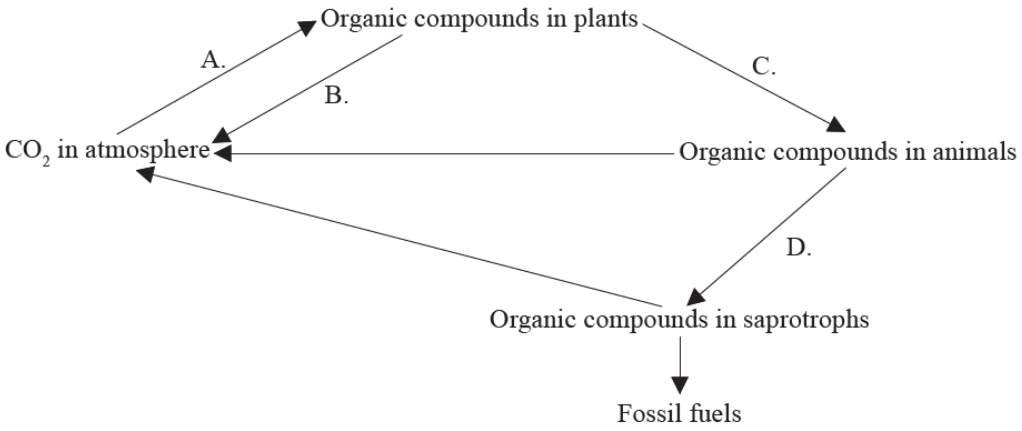
42. Write a description of your niche in the environment. Include details about your habitat, including both biotic and abiotic factors around you. Be sure to describe your feeding habits as well as any interactions you have with members of other species.

43. Identify figure X and then answer the questions that follows



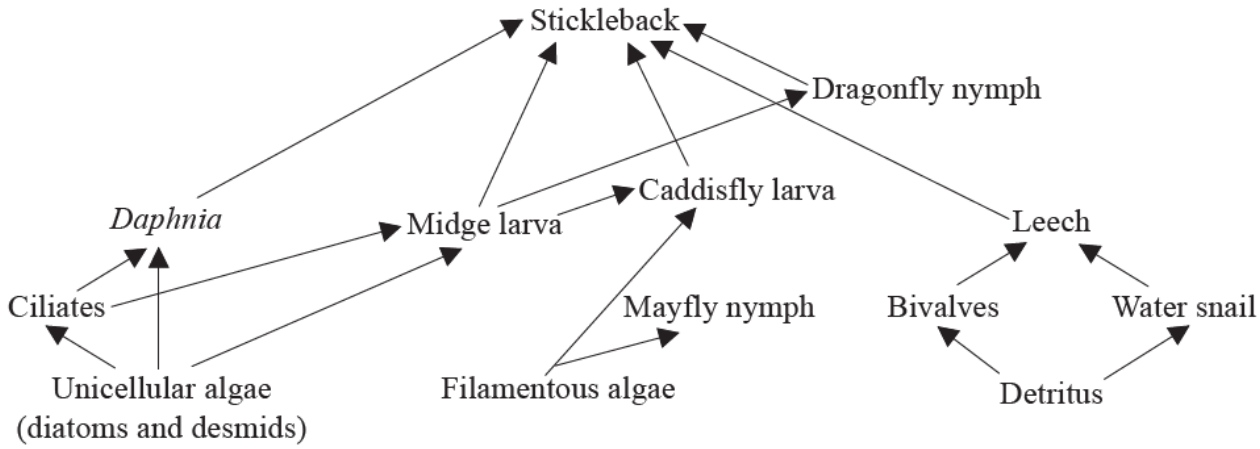
i) Identify the feeding relationship above
ii) Identify the tertially consumers from the feeding relationship
iii) What will happen to the population of mice if domestic cats are doubled
iv) Identify three food chain from the feeding relationship above
v) What is the role of green plants in the feeding relationship
vi) What type of ecosystem is represented by the figure above

44. Study the figure below and then answer the questions that follows



i) What process is taking place above
ii) Identify letter A, B, C and D
iii) Identify the group of organisms from the trophic level that make this process possible

45. Study the figure below and then answer the questions that follows



i) What feeding relationship is represented by the figure
ii) Identify two organisms which occupy the first trophic level
iii) Identify the four secondary consumers
iv) What type of ecosystem is represented by the figure

46. Write **TRUE** or **FALSE**

i) An organism that eats the remains of dead organisms is called a herbivores.....
ii) The step of water cycle in which liquid water changes to water vapour is evaporation.....
iii) Precipitation and temperature are the two major abiotic factors that determine what types of plants can grow in an area.....
iv) The land biome that gets the largest average amount of precipitation is the tropical grassland biome.....
v) In ecosystem, herbivores feeds on primary consumers.....
vi) Grass is an example of abiotic factor in a habitat.....

vii) The struggle between organisms for limited resources is called mutualism.....

viii) Parasite lives on or inside its predator.....

ix) An organism's specific role in its habitat is called its niche.....

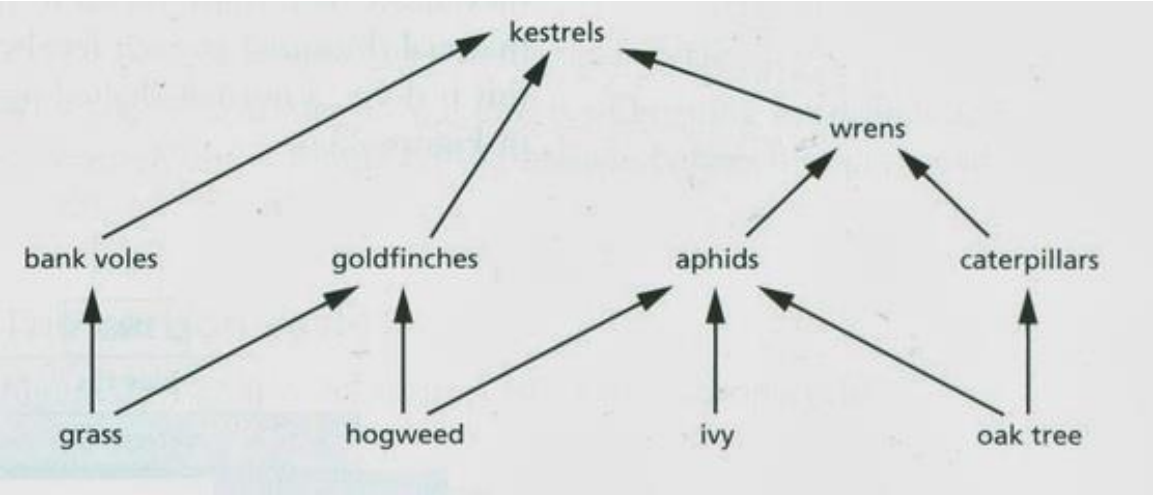
x) Shrubs feed on decomposers.....

xi) A group of interdependent living in an environment is called a community.....

xii) Green plants are decomposers.....

47. What organisms are the producer in most marine ecosystem

48. Study the figure below and then answer the questions that follow



i) Identify the type of feeding relationship represented by the figure

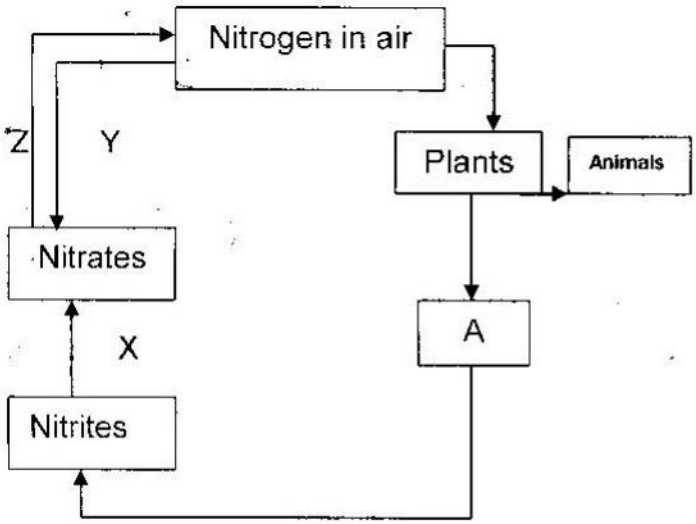
ii) Identify four producers from the feeding relationship above

iii) Identify four primary consumers

iv) What happen to the population of caterpillars if wrens are omitted in the ecosystem

49. Name and define each of the three energy roles organisms can play in an ecosystem.

50. Study the diagram below and then answer the questions that follow



a. Identify the process taking place in the figure above

b. Identify letter A, X, Y and Z
c. Name a group of organism that can carry out Y
d. Name two processes that are involved in X

51. Construct a food chain by using the following organisms. Grass, snake, grasshopper and frog

52. Define the term food chain and food web as used in biology

53. What is the meaning of the following terms

i) Trophic level.....
ii) Food chain.....
iii) Construct a food chain using the following organisms. Sheep, lion, maize plant and bacteria
iv) Explain the significance of food chain and food web in the real life situation (**mention 3**)

54. Match each item in List A with a correct response in L ist B by wrtting its letter bellow the number of the corresponding items provided

LIST A	**LIST B**
i). A basic structural and functional unit of life	A. Abiotic component
ii). Accumulates in muscles during vigorous exercise	B. Biotic component
iii). A part of the cell which control life processes	C. Cell
iv). Part of the cell which gives shape and support of the cell	D. Cell membrane
v). A product of anaerobic respiration in plants	E. Cytoplasm
vi). A result of lack of vitamin D	F. Cell wall
vii). Deficiency of iodine in the body	G. Ecology
viii). Consists of environment and all its interacting components	H. Ecosystem
ix). Soil, rock, weather and water	I.Ethanol
x). The living part of an ecosystem	J. Goitre
	K. Lactic acid
	L. Night blindness
	M. Nucleus
	N. population

	O. Rickets

55. What is natural environment?

i) Explain the importance of the natural environment.

ii) Outline five importance of care and support to people living with HIV/AIDS

56. Match the following items

LIST A	LIST B
i). Interconnected food chains	A. Rhizobium
Ii). The living components of the environment	B. Azobacter
iii). Organism that make organic food molecule from carbon dioxide, water and inorganic raw material	C. Biotic component
iv). A series of organism through which energy is passed in form of food	D. Predation
v). All living and non living things that occur naturally on earth	E. Commensalism
vi). Interaction that is beneficial to all organism involved	F. Food web
vii). Organisms occupying the final trophic level	G. Producers
viii). Interaction in which one organism captures kill, and feeds on another	H. Neutralism
ix). Temperature, wind, soil, water, atmospheric pressure and altitude	I. Water cycle
x). Convert nitrogen gas into nitrates	J. Food chain
	K. Natural environment
	L. Competition
	M. Carbon cycle
	N. Mutualism
	O. Decomposer
	P. Parasitism

57. i) What is food chain?

ii). Below is a list of organisms occupying a certain habitat. Hawk, locust, hen, lizard and wild cat

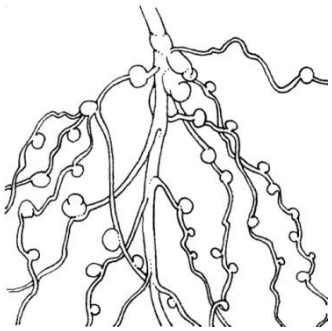
iii). Construct a food web using these organisms

iv). From the food web you have constructed, identify the different food chain

v). Mention two groups of organisms which must be included in the food web to balance the ecosystem

58. Give three reasons which account for the pyramidal energy transfer diagrams in any ecosystem

59. The following is a figure of a plant root. Study the diagram and answer the questions that follow



i) Name a group of plant represented by a diagram

ii) Give any five examples of plant which can be found in a group of plants mentioned above

iii) Name the organism which inhibit the swelling on the root

iv) What is the relationship existing between the plant and the organism mentioned above

v) Name the bacteria which does the following

1) Changes nitrates into nitrites
2) Converts ammonia into nitrites
3) Change nitrites into nitrates

60. Complete each of the following statement by writing the correct answer in the space provided

i) The linear flow of energy and nutrient in the ecosystem is known as.....

ii) The living component of an environment is known as.....

iii) Organisms which rely on other organisms for food in the ecosystem are called.....

iv) A group of interdependent organisms living in an environment is called.....

v) The environment and all its interacting components are called.....

61. Define the following terms

i) Parasite

ii) Host

iii) Biome

iv) Community

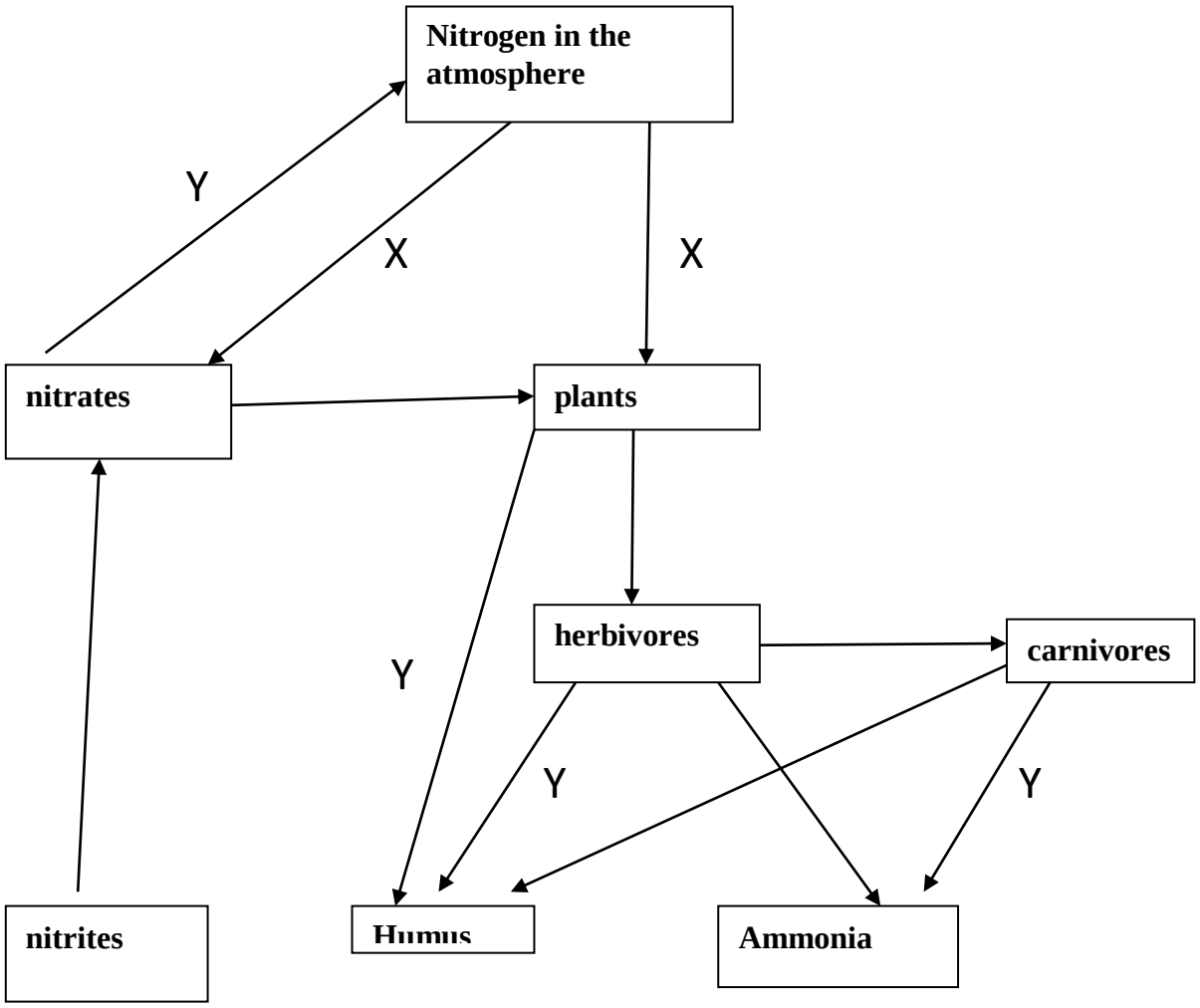
c) Give two examples for each of the following groups of parasitic organisms

i) Endoparasite

ii) ectoparasite

62. state two ways through which nitrogen is made available in plants

63. study the following word diagram and then answer the questions that follow



i) give the term used to describe the events outlined in the diagram
ii) give an examples of herbivore and of a carnivore found in an ecosystem you have studied (not domesticated or farm animals)
iii) name an important group of biomolecules that plants make from nitrates
iv) Y indicate the return of nitrogen to the environment. State one way in which this happen
v) X indicates the change of nitrogen gas to nitrate and other useful compounds. What name is given to this process?
vi) Name a group of organism that can carry out X
vii) Farmers add nitrates as fertilizers to the soil. They are advised not to spread fertilizer if heavy rain is forecast. Why do you think they are given this warning

64. Answer the following questions in relation to the flow of energy through an ecosystem
   i) What is the source of energy for the earth's ecosystem
   ii) Name the process that take place in plants in which this energy is converted to a usable forms
   iii) What substances do plants posses that allow them to carry out this conversion?
   iv) Energy flow along food chains. In the food chain A ⟶ B ⟶ C give an example of each from the organisms that you found in a named ecosystem.

v) Is there more energy available for organism B or C? Explain your answer
vi) A food web can be thought of as a number of interlinked food chains. Using the named organisms A, B,C from (iv) above and three other named organisms, construct a food web that is found in the ecosystem you have studied

Multiple choice
Choose the letter of the best answer.

1. A praire dog, a hawk and a badger all are members of the same
    a) Habitat
    b) Community
    c) Population
    d) Species
2. Which of this relationship is an example of parasitism?
    a) A bird building a nest on a tree plant
    b) A bee pollinating a hibiscus flower
    c) A flea living on a cat's blood
    d) Escherichia coli making vitamin k in your intestine
3. In which type of interaction do both species benefit?
    a) Predation
    b) Commensalism
    c) Mutualism
    d) Parasitism
4. Members of different population cannot compete for
    a) Food
    b) Light
    c) Space
    d) Mates
5. A vulture feeds on dead bodies of animals. A vulture is described as
    a) A carnivore
    b) A scavenger
    c) An omnivore
    d) A decomposer
6. A group of interdependent organisms living in an environment is called
    a) Community
    b) Ecology
    c) Ecosystem
    d) Population
7. The interaction between two species in which both organism benefit is known as.....?
    a) Ectoparasites
    b) Parasitism

c) Commensalism
d) Mutualism

8. Study the following sequence of an organisms. Grass ⟶ rabbit ⟶ wolves ⟶ fleas. The sequence is an example of.....?
   a) Food web
   b) Ecosystem
   c) Pyramid
   d) Food chain
9. One of the characteristics used to identify producers in the ecosystem is.....?
   a) Feeding on ready made food
   b) Growing in fertile soil
   c) Feeding on other organisms
   d) Making their own food
10. Mutual interaction between two species is described by which of the following characteristic
   a) Both live as parasite
   b) Both may be harmed
   c) Both benefit and flourish
   d) One is harmed and the other benefit
11. A place where organism are found is known as.....
   a) Society
   b) Community
   c) Habitat
   d) Niche
12. In the food chain grass ⟶ zebra ⟶ lion. A lion is .....
   a) Primary consumer
   b) Secondary consumer
   c) Tertiary consumer
   d) Producer
13. A term which describe organisms with similar nutritional habit is known as.....
   a) Community
   b) Trophic level
   c) Food chain
   d) Food web
14. Which of the following is not abiotic component of an ecosystem
   a) Atmospheric pressure
   b) Humidity
   c) Rainfall
   d) Decomposers
15. Carbondioxide is reduced in the atmosphere through
   a) Volcanic activities
   b) Burning of organic matter
   c) Respiration

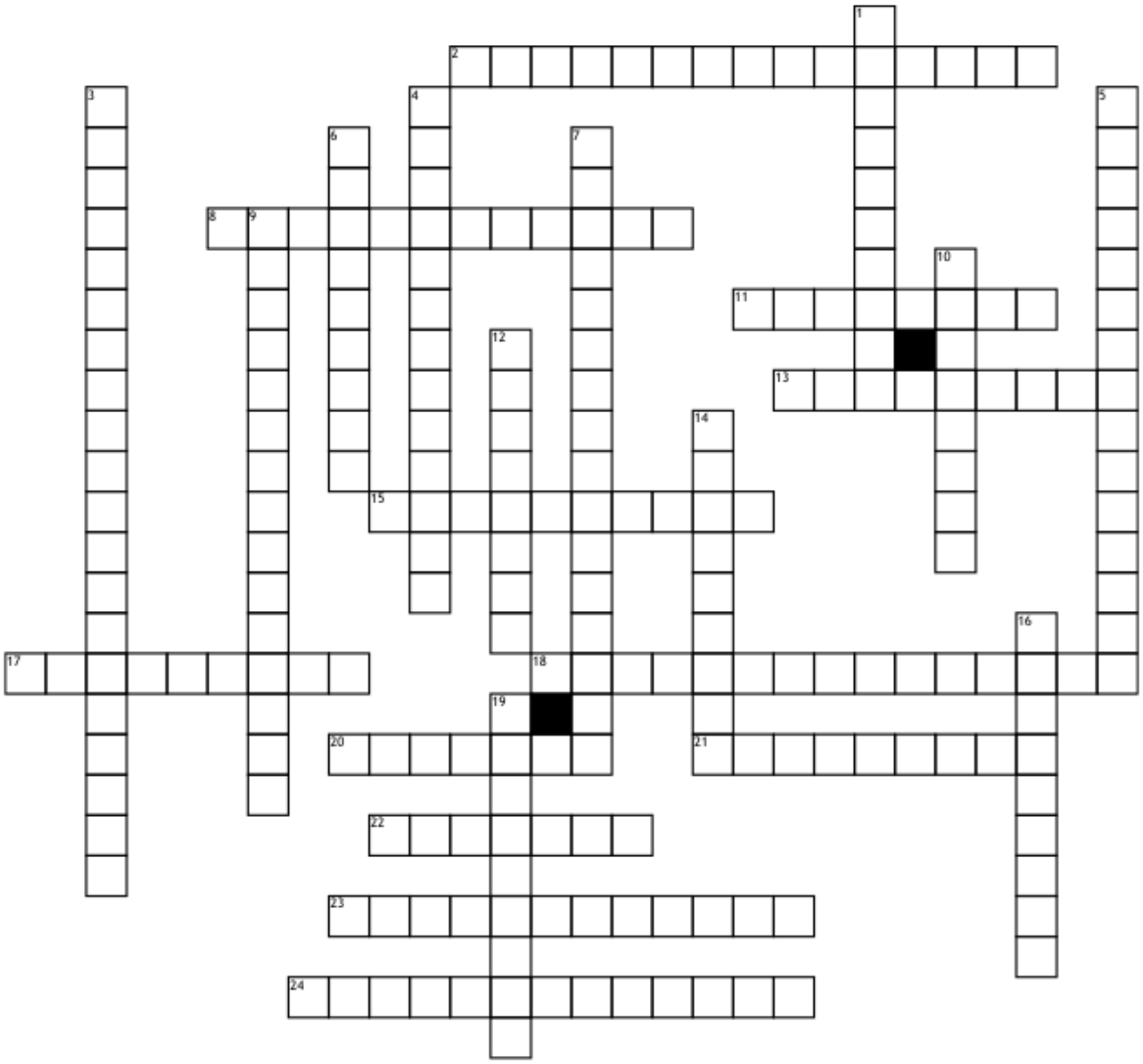
d) Photosynthesis

16. Which of the following apply in a balanced grassland ecosystem?
    a) There are more consumers than producers
    b) Decomposers act on producers only
    c) Producers and consumers are usually in equal numbers
    d) Producers are more numerous than consumers
17. Which of the following groups of organisms is not a producer?
    a) Planktonic algae
    b) Cyanobacteria
    c) Green plants
    d) Fungi
18. In parasitism
    a) Both the parasite and the host benefit
    b) Both the parasite and the host lose
    c) The parasite benefit while the host lose
    d) The parasite loses while the host benefits
19. Light from the sun is never.....
    a) Absorbed by the consumers
    b) Reflected back
    c) Absorbed by the clouds
    d) Absorbed by the producers
20. Wind speed is measured using an instrument known as.....
    a) Wind vane
    b) Windsock
    c) Seechi disc
    d) Anemometer
21. A balanced aquarium contains fish, an aquatic plant and a snail. If the fish were removed, which of the following would probably occur first?
    a) Photosynthesis would increase
    b) Water would become more acidic
    c) Plants would die
    d) Oxygen content of the water would increase
22. Man needs food, shelter. Clothing, oxygen and energy, all of which comes from plants. It can therefore be said that
    a) Man and plants are interdependent
    b) Man can be independent of plants
    c) Through civilization and industrialization man will exhaust planys
    d) None of the above statement is applicable
23. A diagram that shows how much energy is available at each feeding level in an ecosystem
    a) Food chain
    b) Succession
    c) Food web
    d) Energy pyramid

24. Which of the following organisms are typical decomposers
    a) Grasses and ferns
    b) Bacteria and mushroom
    c) Mice and deer
    d) Lions and snakes
25. Which of the following is not recycled in an ecosystem
    a) Carbon
    b) Water
    c) Nitrogen
    d) Energy
26. Organism may be dispersed in all the following ways except by
    a) Wind
    b) Temperature
    c) Water
    d) Other organism
27. Much of the Canada is covered in pine and spruce forests. The winter is cold and long what is this biome
    a) Tundra
    b) Deciduous forest
    c) Boreal forest
    d) Grassland

Name: _____ Date: _____ Period: _____

ECOLOGY



Across

2. Non-native species disrupting and replacing native species
8. an animal that feeds on dead organic material
11. An organism that generally obtains food by feeding on other organisms
13. an organism that eats only meat
15. the amount of organisms of the same species in an area
17. one is predator, one is prey
18. A factor present in an environment that controls a process, particularly the growth, abundance or distribution of a population of organisms in an ecosystem.
20. the scientific analysis and study of interactions among organisms and their environment
21. both benefits
22. A graphical model showing the interconnecting food chains in an ecological community
23. A position in a food chain or Ecological Pyramid occupied by a group of organisms with similar feeding mode.
24. non living factors that effect an organism

Down

1. an organism, especially a soil bacterium, fungus, or invertebrate, that decomposes organic material.
3. The progressive replacement of one dominant type of species or community by another in an ecosystem until a stable climax community is established.
4. the increasing concentration of toxic substances within each successive link in the food chain.
5. a species that has a disproportionately large effect on its environment relative to its abundance
6. an organism that eats only plants
7. the number of people, other living organisms, or crops
9. The ecological role and space that an organism fills in an ecosystem.
10. an organism that eats plants and animals
12. an organism that makes its own food
14. a biological community of interacting organisms and their physical environment
16. a group of interdependent organisms of different species growing or living together in a specified habitat
19. to represent the flow of food energy and the feeding relationships between organisms

Using the following food chain, to answer questions a-c below.

Grass ⟶ Rabbit ⟶ fox

a. What type of organism is the producer? _____

b. Which animal is a herbivore or primary consumer? _____

c. What would happen to the population of rabbits, if the population of foxes increased (got bigger)? Why?

_____

_____

d. what does the arrow mean in the food chain

2. Construct a food chain. Label the producer, primary consumer, secondary consumer, and tertiary consumer.

An owl eats a snake, the snake eats a squirrel, the squirrel ate a nut.

3. Using the food chain from question 2, construct an energy pyramid.

a. Which animal in the energy pyramid you created has the most amount of available energy?

_____

b. Which animal in the energy pyramid you created has the least amount of available energy?

_____

4. Use the food web below to answer questions a-f below.

a. What is the producer? _____

b. What are the primary consumers?

_____

c. What are the secondary consumers? _____

d. What are the tertiary consumers?

_____

_____

e. What is the top predator? _____

f. Construct one food chain that you see on the food web.

5. Using your food chain above, construct an energy pyramid.

Food Webs and Food Chains Worksheet

1 Look at this food chain.

lettuce greenfly ladybird thrush cat

a What does the arrow mean in a food chain?

b Name the producer in the food chain

c Name the third trophic level in the food chain.

d Name the tertiary consumer in the food chain.

e What is the ultimate source of energy that drives the food chain? _____

2. Look at these food chains.

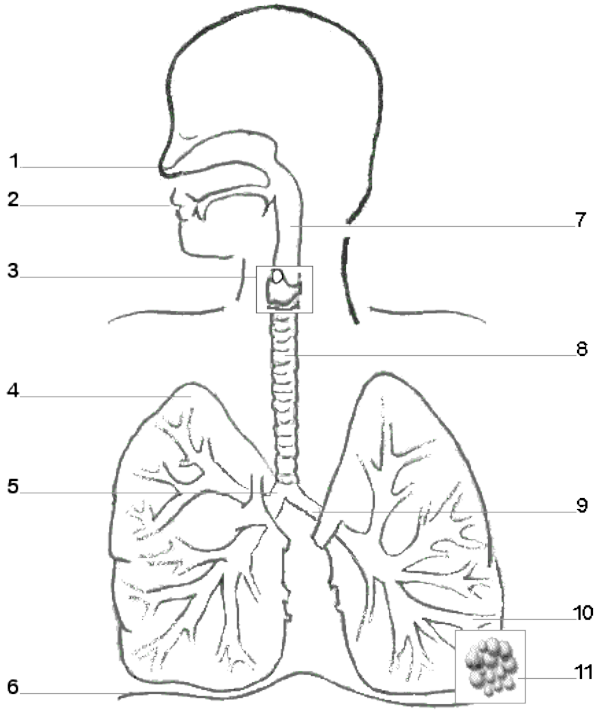
a Use the food chains to help you fill in the arrows on this food web. One has been added for you.

Use the food web to help you answer these questions.

b Name the producer in this food web.
c Name a consumer in this food web.
d What eats rabbits?
e What does a fox eat?
grass □ slug □ thrush □ cat
grass □ slug □ fox
grass □ rabbit □ cat
grass □ rabbit □ fox
thrush
slug
grass
rabbit
fox cat
3 Look at this food web. Then answer the questions.
a Name two producers in the food web.
b Name three consumers in the food web.
c Write a food chain from this food web with six trophic levels.
d Name the animals that the small fish eats.
e Name the animals that eat the small fish.
f Explain what could happen to the community if all the frogs suddenly died.
4. How are food webs different to food chains? Explain why food webs are more **useful.**

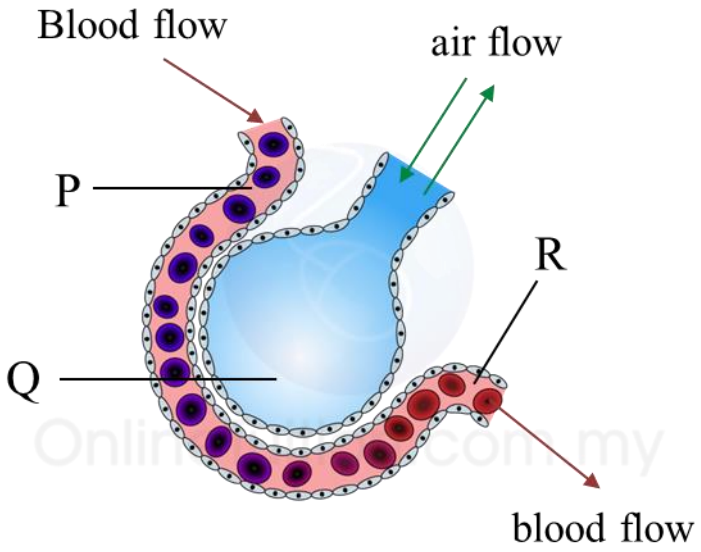
GASEOUS EXCHANGE AND RESPIRATION.

1. Explain how mammalian lung are adapted for gaseous exchange
    a) Describe how carbon dioxide is produced by
        i) Respiring muscles cells during strenuous exercise
2. Why are gills in fish highly vascularised
3. Study the diagram bellow and answer the questions that follow

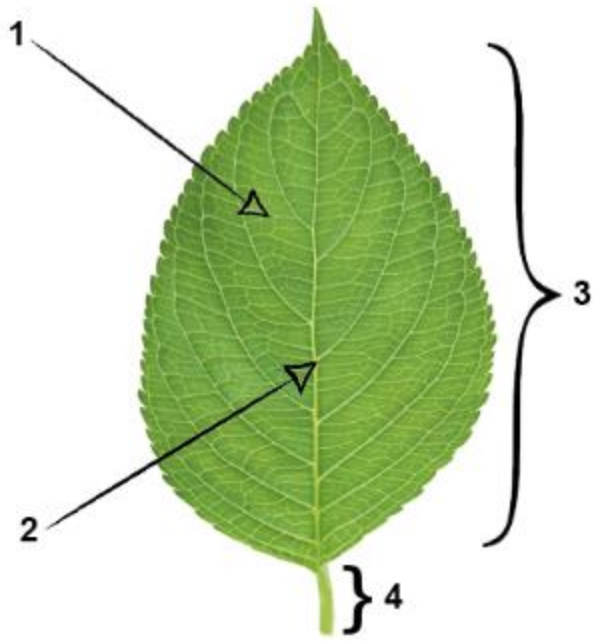


    ii) Identify the structures labelled 1-11
    iii) What is the function of the structure labelled 3, 4,6 and 11
    iv) Give three adaptation of the structure labelled 11
    v) By using the number used in the diagram. Trace the flow of air from the environment into the respiratory surface
4. Describe the:
    1) Process of inhalation in mammals
    2) Mechanism of opening and closing of the stomata
5. Name three sites where gaseous exchange take place in terrestrial plants
6. Explain why is not possible to suffocate a locus or grasshopper by holding its head under water while the remaining parts of the body is outside the water?
7. Explain why a person cannot breathe while swallowing?
8. Explain why the red blood cell count is much higher in the person who lived at high altitude
9. Explain why a person cannot digest cellulose
10. Explain why photosynthesis process is inversely proportion to respiration
11. Explain why it is not advised to stay under the tree during the night

12. What is the effect of contraction of the diaphragm muscles during breathing in mammals
13. State three factors that make alveolus adapted to its function
14. Study the diagram below and answer the questions that follows



    i) Identify the structure by its name
    ii) Mention the structures labelled P, Q and R
    iii) How does the structure maximize gaseous exchange? Give three points
15. Explain why water logging of the soil may lead to death in plants
16. Write three advantages of breathing through the nose than through the mouth
17. How does the structure of alveoli maximize gaseous exchange
18. State the effect of movement of the diaphragm muscles during inhalation in mammals
19. State three structural adaptation of leaves that maximize efficiency in gaseous exchange
20. Explain six factors which affect the rate of transpiration in plants
21. State and explain ways the leaves are adapted for gaseous exchange
22. Name three gaseous constituents involved in gaseous exchange in plants
23. Study the diagram of a leaf below and answer the questions that follows

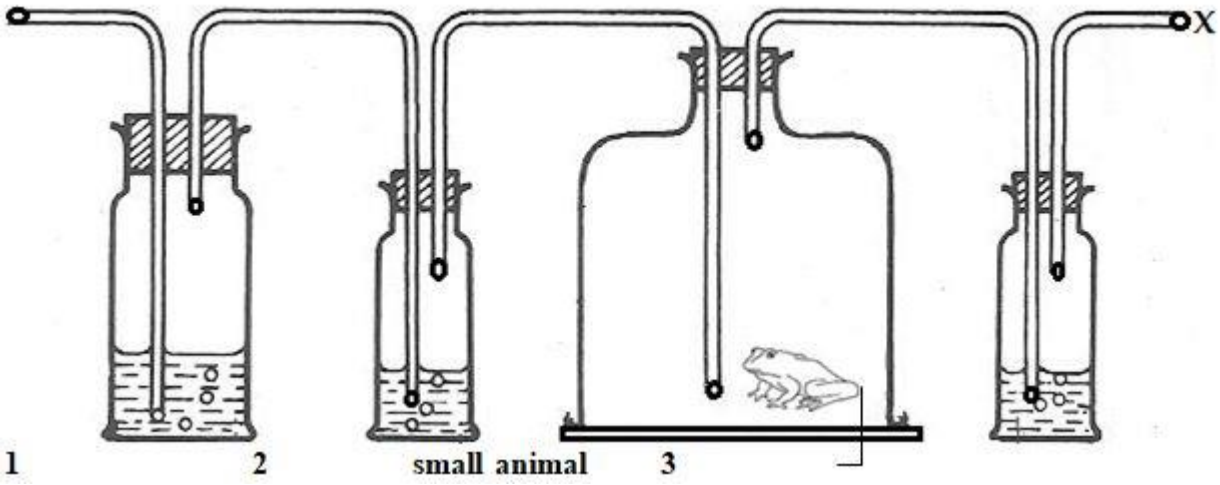


i) Name the structures labelled 1-4
ii) What is the function of the part labelled 2 and 4
iii) Is a leaf taken from monocotyledone or dicotyledone plant
iv) State three adaptation of a leaf to its functions

24. Name three sites of gaseous exchange in frog
25. Name the main sites of gaseous exchange in
    1) Mammals
    2) Fish
    3) Leaves
    4) Amoeba
26. Name the physiological process by which gaseous exchange take place at the respiratory surface in animals and plants.
27. Complete the following equation which is a summary of aerobic respiration

    $C_6H_{12}O_6 + 6O_2 \longrightarrow$

    i) Aerobic respiration is a two stage process. The first stage takes place in the cytoplasm. Where does the second stage take place?
28. The apparatus below may be used to demonstrate aerobic respiration. Air is drawn through the apparatus by attaching it to a vaccum pump at X sodium hydroxide is placed in flask 1 to remove carbondioxide.



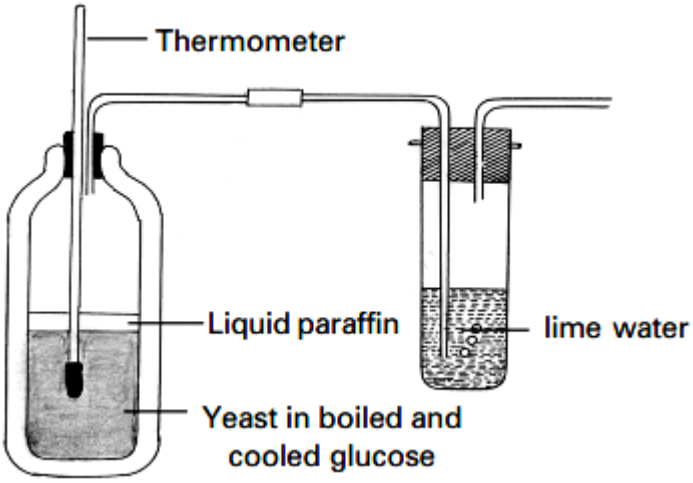
ii) What is the purpose of removing carbon dioxide?

iii) Lime water is put in flask 2 and 3 suggest a reason for putting it in each flask

iv) What is the purpose of a control in an experiment? Suggest a suitable control for this experiment

v) If the animal in the apparatus were replaced by a plant and the experiment carried out in daylight. Would you expect a similar result? Explain your answer

29. The apparatus below may be used to demonstrate anaerobic respiration in yeast. The water was boiled and cooled before adding the yeast.



i) Why was the water boiled before adding the yeast?

ii) Why do you think a layer of oil has been put on top of the water?

iii) Would the same apparatus contain water and yeast but without sugar be a suitable control? Explain your answer.

iv) Give two industrial uses of the anaerobic respiration of yeast.

30. Study the following table and answer the questions that follow

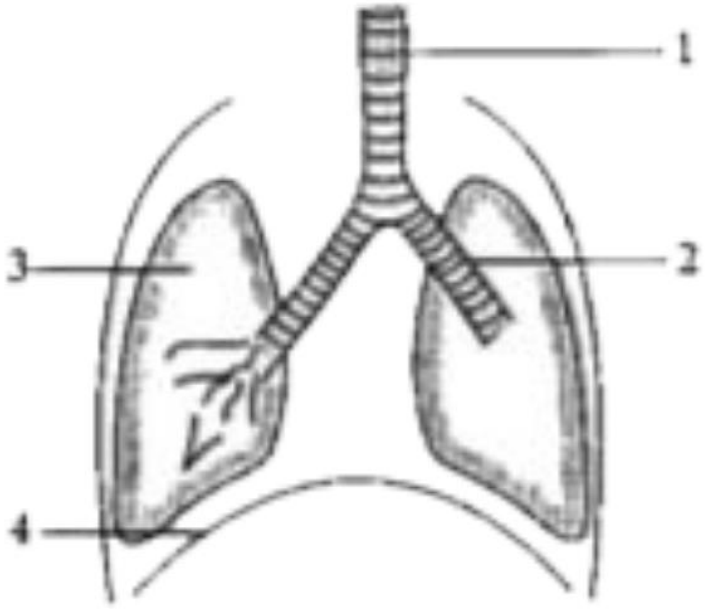
Gas	Inhaled air	Exhaled air
Oxygen	21%	16%

Carbondioxide	0.03%	4%
Nitrogen	78%	78%
Water vapour	Variable	variable

i) Explain why the amount of oxygen given out during exhalation is lower than inhaled oxygen
ii) Explain the amount of carbondioxide given out during exhalation is high than inhaled carbondioxide
iii) Explain why the amount of nitrogen did not change during inhalation and exhalation

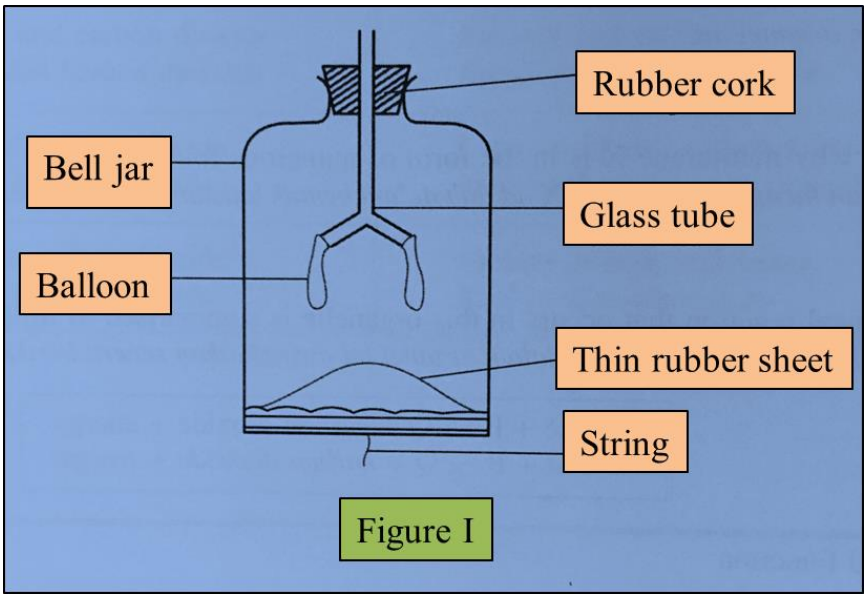
31. State the role of each of the following in the mammalian respiratory system
    1) Mucus
    2) Cartilage rings-to keep it open
    3) Epiglottis
32. As a human being who has among the characteristics of living things which is respiration, from your body may you state the parts which are responsible for respiratory system. Give four parts
33. Outline four characteristics of a cell
34. What is the purpose of respiration and what are its two components
35. Trace the path of air from the outside into the blood
36. Give biological reason to explain why respiratory surfaces need to have the following features
    I. Moisture
    II. Large surface area to volume ratio
    III. Well ventilated
37. What muscles are used for inhalation? Forceful expiration?
38. What is oxygen debt
39. Explain between the relationship between HIV and AIDS and respiratory diseases.
40. How are the respiratory surfaces adapted to their roles? Give four points
41. What do you understand by the term respiration
    vi) Name the two types of respiration
    vii) Explain how gaseous exchange occur across the alveolus
    viii) Explain how anaerobic respiration is applied in a real life situation

Study the diagram given below and answer the questions that follow:



Which stage of pulmonary ventilation is shown in this diagram ?
Give reason in support of your answer.

42. List the organ responsible for gaseous exchange in the following animals
    i) Goat
    ii) Grasshopper
    iii) Frog
    iv) Tilapia
43. Discuss the following
    i) Breathing and respiration
    ii) Inhalation and exhalation
44. Briefly describe he following phenomenon
    i) A person breath more when running fast
    ii) The ribs move outwards and upwards while the diaphragm flattened when air enters the lungs
    iii) Explain two factors affecting gaseous exchange in mammals
45. Why does a fish die when taken out of water to land while a frog survive in both water and on land?
46. Describe the mechanism of breathing in human beings.
47. Explain why one pants during heavy exercise?
48. Describe what would happen to the rate of oxygen diffusion into the cell if the thickness of the cell membrane changes from 15nm to 20nm
49. List two structural differences between guard cells and epidermal cells
50. Mention two non vital function of the respiratory system (production of speech, sensing odour
51. The figure below is a diagrammatic representation for the breathing apparatus of a man. Study the figure carefully and answer the questions that follow

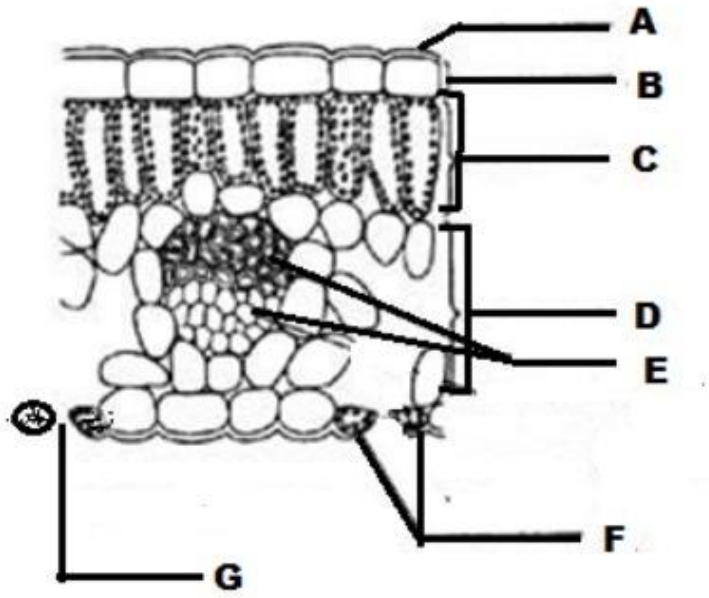


a). The following parts of the diagram represents which structure in man?

I. Rubber bung.....
II. Glass rube.....
III. Bell jar.....
IV. Ballons.....
V. Rubber sheets.....

b). How does this apparatus fail to give an accurate representation of the breathing mechanism in man?
c). Briefly describe how air is taken in and out of the lungs
d). State the composition of inspired air and expired air in man
e). What is the role of diaphragm during inspiration and expiration

52. Mention three products of anaerobic respiration in yeast cell
53. Write a balanced equation that summarizes the process of aerobic respiration
54. Mention three structures used for gaseous exchange in land plant
    b) Briefly explain how the structure of a leaf is adapted to allow rapid gaseous exchange
    c) Name the products of anaerobic respiration in human being muscles
55. Study the following diagram below showing internal structure of a leaf and then answer the questions that follows



i) Name the structure labelled A-G
ii) What is the function of the structure labelled D, F and G
iii) How structure C is adapted to its function
iv) Which part is made up of waxy layer
v) Why is the upper surface of the leaf **greener** than the lower surface

56. Define each of the following terms
    i) Gaseous exchange
    ii) Respiration
    a) Name the respiratory surface for each of the following organism
        i) Insect
        ii) Mammal
        iii) Fish
        iv) Spider
        v) Earthworm
    b) Give reasons for each of the following characteristics of respiratory surface
        i) Have thin wall
        ii) Have large surface area

57. Match the phrase in list A with responses in list B by writting the letter of the correct response

LIST A	LIST B
i) Structure used for gaseous exchange in human being	A. Larynx
ii) The structure which prevent food from entering the trachea during swallowing	B. Yeast
iii) The structure which trap dust in the trachea	C. Bronchioles

iv) The process which release energy in the absence of oxygen	D. Cilia
v) Organism which break down sugar to carbondioxide and alcohol	E. Alveoli
	F. Epiglottis
	G. Anerobic respiration
	H. Aerobic res[piration

58. Write TRUE or FALSE
    i) Beriberi, gonorrhoea and syphils are disease caused by bacteria.....
    ii) Blood capillaries are thick and their walls are one cell thick.....
    iii) Rickets is prevented by increasing the amount of vitamin D in a diet.....
    iv) Anerobic respiration uses oxygen while aerobic respiration does not use oxygen.....
    v) Gaseous exchange surface must have large alveolus.....
    vi) Scientists uses beam balance to measure volume.....
    vii) A person with blood group AB is called universal donor.....
    viii) Heartburn is a disorder of digestive system.....
    ix) Photosynthesis uses water and release oxygen.....
    x) It is useless to keep First Aid Kit at school.....
    xi) A microscope is not a very important equipment in the biology laboratory.....
    xii) Plant cell has irregular shape while animal cell has regular shape.....
    xiii) It is safe to touch body fluid with bare hand when giving First Aid.....
    xiv) Zoology is the study of animals
    xv) The condition necessary for photosynthesis are precence of carbondioxide and oxygen.....
    xvi) Absoption of digested food take place in the oesophagus.....
    xvii) Gaseous exchange in plants take place through the gills.....
    xviii)
59. Which of the following structure is the site of respirayion
    A. Chloroplast
    B. Ribosome
    C. Nuclear
    D. Nucleic acid
    E. Mitochondria
60. A grasshopper ventilates its gaseous exchange surface by
    A. Moving the diaphragm
    B. Beating of cilia
    C. rhythmic body movement

D. opening of spiracles
E. moving its rib cage

61. which is the main product in anaerobic respiration in plants
    A. uric acid
    B. lactic acid
    C. water
    D. alcohol
    E. pyruvic acid
62. oxygen passing from the atmosphere into the blood of a mammal take one of the following routes
    A. bronchi-bronchioles-trachea-alveoli
    B. trachea-bronchioles-bronchi-alveoli
    C. bronchioles-bronchi-trachea-alveoli
    D. trachea-bronchi-bronchiole-alveoli
63. muscles fatigue in the body is caused by
    A. lack of carbondioxide
    B. lack of lactic acid
    C. lack of oxygen
    D. pyruvic acid
64. The product of anerobic respiration in animal is...
    A. uric acid
    B. lactic acid
    C. sulphuric acid
    D. hydrochloric acid
65. aerobic respiration take place in the presence of
    A. water
    B. carbon dioxide
    C. oxygen
    D. hydrogen
66. in which environmental condition the loss of water vapour from plants is mostly favourable?
    A. Hot and windy day
    B. A saturated atmosphere
    C. Cool and dry atmosphere
    D. Windy day
    E. Hot day
67. A respiratory surface of fish is
    A. Gills
    B. Spiracle
    C. Fins
    D. Operculum
68. A plant cell which has no chloroplast is.....
    A. Palisade cell
    B. Parenchyma cell

C. Root hair cell
D. Collenchymas cell

69. Body tube the microscope has the following function
    A. Hold eye piece and revolving nose piece
    B. Concentrate light reflected by mirrow
    C. Hold objective in place
    D. Reflect light to the objective
70. A person bite by a snake is advised not to take alcohol because
    A. He can be bite by another snake again
    B. Since the anti-venom cannot work
    C. He want to assist the professionals to identify snake bite
    D. Since will increase heart rate and spread of venom quick
71. The organelle whose function is to transport protein and fats is.....
    A. Ribosome
    B. Golgi apparatus
    C. Endoplasmic reticulum
    D. Centrosome
72. The reason why we study biology one is that
    A. We should be competent in the subject
    B. We want to improve the standard of living
    C. We want to teach students
    D. We want to be spokes man of biology
73. The ability of organism to detect changes in their environment is called
    A. Irritability
    B. Movement
    C. Reproduction
    D. Nutrition
74. The reason of having biology rules in the laboratory is
    A. To make it smart and attractive
    B. To make students uncomfortable
    C. To show how teachers we are strict
    D. To minimize danger/harzadous
75. In which way you can preserve alive and terrestrial plants
    A. In the dam
    B. Using the cage
    C. Botanical garden
    D. Museum
76. In the human digestive system the stomach is known as
    A. A tissue
    B. A cell
    C. An organ
    D. An organism

77. An organism with a rigid protective wall made up of chitin is a representative of..
    A. Fungi
    B. Monera
    C. Plantae
    D. Protoctista
78. The disease and disorders of the human circulatory system includes
    A. Arteriosclerosis and heart burn
    B. Blood pressure and sickle cell anaemia
    C. Blood pressure and oedema
    D. Leukaemia and heart burn
79. Ability of the human body to resist infection caused by microorganisms is known as.....
    A. Immunity
    B. Inoculation
    C. Treatment
    D. vaccination
80. Inefficient food rich in protein to children especially infants result into nutritional deficiency disease called.....
    A. Marasmus
    B. Obesity
    C. Kwarshiokor
    D. Rickets
81. The structure of a leaf that allow carbon dioxide and oxygen to diffuse in
    A. Cuticle
    B. Epidermis
    C. Mesophyll
    D. Stomata
82. The following wastes can be recycled except
    A. Aluminium cans
    B. Contaminated syringes
    C. Glass jar and bottles
    D. Paper and cardboard
83. The following are the product of respiration except
    A. Alcohol, carbon dioxide and energy
    B. Alcohol, energy and lactic energy
    C. Carbon dioxide, energy and lactic acid
    D. Carbon dioxide, energy and water
84. Three phyla of kingdom fungi are
    A. Ascomycota, basidiomycota and eumycota
    B. Ascomycota, zygomycota and basidiomycota
    C. Ascomycota, bryophyte and eumycota
    D. Ascomycota, bryophyte and euglenophyta
85. The following are methods involved when scientists study things systematically except
    A. Identifying the problem

B. Guess the conclusion
C. Formulating hypothesis
D. Experimentation

86. Which part of a microscope is responsible for magnification of a specimen
    A. Mirror
    B. Eye piece
    C. Stage
    D. Base
87. Which step will you first take when giving first aid to a bus accident victim who has severe bleeding
    A. Wash the wound with plenty of wster to remove blood
    B. Loosen the tightened clothes to supply oxygen to the victim
    C. Use your finger to apply pressure direct to the bleeding point
    D. Ask the person to go to hospital immediately
88. A viral disease transmitted through sexual intercourse is known as
    A. Gonorrhoea
    B. Typhoid
    C. AIDS
    D. Small pox
89. Which of the following is not a proper method of waste disposal?
    A. Use of land fill
    B. Make pit latrine
    C. Recycling of material
    D. Burning plastic waste at home
90. The end product of lipid in digestion process is called
    A. Amino acid
    B. Peptide
    C. Glucose
    D. Fatty acid and glycerol
91. Amoeba and paramecium ge oxygen's through
    A. Oral groove
    B. Cilia
    C. Cell membrane
    D. None of the above
92. Oxygen enters the cell of hydra by
    A. Diffusion
    B. Hydrolysis
    C. Osmosis
    D. None of the above
93. Respiration in earthworms is directly dependent upon large surface area of
    A. Moist skin
    B. Trachea
    C. Lungs

D. None of the above

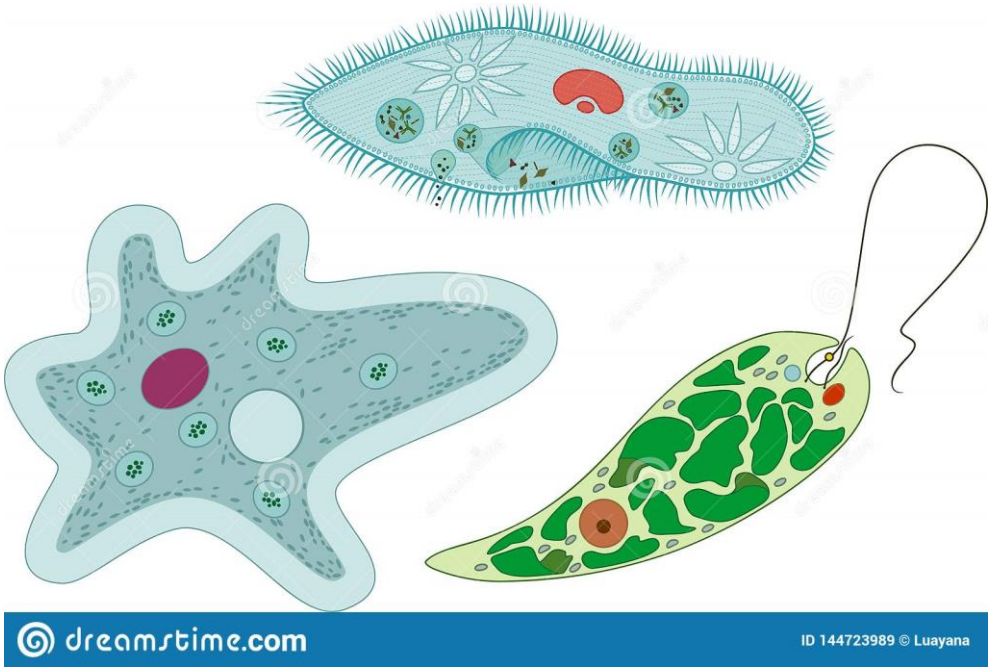
94. The respiratory gases of a cockroach are called by
    A. Lungs
    B. Haemoglobin
    C. Trachea
    D. Skin
95. Spiracles are used in insects in the process of
    A. Breathing
    B. Excretion
    C. Transportation
    D. None of the above
96. Write true or false
    i) Botany is the study of animals.....
    ii) Gaseous exchange in mammals take place in the mouth and nose.....
    iii) One enzyme can act on several food substance.....
    iv) During inhalation the ribs moves outwards and upwards.....
    v) Anaemia is a condition in which a patient has few erythrocyte.....
    vi) Landfill is a way of disposing domestic wastes.....
    vii) Amylase is an enzyme which act on protein.....
    viii) Consumers in the ecosystem produce their own food.....
    ix) Syphilis is a communicable disease.....
    x) All bacteria are harmful to man.....
97. Match the following items

LIST A	LIST B
i). A vascular tissue used for transportation of water and mineral salts toward the leaf ii). A small pore which allows gaseous exchange into and out of the leaf iii). A water proof material which protect the leaf from injury and excessive water loss iv). A bean shaped structure for effective control of water loss and gaseous exchange v). A broad part of a leaf which increases large surface area for absorption of light and carbon dioxide	A. stomata, spongy mesophyll B. Epidermis cuticle C. Lamina D. petiole E. Vein F. Midrib G. Margin H. Cross mesophyll I. Apex J. Guard cell K. phloem L. Xylem M. Palisade N. Mesophyll

98. Complete the following statements by writing the correct answer in the space provided
    i) The largest rank in classification is called.....
    ii) Name the agent that transmit bilharzias.....
    iii) Blood vessel that transport manufactured food from the intestine into the liver
    iv) Smallest structure where gaseous exchange take place.....
    v) The product of anaerobic respiration in animal.....
99. what do you understand by the term risky behavior?
    i) Give examples of risky behaviour and practices?
    ii) Explain any four skills which can help to avoid risky and practices.
100. Write any essay on photosynthesis under the following guideline
    i) Meaning
    ii) Site of the process
    iii) Raw materials
    iv) Condition
    v) End products
    vi) Importance of the process
101. Differentiate between diffusion and osmosis

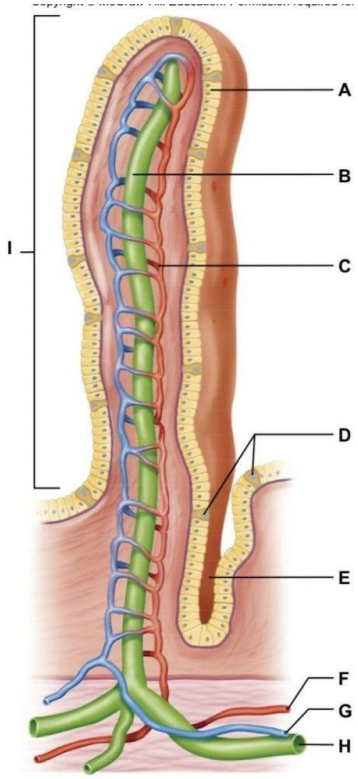
Diffusion	Osmosis

102. Study the diagram of the following organisms carefully and answer the questions that follow



i) Identify the organism above by their common names
ii) Classify the above organisms up to class level
iii) State the locomotory structures of the organism above

103.Study the structure of the villus below and answer the questions that follow



i) In which part of the almentary canal is the above structure found?
ii) Name the parts labelled H, I B and C

iii) State three adaptation of the above structure for the absoption of food in the almentary canal

104.What do yuo understand by the following terms

i) Binomial nomenclature
ii) Taxonomy
iii) Species

c) State the taxonomic hierarchy of classification in an orderly manner

i) .....
ii) .....
iii) .....
iv) .....
v) .....
vi) .....
vii) .....

d) Lion and leopard cannot interbreed to produce a viable offspring (give one reason)

105.Complete the following statements by writing the correct aswer in the space provided

i) .....is used for cutting hanging skin and dressing materials
ii) .....are important for cleaning cuts, wounds and preventing infection
iii) .....is helpful for removing thorns insect stings left behind in the body
iv) .....is a painful or swollen part of the skin with no cut
v) are suddenly involuntary contraction of the muscles that is painful and make them temporarily unable to work properly is called.....

106.match the item in LIST A with the response from LIST B by writing the letter of the correct response.

LIST A	LIST B
i). The upper chamber of the heart ii). Occur when the ventricles relax to allow blood to flow in iii). Occur when the ventricles contract to allow blood to flow out of the heart **iv).** Prevent backward flow of blood to the left auricle v). Initiate the heart beat	A. Pulse maker B. ventricles C. Auricle D. Bicuspid valve E. Pulmonary artery F. Diastolic beat G. Systolic beat

107.write TRUE or FALSE

i) A person with blood AB is called a universal donor----------
ii) Before the blood return to the heart it has to be oxygenated in the liver----------
iii) All green plants are decomposers----------
iv) Maintaining personal hygiene reduces the risk of infection----------
v) Malaria is caused by plasmodium----------
vi) Protein in the diet are needed for growth and repair----------
vii) Vitamin K helps in blood clotting----------
viii) The organ in the human body which helps the blood to receive oxygen is the heart----------
ix) Grouping of organisms basing on their similarities and differences is called taxonomy.....

x) Age is one of the important factor to consider before blood transfusion----------

108.A group of interdependent organisms living in an environment is called---------

A. Community
B. Ecology
C. Ecosystem
D. Population

109.Which of the following characteristics could be used to distinguish birds from mammals

A. Control of body temperature
B. Use of lungs
C. Number of limbs
D. What covers their skin

110.A liquid prepared by either weak or dead microorganism is called--------

A. Serum
B. Immunity
C. Immunization
D. Vaccine

111.The basic importance of all laboratory rules is to..

A. Avoid dirtiness
B. Prevent student from entering
C. Reduce accidents
D. Reduce the use of chemical in the lab

112.Plants are said to be vascular if

A. They contain phloem only
B. They contain xylem only
C. They contain cambium
D. They contain phloem and xylem

113.Which of the following is not a sexually transmitted disease

A. Trichomoniasis
B. Candidiasis
C. Vaginosis
D. Cholera

114.A certain food substance turned blue black when a drop of iodine was added into it. A food substance was

A. Starch
B. Lipid
C. Protein
D. Reducing sugar

115.A process which ensures continuity of life on earth is known as

A. Reproduction
B. Respiration
C. Growth
D. Excretion

116.Photosynthesis take place in the

A. Mitochondria
B. Chloroplast
C. Cytoplasm
D. Lungs

117. Which of the following is expected to happen if blood to the brain is reduced
A. Fainting
B. Nausea
C. Shivering
D. Shork

118. Food is stored in the liver in the form of
A. Starch
B. Sucrose
C. Glycogen
D. Galactose

119. A principle of waste management in which waste is turned into other useful categories is known as
A. Reuse
B. Recycling
C. Burning
D. Reduction

120. Communicable disease which attacks the membrane of the brain and spinal cord leading to stiffness of the neck
A. Meningitis
B. Cholera
C. Plague
D. Malaria

121. Which of the following is not a member of kingdom fungi
A. Euglena
B. Mucor
C. Mushroom
D. yaest

122. A term used to describe a disease which occurs regularly in a particular place or in a given area constantly
A. Pandemic
B. Endemic
C. Epidemic
D. Sporadic

123. In biology, antibodies are
A. Substance causing disease
B. Any foreign bodies
C. Specific to specific antigens
D. Very poisonous to the body

124. What do you understand by the term hypothesis?
A. An intelligent guess
B. An opinion

C. A school of thought
D. An idea

125.A laboratory coats that protects clothes from chemicals and dirty
A. Gloves
B. Apron
C. Goggles
D. Tourniquet

126.A set scientific assumption consistent with one another and supported by evidence but not fully proved is called.....
A. A fact
B. A theory
C. An experiment
D. A hypothesis

127.The study of structural and function of the cell is called.....
A. Cytology
B. Genetics
C. Anatomy
D. Theology

128.The study of insect is called.....
A. Microbiology
B. Virology
C. Entomology
D. Entomologist

129.A substance that can burn your skin is called.....
A. Flammable
B. Corrosive
C. Oxidant
D. irritant

130.Write TRUE or FALSE
i) All living cells contain chloroplasts.....
ii) Microscope is used to magnify very small objects.....
iii) Sharing towels canot spread STI's.....
iv) Malaria is caused by male anopheles mosquito.....
v) The fluid inside the nucleus is called cell sap.....
vi) Virus is a prokaryotic organism.....
vii) A scientific name of human being is HOMO SAPIENS.....
viii) Root hair decreases the surface area of roots for water absorption.....
ix) Wings of birds and arms of man are analogous structures.....
x) A human being cannot make vitamin D for itself.....
xi) The term biology has enabled man and woman to fight against one another.....
xii) The term biology is from greek words "bios" means study and "logos"meaning life.....
xiii) Non living things have the ability to produce new individuals of their own kind.....

xiv) Human being as one of the living things, understand oneself well by studying biology.....

xv) Excretion is the process by which waste products from the body are eliminated eg faeces.....

xvi) Mounting the specimen on a microscope slide is one way of using specimen.....

Closing all gas valve in the laboratory is a laboratory rule.....

An organism is a living things that is a complete entity.....

Psychology is the study of internal structure of living things.....

Studying biology enable us to understand all science.....

131.Match the item in LIST A with those in LIST B and write its letter in the box provided

LIST A	LIST B
i). Cholera ii). Plague iii). Bilharzia iv). Typhoid v). Genital herpes	A. Plasmodium B. *Pesturela pestis* or *Yersenia pestis* C. *Salmonella typhi* D. *Vibrio cholera* E. Herpes simplex F. *Schistosoma haematobium* G. Schistosomiasis H. *Trichomonas vaginalis*

132.Write an essay of balance diet using the following guidelines

i) Meaning of a balance diet
ii) Components of balance diet
iii) Importance of each components
iv) Deficiency disease which may results when a person does not eat a balance diet
v) Two factors which contribute to lack of balance diet among children in Tanzania

133.Write an essay on cholera under the following subheading

i) Cause
ii) Transmission
iii) Symptoms
iv) Prevention

134.Explain four principles of cell theory

135.Mention five causes of accidents in the laboratory

136.Draw the following apparatus found in the laboratory

i) Funnel
ii) Beaker
iii) Measuring cylinder
iv) Test tube

a. Explain how will you help a victim of drowning
b. State and explain three principles of waste disposal
c. Explain briefly how cell membrane is made

d. Give two functions of plasma membrane

137.Complete the following statement by writing the correct answer in the space provided

i) Finger like projection that help in absorption of food----------
ii) Movement of food along alimentary canal----------
iii) Feeding on died decaying matter----------
iv) Digestive juice that contain three enzymes----------
v) Loss of water in plants in form of droplets----------

138.Write TRUE or FALSE

i) A microscope is an instrument used to observe small objects which cannot be seen by using our naked eye.....
ii) Plant cell possess cellulose cell walls while animal cell do not.....
iii) We can use a dry wooden stick to move a victim of electric shock from the source of electricity.....
iv) Botanist study both plants and animals.....
v) It is safe to warm the room by using charcoal when people are sleeping the whole night inside the room.....
vi) Onion store food in leaves while carrots store food in root tubers.....
vii) Gaseous exchange in fish takes place through spiracles.....
viii) Materials which can be recycled includes aluminium cans and magazines.....
ix) All living things are made up of small units known as cells.....
x) Biology is the study of non living things.....

139.Match the sentences in LIST A with those in LIST B

LIST A	LIST B
I. Comes from two greek words II. Is a cavity filled with fluid known as cell sap III. Provide firm and steady support to the cell IV. It control activities of the cell V. Sudden violence disturbance of mind and emotion	A. Botany B. Zoology C. Cell wall D. Nucleus E. Cell membrane F. Fainting G. Shock H. Vacuole I. Biology

140.Write TRUE or FALSE

i) Biologist is a person who study more about animals----------
ii) We get knowledge to preserve environment so biology is not important----------
iii) When a person has been burnt apply iodine tincture----------
iv) We put chemical and apparati for emergency treatments in first Aid kit----------
v) Bacteria is prokaryotic----------
vi) The smallest unit of life is the cell----------
vii) Mitochondria is a site for cellular respiration----------
viii) When cleaning lenses of a microscope ethanol is recommended----------
ix) Heart, root, shoot and liver are organs----------

x) Red blood cell has no nucleus due to bad creation of God----------

NUTRITION

1. Fat is completely digested in
   A. Stomach
   B. Mouth
   C. Small intestine
   D. Large intestine
2. Water from the undigested food is absorbed mainly in the
   A. Stomach
   B. Foodpipe
   C. Small intestine
   D. Large intestine
3. Which part of the digestive system helps in the absorption of water and some salts from the undigested food material
   A. Small intestine
   B. Large intestine
   C. Pancreas
   D. Oesophagus
4. How does the P^H change from the mouth to the anus in the digestion system?
   A. Alkaline-acid-alkaline
   B. Acid-alkaline-acid
   C. Acid-alkaline
   D. A;kaline-acid
5. Which of the following statement is correct
   A. Assimilation of food takes place in the large intestine
   B. Large intestine has finger like projection called villi
   C. Large intestine is wider and shorter than small intestine
   D. Absorption of digested food takes place in the large intestine
6. Which among the following gland produce insulin
   A. Pancreas
   B. Liver
   C. Salivary gland
   D. Intestinal gland
7. A digestive enzyme, salivary amylase in the saliva begin digestion of
   A. Carbohydrate
   B. Protein
   C. Fats
   D. Nucleic acid
8. In human body the digestion of protein begins in which of the following region

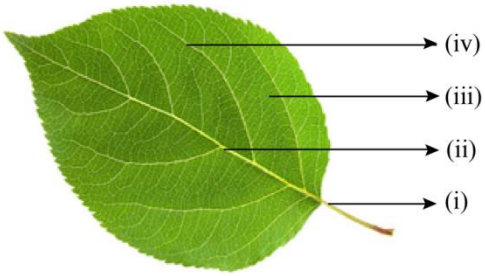
A. Liver
B. Mouth
C. Small intestine
D. Stomach

9. After digestion protein is converted into____?
   A. Glucose
   B. Sucrose
   C. Fat
   D. Amino acid
10. Which is the longest organ of digestive system in human body
   A. Pancreatic duct
   B. Small intestine
   C. Large intestine
   D. Oesophagus
11. Which is the roles of the mucus secreted by the stomach?
   A. To protect the lining of the stomach
   B. To digest fats
   C. To kill the germs in the food
   D. To digest the protein
12. Saliva helps in the digestion of
   A. Starch
   B. Fat
   C. Protein
   D. Fiber
13. In the buccal cavity of human being digestion of which one of the following get started
   A. Protein
   B. Fat
   C. Carbohydrate
   D. None of the above
14. Bile juice is formed in the
   A. Kidney
   B. Salivary gland
   C. Liver
   D. Lungs
15. Which juice secreted by the organ in the alimentary canal play an important role in the digestion of fats
   A. Pancreatic juice, saliva
   B. Hydrochloric acid, mucus
   C. Bile juice, pancreatic juice
   D. Saliva, hydrochloric acid
16. The undigested food stored in the liver in the form of carbohydrate is called
   A. Pulp
   B. Glucose

C. Glycogen
D. Carbohydrate

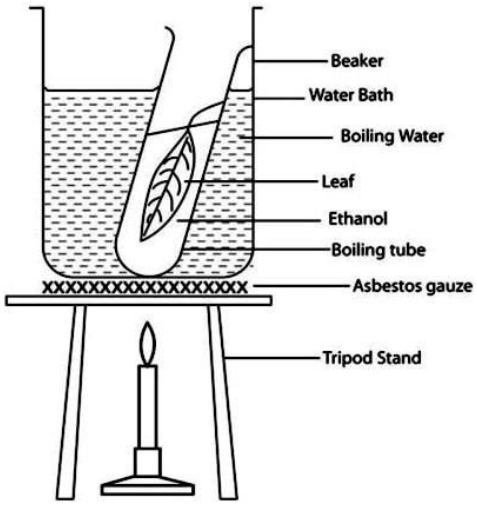
17. In which part of our body food gets absorbed
    A. Small intestine
    B. Large intestine
    C. Stomach
    D. Liver
18. What is the function of bile juice secreted by the liver
    A. It make the food alkaline
    B. It make the food acidic
    C. It break down the food
    D. None of the above
19. Complete digestion of food occur in the
    A. Stomach
    B. Small intestine
    C. Pancreas
    D. Large intestine
20. In which part of the body digestion of protein begin
    A. Pancreas
    B. Stomach
    C. Small intestine
    D. Large intestine
21. Arrange the correct sequence of the steps involved in the process of human digestion
    A. Digestion, ingestion, assimilation, egestion and absorption
    B. Ingestion, digestion, absorption, assimilation and egestion
    C. Egetion, absorption, digestion, assimilation and ingestion
    D. Assimilation, absorption, ingestion, digestion and egestion
22. How is food moved through the gut?
    A. By peristalsis
    B. By gravity
    C. By waves of liquid
    D. By swimming
23. What is the name of the process through which absorbed food become a part of the body?
    A. Absorption
    B. Assimilation
    C. Deamination
    D. Detoxification
24. Where is maltase produced
    A. Mouth
    B. Pancreas
    C. Small intestine
    D. Large intestine

25. Which enzymes are produced by the stomach
    A. Protease and lipase
    B. Protease and amylase
    C. Protease only
    D. Pepsin and rennin
26. Which enzymes are involved in digestion of carbohydrate
    A. Amylase and lipase
    B. Amylase and maltase
    C. Salivary amylase and maltose
    D. Renin and maltase
27. Where is maltase produced
    A. Mouth
    B. Pancreas
    C. Small intestine
    D. Large intestine
28. An agricultural officer advised a farmer to use a fertilizer that contained nitrogen, phosphorus and potassium (NPK) on his farm. Which sign were shown by plants that led the agricultural officer to give the farmer such advice?
29. Explain each of the following
    1) Why a leaf cannot be tested for starch by adding iodine solution directly
    2) Why most leaves are thin with broad surfaces
    3) Why plants will not photosynthesize in the dark.
30. a). Briefly distinguish between the term micro and macro elements. Give an example in each case
    b). State three mineral elements which are used in the synthesis of chrolophyll
    c). What are deficiency symptoms of nitrogen, phosphorus and potassium
31. Answer the following questions briefly
    i) Write down any two sources of sulphur for plants
    ii) Give any two deficiency signs of sulphur in plants
    iii) Give one use of sulphur to plants
    iv) What is the use of boiled alcohol while testing for starch in a leaf?
    v) Name the substance which is used for testing carbon dioxide
    vi) List down the condition necessary for photosynthesis
32. Briefly explain the following, giving examples where possible
    i) Carbon dioxide fixation
    ii) Photosynthesis
    iii) Palisade mesophyll
    iv) The leaf's adaptation for photosynthesis
    v) Photolysis
33. It has been a good day for your brother who is a fisherman. He has cought a lot of fish, sold a lot and given some to friends and neighbours. Still some have remained. What would you advice him to do as there is no electricity in your area?
34. Differentiate light stage of photosynthesis from dark stage of photosynthesis
35. Study the diagram below and answer the questions that follow



i) Name the structure labelled i)-iv)
ii) Which part is responsible for the process of photosynthesis
iii) What is the function of the part labelled (i)
iv) Give three adaptation of the leaf to its function
v) Why most leaves are thin with broad surfaces?

36. Why are the tissues of alimentary canal so perfused with blood vessels?
37. How long does it take for food to reach the end of the intestine for complete absorption in a normal human body?
38. Would pepsin work on protein? Why or why not?
39. Describe by means of a diagram the structure of a palisade cell. Label all the parts
40. a). Highlight three reasons why photosynthesis is important to living things
    b). Describe five factors that affect the rate of photosynthesis
    c). Give five reasons why organisms require nutrients
41. Give the name of storage organ for each of the following plants.
    a). Cassava.....
    b). Sugar cane..... .....
    c). Onion.....
    d). Cabbage.....
    e). Irish potatoes.....
42. a). What is photosynthesis
    b). Name four conditions necessary for photosynthesis
    c). List down three end products of photosynthesis
    d). Briefly write two materials for the process of photosynthesis
    e). Differentiate between photolysis and carbon dioxide fixation
43. What is the difference between digestion and metabolism
44. Describe the gross and microscopic anatomy of the small intestine
45. The most acidic and the most basic body fluid are produced in the digestive system. Name their function
46. Briefly explain the digestive system and its functions
47. What are peristaltic waves
48. Why are ruminants more efficient at utilizing roughages than animal such as horse?'
49. Give any two advantages of storage organs
50. List two characteristics of the palisade layer
51. Study the diagram below and then answer the questions that follows



I. What is the aim of the experiment
II. Explain why was the flesh leaf dipped in a boiling water bath for 20 minutes
III. Briefly state the reasons behind dipping the leaf in a boiling tube half full with ethanol
IV. What was the colour change when dilute when iodine solution was added to the leaf in a petri dish?
V. Explain why the leaf was plucked from a plant exposed to light for a couple of hours.

52. A substance Z was mixed with an enzyme and boiled with dilute hydrochloric acid, then neutralized with sodium hydrogen carbonate solution until alkaline. The mixture was heated with Benedict solution. An orange/ red precipitate was formed.
    I. What is substance Z
    II. Outline how colour changed from the original colour to orange/red
    III. Why was the temperature kept at 37^{o}C?
    IV. What is the role of hydrochloric acid in this experiment?
    V. Why was neutralization necessary before the additional of Benedict's solution
53. A particular food substance is suspected to contain vitamin C
    a. What chemical would you use to confirm the presence of the vitamin?
    b. What are the expected results if vitamin C is present
54. Differentiate between
    I. Light reaction and dark reaction
    II. Stomata and stomata opening
    III. Palisade layer and mesophyll layer
    IV. Cuticle and epidermis
55. Name the bacteria found in the root nodules of leguminous plants

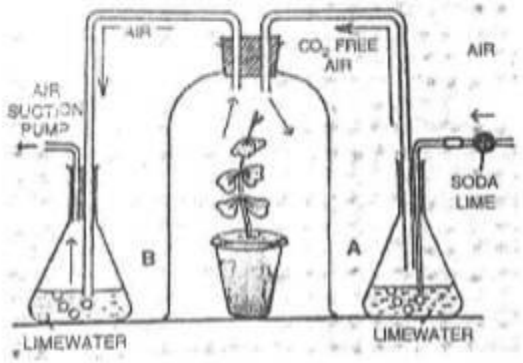
i) State the association of the bacteria named a) above with the leguminous plants

56. State the functions of co-factors in cell metabolism
    a. Give one example of metallic co-factors
57. Name the diseases in human that is caused by lack of vitamin A, B, C and D
58. a). Describe by means of a diagram the structure of a chloroplast. Label all the parts
    b). State the part where

1) light stage of photosynthesis occurs
2) dark stage of photosynthesis occurs

Question 4

(a) The diagram given below represents a process that takes place in green plants when kept in the dark. Answer the questions that follow:



(i) Name the physiological process that occurs in the experiment.

(ii) Define the above mentioned process.

(iii) Represent the process in the form of a balanced chemical equation.

(iv) What happens to the lime water in flasks A and B.

(v) Why should the experiment be carried out in the dark?

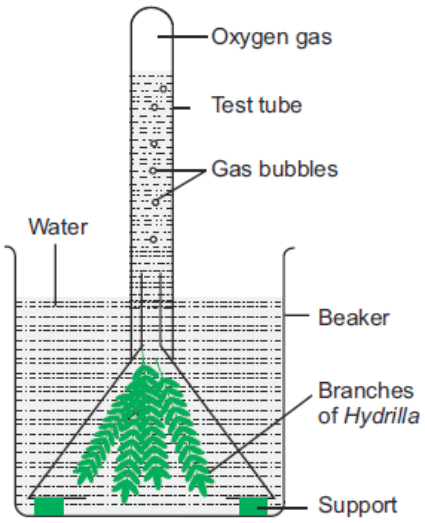
59. What is the role of each of the following structures of the leaf during photosynthesis?
    I. Xylem vessels
    II. Guard cells
    III. Phloem
    IV. Chrolophyll
    V. Palisade cell
60. Name a disease caused by lack of each of the following in human diet
    ii) Vitamin D
    iii) Iodine
61. Explain how birds of prey are adapted to obtain their food
62. Explain biological principles behind the preservation of meat by
    i) Salting
    ii) Refrigeration
    iii) Canning
63. State one similarity and one difference between parasitic and predatory modes of feeding.
64. In an investigation the pancreatic duct of a mammal was blocked. It was found that the blood sugar regulation remained normal while food digestion was impaired. Explain these observations.
65. Give reason why lack of roughages in diet often leads to constipation.

66. Name atleast five vitamin deficiency diseases
67. Explain each of the following
    i) Why a leaf can
68. a) what is a balance diet

    b.) list six components of a balance diet
69. name the three elements that form carbohydrates
70. a) what are the building blocks of proteins?

    b). Distinguish between first class protein and second class protein

    c). State four functions of lipids in the body
71. Describe how the mammalian small intestines is adapted to its function
72. State the role of vitamin C in human
73. Study the diagram below and then answer the questions that follow



I. What is the main aim of the experiment?
II. How can you test for the gas produced?
III. What role does light play in the process being investigated?
IV. What dissolved substance would a water plant needs to carry out photosynthesis? And what its role
V. Explain briefly why only submerged water plants are used instead of terrestrial plants
VI. What is the role played by the wooden block?
VII. Why is the funnel raised from the bottom of the beaker?
VIII. Why was sodium hydrogen carbonate used in the experiment?
IX. How would the gas evolved change under the following conditions

    a). Pinch of sodium bicarbonate is added to water in the beaker

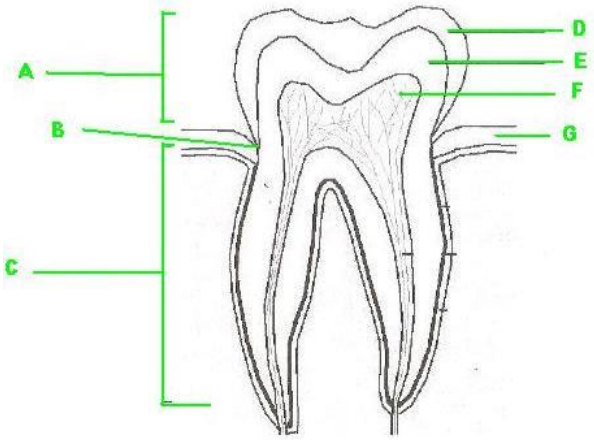
    b). The experimental set up is kept in darkness

74. Complete the following table

Monosaccharides	**Disaccharides**
Glucose † glucose	.....†.....

.....†.....	Sucrose
Glucose †.....	Lactose

75. Distinguish between the term homodont and heterodont
76. Study the diagram below and then answer the questions that follows



a. Name the parts labelled A-G
b. Name two mineral elements required for the formation and maintenance of the teeth
c. What is the function of the part labelled D, E F and C
d. State with reason the type of tooth represented by the diagram
e. Explain with reason why this type of tooth is likely to be affected by dental diseases compared to other types of teeth

77. A certain animal has no incisors, no canines, 6 premolar and 6 molars in its upper jaw, in the lower jaw there are 6 incisors, 2 canines, 6 premolar and 6 molars. Write its dental formula
    b. State two function of the bile juice in the digestion of food
    c. How substrate concentration does affect the rate of enzyme action?
78. A tem of researchers went to a village near sengerema Mwanza and found a five year old boy with the following symptoms
    - ✓ Stomach was protruding
    - ✓ The hair was reddish and fell off easily
    - ✓ The skin was dry, flaky and rough
    - ✓ The boy had no appetite

    a) i) name the disease that the disease was suffering from
    ii). What deficiency caused the disease?
    iii). Mention other disorders the boy was likely to be having
    iv). What advise would you expect the researchers gave to the parents of the boy?
    b) Suggest the type of diet, which the boy may have been eating.
79. Match each food substance in group A with the statement in group B which describes it best

Group A		Group B
I)	Protein	A. Building blocks which must be taken in food
II)	Starch	B. molecule from which body tissues are build
III)	Amino acids	C. Energy giving food
IV)	Essential amino acids	D. Stored food substances in plants
V)	Lipids	E. Energy rich substances that do not mix with water
VI)	Carbohydrates	F. The unit from which body building foods are made

80. Name the end products of the light stage in photosynthesis
81. State four factors that denature enzymes
82. Define the following terms
    i) Autotrophic nutrition
    ii) Herbivores
    iii) Saprophytism
    iv) Mutualism
    v) Digestion
83. Write 4 functions of water
    i) Mention four sources of protein
    ii) Mention three disaccharides
    iii) Outline four requirements needed by expectant and lactating mother
    iv) List four groups that need nutritional requirements
84. Write atleast five symptoms of marasimus
    i) What is food test
    ii) Mention three types of carbohydrate
    iii) Mention four properties of protein
    iv) Write procedures of testing starch
85. Name two digestive glands How can we eat and breathe at the same time?
86. State the sources, substrate, product and optimum P^H condition for the enzyme amylase.
87. Explain why absorbed food is transported to the liver before being distributed to different parts of the body
88. Explain why pepsin and rennin are produced in an inactive form?
89. Why is food broken into small pieces in both man and ruminants?
90. What name is given to the muscular contraction which moves food along the alimentary canal.....
91. What do digestive enzymes do to food?
92. The dentition of a certain animal had the following characteristics
    a. Large curved and sharply pointed nannies
    b. Small and closely fitting incisors
    c. Narrow molars and pre molars with cusps

Suggest the mode of feeding in this animals

93. What are the final digestion products of a). Protein b). Fat c). Starch?
94. How does chewing food help to speed up digestion?
95. Name two enzymes found along the alimentary canal which break down carbohydrates and in each case state the sites of production, the substrate and the product.

Enzymes	**site of production**	**substrate**	**product**
a).	.....	.....	.....
b).....	.....	.....	.....

96. Name the enzyme present in saliva and say what type of food it act on.
97. What type of food is partially digested in the stomach?
98. Explain the role of the following organs in the digestion of food in a mammal
    a. Salivary glands
    b. Pancreas
    c. Liver
99. State any three functions of the mucus, which is secreted along the wall of the alimentary canal.

What is the function of carnasial teeth?

1. Give five reasons why organisms obtain food
2. In which region of the mammalian tract does digestion of the fats begin?
3. State four components of the pancreatic juice.
4. State the functions of the cardiac and pyloric sphincter
5. What is the role of liver in digestion?
6. What is the name of the enzymes in the gastric juice?
7. Into which part of the alimentary canal does the pancreas secret pancreatic juice?
8. What is the function of bile in digestion
9. Identify with reasons the mode of feeding of the animal whose dental formula is given below

I 2/1 C 0/0 pm3/2 m3/3 =28

10. State three way in which the absorbing surface of the small intestine is increased
11. Into what body fluids do a). Glucose b). Fatty acid c). Amino acid pass?
12. Below is an incomplete equation of a chemical reaction, which only occur in green plants

$6CO_2 + 12H2O \longrightarrow C_6H_{12}0_6 + 6H_20 + A$

    I. Name product A in this equation
    II. Name the pigment that must be present for this reaction to take place
    III. Name one other input omitted and the role it plays.
    IV. What is the name of the overall process represented by this equation?
    V. In what cell organelle does this reaction take place?
    VI. Name three types of cell in the leaf of a plant where the above reaction is known to occur.

13. a). Name a fat soluble vitamin manufactured by the human body

b). State two function of potassium ion in the human body

c). the action of ptyalin stops at the stomach. Explain

14. Write the word or tems that best matches each of the phrases below

Malnutrition, protein, micromineral, food guide pyramid, nutrition, carbohydrate, micromineral, dieticians, rouphages, vitamin

i) A chart depicting the recommended amounts from different food groups that nutritionists consider as health eating.....
ii) A substance that is important in the diet, but which cannot be digested and absorbed by human being.....
iii) Poor nutrition resulting from an insufficient or poorly balanced diet or from defective digestion or defective assimilation of food.....
iv) An organic compound composed of carbon, hydrogen and oxygen and is the main source of energy.....
v) The process by which a living organism obtains food and uses it for growth and tissue replacement.....
vi) Professionals who study nutrition.....
vii) An organic nutrient that an organism requires in very small quantities.....

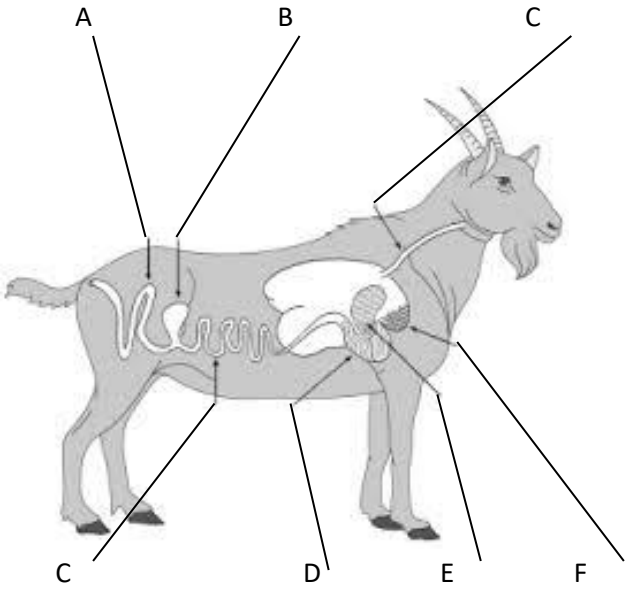
15. Fill in the missing words

The blood from the intestine goes first to the ..... before entering the general circulation. If the glucose concentration in the blood is above a certain level, it is changed to the ..... and stored. Glucose which pass into the general circulation is taken up by the blood cells and used to provide.....if there are excess amino acids in the blood from the intestine, the liver convert them to ..... which is stored, and .....which is excreted by the kidney.

16. For each of the following nutrients give one example of a good source and one example of its role in the body

Nutrients	Food source	Role in the body
Vitamin A		
Iron		
Iodine		
Vitamin D		
Protein		

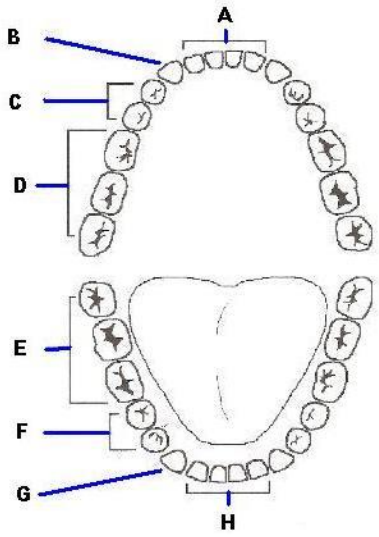
17. Liver damage leads to impaired digestion of fat. Explain
18. If mariam is 70kg and 150 cm tall
    i) What is her BMI
    ii) What dangers are facing mariam
    iii) What advice would you give mariam and why
19. Study the diagram below and answer the questions that follow



i) Identify the structure labelled A, B, C, D, E and F
ii) Name the type of digestive system represented by the diagram

20. A 3 year old child has brought to a dispensary following these complaints: he is weak, cries and eats a lot and has diarrhoea now and then. The child also looks skinny, his belly is swollen, his hair red and very fine and his skin looks like that of a very old person.
    i) Which nutritional disorder is the child suffering from?
    ii) What will you advice the child's parents?
21.
22. What are the special nutrition needs of the following people?
    i) The elderly
    ii) Children
    iii) Expectant and lactating mothers
    iv) HIV and AIDS patients
23. Answer each of the following questions briefly
    i) Into how many groups we can divide vitamins? Name the groups and give any two examples of each
    ii) Name the forms in which excess carbohydrates are stored in animals and plants respectively
    iii) Name the place where they can be stored

24. Name the features that increase the surface area of small intestines
25. What would happen if the epiglottis is removed from the human body?
26. Study the diagram below which describe the arrangement of teeth human oral cavity and answer the questions that follow



a. Name the parts labelled A-H
b. How does A differ from that of ruminants
c. What is the function of the teeth labelled E, F, G and H
d. What group of teeth is mostly affected by dental diseases
e. Write the dental formula from the diagram above

27. Why is it necessary to detach a leaf in an experiment of investigating the importance of photosynthesis
28. Define the following terms
    i) Digestion
    ii) Ingestion
    iii) Absorption
    iv) Assimilation
    v) Egestion
29. Explain the role of the following organs in the digestion of food in a mammal
    i) Salivary gland
    ii) Pancreas
    iii) Liver
30. State any three function of mucus which is secreted along the walls of the alimentary canal
31. Explain why the digestion of starch stops after food enters the stomach
32. Give an account of the adaptation of a named herbivore to its mode of feeding
33. What are the contents of gastric juice and what istheir role in digestion
34. Liver damage leads to impaired digestion of fats. Explain
35. For each of the following nutrients give one example of a good source and one example of its role in the body

Nutrient	Food source	Role in the body
i) Vitamin A		
ii) Iron		
iii) Iodine		
iv) Vitamin D		
v) Protein		

36. Complete the following sentences by putting one word in each blank space
    i) Bile is secreted by the .....
    ii) Tiny holes called.....allow gases to enter and leaves a leaf
    iii) An animal that eats both plants and animals is called an.....
    iv) .....it carry digested food from the intestine to the liver
    v) A structure which prevents the entrance of food into the trachea is called.....
37. Name the fat soluble vitamins.....
    a. State a good source of this vitamin in the human diet.....
    b. What disease can you get if this vitamin is absent from your diet.....
    c. Name two mineral requirements by the human body
    d. In case of one of these minerals, state its function in the body
38. What is an enzyme
    a. What name is given to the substance that an enzyme act on.....
39. Write TRUE for statements that are true and FALSE for statements that are not true
    i) All disaccharides are soluble in water.....
    ii) Galactose is fruit sugar.....
    iii) Most plant proteins are first class proteins.....
    iv) The emulsion test is used to test for protein.....
40. Answer the following questions briefly
    i) Why do amino acid react with both acid and base
    ii) Name the process by which you can change a monosaccharide into a disaccharides
    iii) Give any three characteristics of disaccharides
    iv) How would tou test for a monosaccharide
    v) When testing for non reducing sugar the specimen is mixed with hydrochloric acid. What is the use of the acid?
41. What is a polysaccharides? Give three examples
    i) Give any three characteristics of polysaccharides
42. Explain briefly how you would carry out the following food test
    ii) Million test
    iii) Test for reducing sugar
    iv) Test for starch

43. What food substance would you be testing for in the following food tests?
    i) Biuret test
    ii) Grease spot test
    iii) Sudan III test

44. Fill the gaps in the following table to show that the test is positive for the type of food being tested

TEST	OBSERVATION
i) Millions	
ii) emulsion	
iii) benedict's	
iv) iodine	

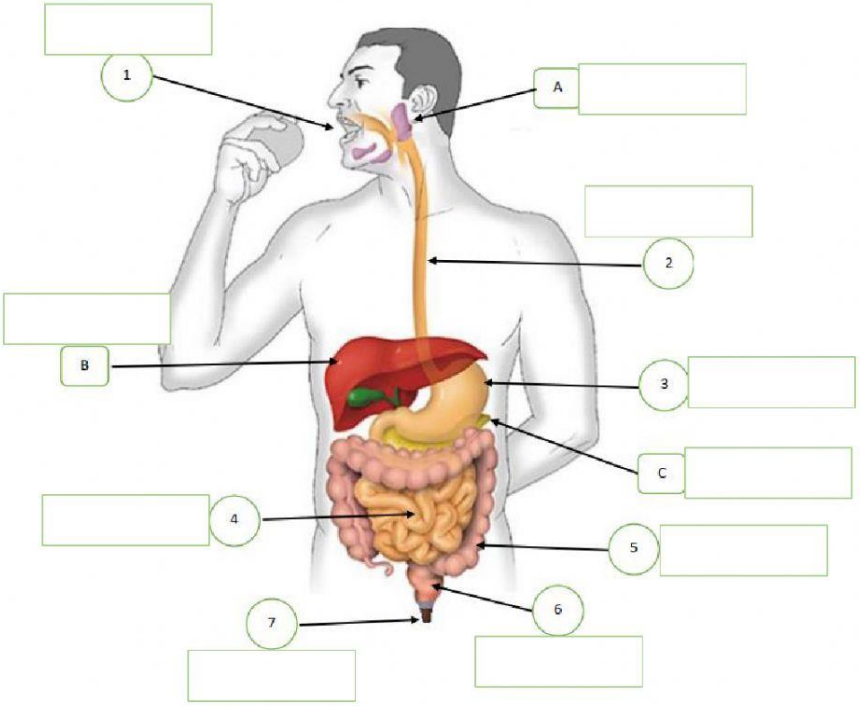
45. Study the diagram of digestive system and answer the questions that follow

Assumption College Ubonratchathani

Name:..... Class..... No.....

Organs of the Digestive System

Instruction: Identify the different organs of the digestive system.



LIVEWORKSHEETS

i) Name the parts labelled 1, 2, 3, 4, 5, 6 and 7
ii) Name two enzyme secreted by parts labelled A and C
iii) State the role of one of enzymes secreted at part labelled A and C
iv) What is the role of the structure labelled B

46. What is the differences between natural classification and artificial classification
47. Explain why the artificial system of classification is not good.
48. Mention five disadvantages of bacteria
49. Explain the use of the following First Aid Kit components
    i) Scissors
    ii) Gauze
    iii) Adhesive plaster

iv) Iodine tincture
v) Whistle

50. Outline the procedure of giving First Aid to a victim of nose bleeding
51. Explain the importance of giving First Aid
52. During orientation course, the students were directed to the direction of biology laboratory but before entered, the laboratory teacher remainded the students very important things to consider. What can you conclude about this statement? Give eight points
53. Read the following statements and rearrange in good biological series by writing the full statement
    i) Mount the specimen on a microscope slide, cover it with a cover slip
    ii) Place the slide with the specimen on the stage
    iii) Adjust the fine adjustment knob to bring the image into sharp focus
    iv) While looking through the eye piece use your hand to adjust the shape so that light is directed at the specimen on the stage
    v) Place the microscope on the laboratory table make sure its not near the edge
    vi) Adjust the course adjustment knob to bring the image into focus
54. Why do we rotate the nose piece to a higher power objective lens
55. Why a specimen to be viewed using a microscope is covered with a cover slip
56. During observation of plant cell from an onion bulb. Why we are recommended to put a drop iodine on the edge of a cover slip?
57. Mention five components of dissecting kit
58. According to the laboratory rules. What would you do in the following situation
    i) While you are boiling some water you realize that you need to go and get a book from the classroom
    ii) Ther is some unused acid left in a test tube after you finish an experiment
    iii) You need to perform an experiment but there is no body in the laboratory
    iv) There is a bottle containing clear liquid on the bench but you are not sure what its contents are
    v) Your partner is beaten by a mouse during an activity
    vi) You have finished your biology experiment for the day
    vii) Your partner suggest that you carry the apparatus out of the laboratory so that you can repeat the experiment in your free time
    viii) One of your classmate has brought some peanuts to the laboratory
    ix) You need to smell gases given off during experiment
    x) You need to switch off an electric switch
59. List the major groups of living things (mention five)
    i) What is the name of organism in the figure below

60. What do you understand by the term “personal hygiene”
    i) State four principles of person hygiene
    ii) State four principles of good manner
61. Define the term diffusion and osmosis

i) Explain why a red blood cell immersed in low concentrated solution burst
ii) State one function of each of the following
    1) Red blood cell
    2) White blood cell
    3) Platelets

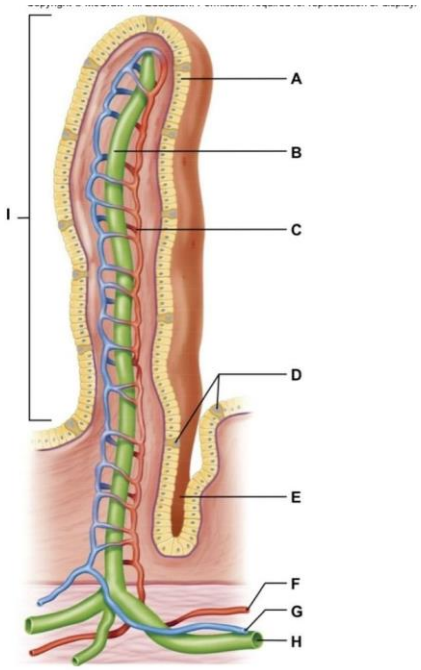
62. Define each of the following terms
    i) Digestion
    ii) Emulsification
        1) Name the parts where digestion of the following food substance begin
            i) Starch.....
            ii) Protein.....
            iii) Lipid.....
        2) Mention atleast four components of saliva
            i) .....
            ii) .....
            iii) .....
            iv) .....

63. Define each of the following terms
    i) Enzyme .....
    ii) Assimilation.....
    iii) Absorption.....
    iv) Egestion.....
    v) Alimentary canal.....
    vi) Peristalsis.....
    vii) Nutrition.....
    c) Differentiate between the digestive system of ruminant and the digestive system of human

Ruminant digestive system	Human digestive system
i).	
ii).	
iii).	
iv).	
v).	

    d) Explain why pepsin is produced in an inactive form?

64. Observe the following diagram carefully and then answer the questions that follows



i) Identify the above diagram.....
ii) Name the parts labelled A, B, C, D, E, F, G, H and I
iii) Name the part where absorption of most food substances takes place.....
iv) How does the structure labelled I adapted to its function (give four adaptation)
v) Name the part where fatty acid and glycerol are carried after absorption.....

65. Define the following terms
    i) Cell
    ii) Cytology
    c) Mention the main parts of the cell
    d) Draw the plant cell to show the main parts of the cell
    e) Name the following
        i) Motile cell.....
        ii) Cell without nucleus.....
        iii) A cell that changes its shape.....
        iv) A cell that transport water.....
        v) A cell that absorb water.....
        vi) A cell that contain a lot of chloroplast.....
66. With examples write an essay on heterotrophism
67. Write an essay on the disorders of digestive system
68. Study the diagram below and answer the questions that follow

69. Explain six scientific process used in studying biology
    i) Measuring tools cannot be 100% accurate, we can increase accurate of measurement by (name three)
        1. .....

2. .....
3. .....

70. Give the use of the following laboratory equipments
    ii) Fishing net.....
    iii) Hand lens.....
    iv) Pooter.....
    v) Petri dish.....
    vi) Crucible.....
71. Draw the diagram of microscope and label all its parts
72. Fill in the space bellow with the correct words or phrase
    i) When the pathogen enters the body they may produce.....
    ii) Any foreign substance which enters the body is called.....
    iii) Pathogen and their toxin are example of .....
    iv) Babies get immunity from their mothers through.....
    v) Introduction of weakened microbes into our body to offer protection is called.....
    vi) Chemical substances produced by the body immune system.....
    vii) .....is the study of classification
    viii) The proved theory supported by evidence is .....
    ix) The process by which energy is made available in living things is .....
    x) Scientific investigation begins with.....
    xi) An experiment that is set to make comparison with the test experiment is called.....
73. Match the phrase in LIST A with the responses in LIST B by writing the letter of the correct responses in the table provided

LIST A	LIST B
i). A term used for organism with four chambered stomach ii). Mulnutritional disorders caused by deficiency of protein in children iii). Enzyme responsible for digestion of protein iv). Malformation of bones caused by deficiency of vitamin D in the diet v). Failure to see in dim light due to deficiency of vitamin A in a diet vi). Painful sensation caused by regurgitation of stomach contents vii). Bleeding of gums and poor healing of the wound due to deficiency of vitamin C viii). Painful sore in the lining of the digestive system ix). The substance responsible for coagulation of milk x). A person has loss of appetite and loss of nervous sensationdue to deficiency of vitamin B1 in a diet xi) is the sign and the symbol for first aid	A. Night blindness B. scurvy C. Pepsin D. Pellagra E. Beri beri F. Ulcers G. Rickets H. Kwashiokor I. Marasmus J. Dental caries K. Heart burn L. Renin M. Anorexia nervosa N. Ruminant O. Bulmia nervosa P. Red cross

74. Complete each of the following statements by wrting the correct answer in the space provided
    i) Finger like projection that helps in the absorption of food.....
    ii) Movement of food along the alimentary canal.....
    iii) Feeding of died decaying matter.....
    iv) Digestive juice that contains three enzymes.....
    v) Loss of water in plants in form of droplets.....
75. What is virus?
    a) Give reason to support that virus are
        i) Non living
        ii) Living things
    b) List the following
        i) Three advantages of fungi
        ii) Two disadvantages of mosses
        iii) Four division of kingdom plantae
76. What is muscle cramp
        a). Mention ways of preventing muscle cramp
77. Name the disease that is caused by the following
        i) Amoeba
        ii) Paramecium
        iii) Plasmodium
78. Distinguish between
    i) Food preservation and food storage
    ii) Refrigeration and freezing
    iii) Curing and smoking
    c) Explain how the following methods can be used to preserve food
        i) Smoking
        ii) Pasteurization
        iii) Using additives
79. Using examples discuss the economic importance of kingdom fungi
80. a) what is waste
    c) what is waste disposal
    d) mention ways of disposing waste at home
    e) describe the effect of poor waste disposal
81. match the following items

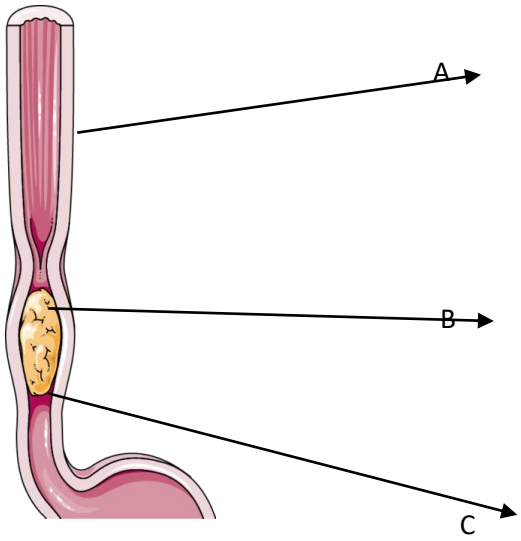
LIST A	LIST B
i). An enzyme that convert lipids to fatty acid and glycerol ii). It contains an acidic medium for digestion iii). Site for dumping soil and covering it with soil iv). The process of burning waste until it is completely destroyed v). The process of turning waste into new product	A. cow B. stomach C. ferns D. human being E. incineration F. land fill

	G. lipase H. pit latrines I. recycling J. typhoid

82. complete each of the following by writing the correct answer in the space provided
    i) The elements required in large quantity are called.....
    ii) The loss of nutrients into ground due to water logging.....
    iii) Classification based on external features only.....
    iv) Have two life cycle which alternate to complete life.....
    v) Organism that feed on died decaying matter.....
83. describe the procedures of giving first Aid to a snake bite
84. Give a reason as to why it is necessary to put on gloves when giving first?
85. What is meant by the term “agent of disease”
    a) Name the agent for each of the following disease
        i) Common cold
        ii) Chorela
        iii) Dysentery
        iv) Bilharzias
        v) Malaria
86. What do you understand by the term “laboratory”
    b) Outline four qualities of a good laboratory
    c) Mention one function of each of the following
        i) Petri dish
        ii) Mortar and pestle
        iii) Hand lens
        iv) Thermometer
87. What do you understand by the term “puberty”
    a) Mention four requirements of personal hygiene
    b) State two ways of maintaining personal hygiene during puberty
88. What do you understand by the term “water borne disease” as used in biology
    i) Name any three water borne diseases
    ii) What would happen if a healthy person drinks unboiled water contaminated with the following
        a) Salmonella typhi
        b) Entamoeba histolytica
89. Write an essay on kwarshiokor using the following guidelines
    i) Meaning
    ii) Cause
    iii) Symptoms
    iv) Effects
    v) Prevention and control
90. Write an essay on tuberculosis using the following guidelines

i) Meaning
ii) Transmission
iii) Signs/symptoms
iv) Effects
v) Prevention and control

91. Study the following diagram and answer the questions that follow



i) Name the process labelled A, B and C
ii) What process is taking place in the diagram above
iii) Name two muscles that form the structure above

92. Write TRUE or FALSE

i) A cell is the basic functional unit of life.....
ii) A victim of an electric shock should be moved by using a metallic object.....
iii) Sexually transmitted disease can be treated using painkillers.....
iv) The best way to dispose clinical syringe is by recycling.....
v) The use of unsterilized surgical and skin piercing tool can lead to HIV/AIDS transmission.....
vi) A group of interdependent organisms living in an environment is called a community.....
vii) Animal cells have no chloroplasts.....
viii) Maintaining personal hygiene reduces the risk of infection.....
ix) Protein in the diet are needed for growth and repair.....
x) Malaria is transmitted by a plasmodium.....
xi) All bacteria are harmful.....
xii) Protoctists are heterotrophic in nature.....
xiii) Euglena bloom are beneficial to fish.....
xiv) Paramecium has a contractile vacuole which regulates amount of water.....

xv) Amoeba reproduce by binary fission

xvi) Virus reproduce by cell division

Most viral disease can be cured.....

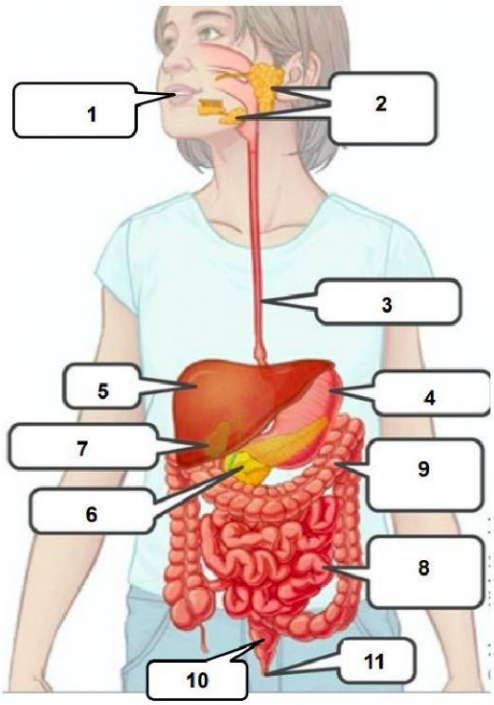
Bacteria can be used in sewage treatment, by feeding on it and rendering chemicals harmless.....

Paramecium is an example of complex cell.....

The eye spot in euglena is used in photosynthesis.....

MISSION 1 - AMATEUR

Use the information in the picture to complete the missing information.



Number **1** is the _____ .

In number **2** we can see the _____ _____ . They produce _____ .

Number **3** is the _____ .

Number **4** is the _____ .

Number **5** is the _____ , which produces _____ .

Number **6** is the _____ , which produces _____ _____.

Number **7** is the _____ .

Number **8** is the _____ _____ .

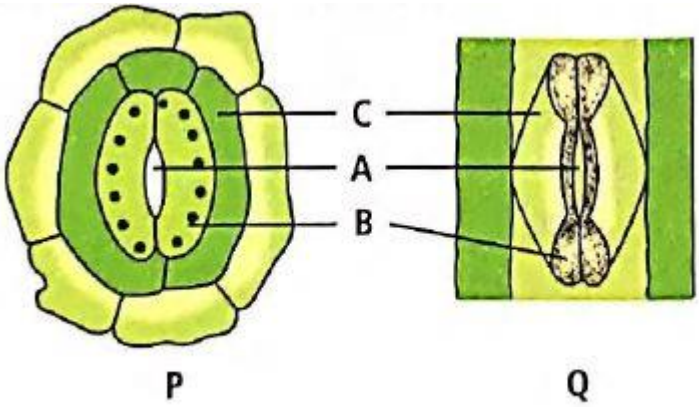
Number **9** is the _____ _____ .

Number **10** is the _____ .

Number **11** is the _____ .

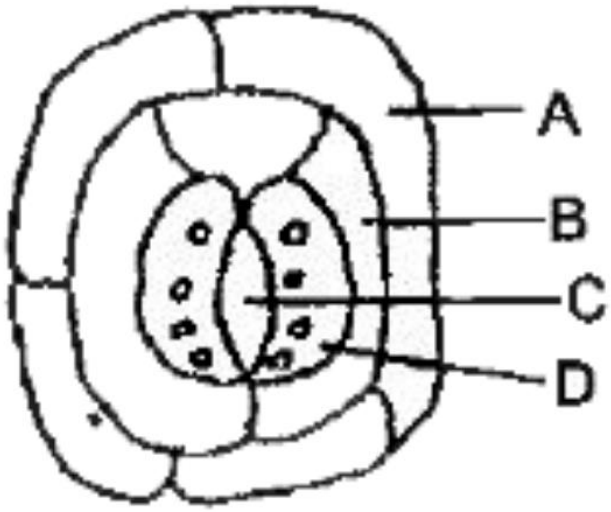
TRANSPORT OF MATERIAL IN LIVING THINGS

1. study the following diagram and answer the questions that follow

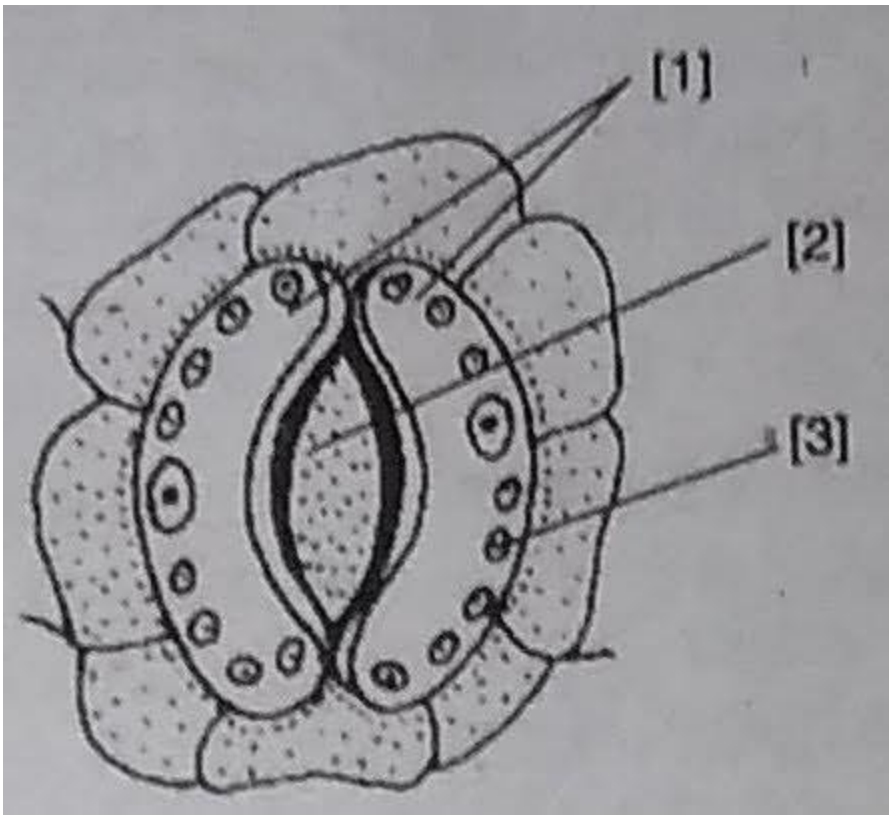


i) what take place to the above diagram P and Q?
ii) Name the structure labelled A, B and C
iii) Give two adaptation of the structure labelled B
iv) Describe the photosynthetic theory that explains the mechanism of stomata opening and closure

A diagram of a stomatal apparatus is given below. Which of the following options correctly represents the parts of the figure labeled by A, B, C and D?

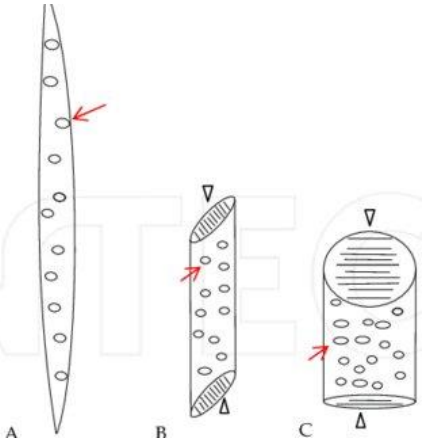


2.
3. Study the diagram below and answer the questions that follow



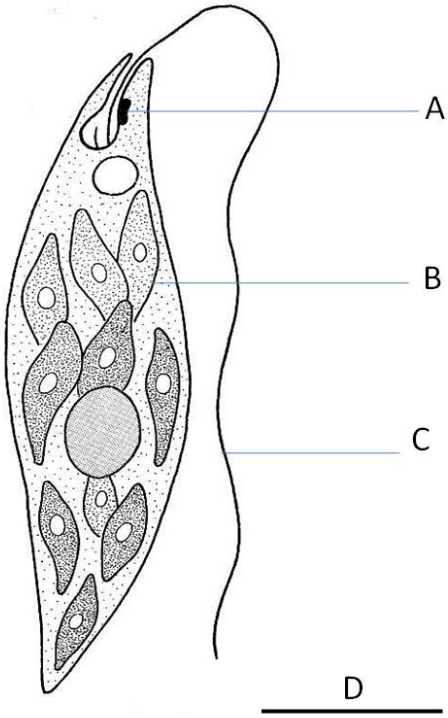
i) Name the structure labelled 1, 2 and 3
ii) Give one function of the structure labelled 3
iii) Give two adaptation of the structure labelled 1
iv) Explain the mechanism of opening and closing of the guard cell

4. Study the diagram bellow answer the questions that follow



i) Name the structure labelled A,B and C

5. Study the diagram bellow and answer the questions that follow



i) What is the name of the structure labelled A, B, C, and D
ii) Identify the locomotory structure for the organism
iii) State three advantages of the organism above

1. Most bacteria are ……..(autotrophs/heterotrophs) because they must get food from an outside source. However cyano-bacteria can use the sun to produce food therefore are called…… Some perform ……getting food from chemical compounds.
   The five shapes of bacteria are……(which is round /spherical), ……(which is rod shaped),…….. (which is spiral shaped)……(which is comma shaped) and ……(which is screw shaped). Some bacteria also have a tail called……..

6.

7. Write TRUE or FALSE
   i) Botany is the study of animals
   ii) Gaseous exchange in mammals take place in the nose and mouth
   iii) During inhalation the ribs moves upward and outward
   iv) Landfill in a way of disposing domestic wastes
   v) amylase is an enzyme which act on protein
   vi) syphilis is a communicable disease
   vii) all bacteria are harmful to man
8. match each items in LIST A with a correct responses in LIST B by writing in the space provided

LIST A	LIST B
i) the highest rank in classification ii) a group of organisms that can interbreed to produce fertile offspring iii) a sub-group of kingdom plantae in which ferns belong iv) a group of genera with similar characteristics v) a sub-group of highest rank of classification vi) a sub-group of kingdom fungi in which bread mould belongs vii) a sub-group of kingdom fungi in which mushroom belongs viii) a sub-group of kingdom fungi in which yeast belongs ix) the highest group in which bacteria belongs x) a sub-group of kingdom plantae in which moss belongs	A. kingdom B. phylum C. species D. class E. family F. genus G. order H. kingdom monera I. division pteridophyta J. phylum bryophyte K. kingdom plantae L. phylum zygomycota M. phylum basidiomycota N. phylum ascomycota O. kingdom protoctista

9. write TRUE or FALSE
   i) a break red precipitate is formed when bean seed extract is boiled
   ii) artificial classification is based on few observable features
   iii) air, water and soil are examples of abiotic components of the environment
   iv) a structure which prevent the entrance of food and water into the trachea is called a villus
   v) fermentation is a form of aerobic respiration in plants
   vi) heart, liver and leaves are examples of organs
   vii) hugging and holding hands leads to JIV transmission
   viii) mosses and liverworts have true roots, stems and leaves
   ix) the process of sorting living things into groups is called classification
   x) tuberculosis is a communicable disease
10. which of the following is not a component of First Aid Kit?
   A. Razol blade
   B. Panadol
   C. Bandage
   D. Microscope
11. Suppose you are provided with small sections of cells from different organisms, which equipment will you use to magnify?
   A. Test tube
   B. Watch glass

C. Microscope
D. Petri dish

12. An experiment usually test
    A. Application
    B. Evaluation
    C. Hypothesis
    D. Problem identified
13. The aim of experiment in the scientific investigation investigation is to
    A. Identify the problem
    B. Test the hypothesis
    C. Confirm the problem
    D. Predict the result
14. Which part of a microscope is the second step of scientific investigation?
    A. Identifying the problem
    B. Experimentation
    C. Formulating hypothesis
    D. Asking questions
15. Mr. Mapinda picked up a telephone after hearing it ringing. Which characteristics of living things was mapinda showing by these action
    A. Growth and respiration
    B. Irritability and movement
    C. Irritability and respiration
    D. Sensitivity and irritability
16. What prevent blood from flowing backward in veins
    A. Muscles
    B. Valves
    C. Cartilage
    D. Platelets
17. Blood cell are made
    A. In the heart
    B. From lymph
    C. From plasma
    D. In the bone
18. Blood from the lung enters the heart at the
    A. Left ventricle
    B. Left atrium
    C. Right atrium
    D. Right ventricle
19. ---------- help you stay health by destroying pathogens
    A. Red blood cell
    B. White blood cell
    C. Plasma

D. Platelets

20. People with type _____ blood are universal donor
    A. A
    B. B
    C. AB
    D. O
21. Each ____- contain a protein calledhaemoglobin
    A. Platelets
    B. Red blood cell
    C. Vein
    D. White blood cell
22. In the biology laboratory there are different apparatus and equipments used for conducting experiments. Draw the apparatus used for
    i) Putting specimen for close observation
    ii) Grinding or crushing substances in the laboratory
    iii) Adding liquid during an experiment drop by drop
    iv) Scooping powder or crystalline substances
23. Briefly explain why the following substances are dangerous
    i) Toxic substances
    ii) Highly flammable
    iii) Corrosive substances
    iv) Radioactive substances
24. Why school should have a biology laboratory. Give reasons
25. Outline five steps involved in using a microscope
26. Mention four types of organs found in animal body.
27. Mention five characteristics common to all living things
28. Name the instrument used to measure the following
    i) Temperature
    ii) Length
    iii) Time
    iv) Mass
29. Match the functions of the parts of microscope in LIST A with their corresponding phrase in LIST B

LIST A	LIST B
i) Allows light to pass from the objective lens to the eye piece ii) Support the eye piece and revolving nose piece iii) Rises or lower the body tube in order to bring the image into sharp focus iv) Rises or lowers the body tube in order to bring the image into focus v) Rises or lowers the stage in order to keep the	A. Body tube B. Coarse adjustment knob C. Diaphragm D. Fine adjustment knob E. Hinge screw F. Mirror G. Ocular tube

specimen in right position for observation	H. Stage clip

30. Why is a hand lens useful in studying biology?
31. Define the following terms
    i) Biology
    ii) Laboratory
    iii) Test tube
    iv) botany
    b). State the uses of each of the following laboratory apparatii
        i) microscope
        ii) thermometer
        iii) test tube holder
        iv) crucible
        v) deflagrating spoon
32. define the term "biology" and "biologist"
    c) mention two major branches of biology
    d) briefly explain how biology is related to the following fields
        i) agriculture
        ii) medicine
        iii) forestry
    e) explain four qualities of a good laboratory
    f) mention one function of each of the following
        i) petri dish
        ii) mortar and pestle
        iii) hand lens
        iv) thermometer
33. match the following items in LIST A with the correct responses in LIST B

LIST A	LIST B
i). Comes from two greek words ii). Is a cavity filled with fluid known as cell sap iii). Provide firm and steady support to the cell iv). It control activities of the cell v). Sudden violence disturbance of mind and emotion	A. hebarium B. base stand C. vacuole D. cell wall E. shock F. museum G. fainting H. biology I. laboratory J. nucleus

34. complete each of the following statement by writing the correct answer in the space provided
    i) an organism that causes typhoid fever

ii) invasion of the body by disease causing micro organisms
iii) ability to make fine details in a specimen to be seen
iv) organism made up of many cells
v) disease that can be transmitted from one person to another

35. a) define the following terms
i). Personal hygiene
ii). good manner
iii). Immunity
b). Explain why a body at puberty need to practice more hygiene
c). Mention four importance of first aid
d). Mention five causes of accidents in the laboratory

36. study the following diagram and answer the questions that follows

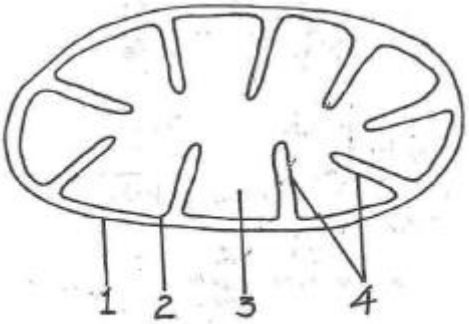


Diagram A

i) identify the name of diagram above
ii) mention the parts labelled 1, 2, 3 and 4
iii) state the function of the part labelled 4
iv) give three adaptation of the structure above to its function

37. the diagram shows parts of rhizopus

B

38. study the structure bellow and answer the questions that follow

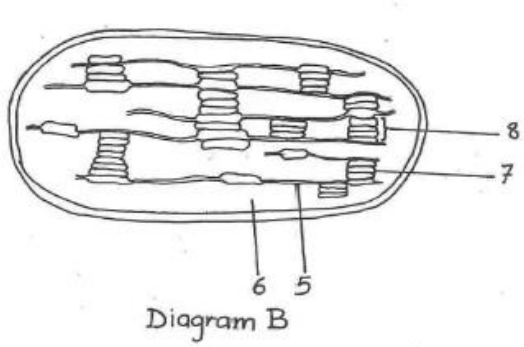


Diagram B

i) identify the name of the diagram above
ii) mention the structure labelled 5, 6, 7 and 8
iii) state the function of the parts labelled 6 and 8

39. the parasite that cause malaria is
    A. plasmodium
    B. trypanosome
    C. mosquito
    D. amoeba
40. bacteria that cause gonorrhoea in man
    A. Treponema pallidum
    B. Naiseria gonorrhoea
    C. Vibrio cholera
    D. Clostridium tetani
41. Which one of the following is the vector for plaque
    A. Black fly
    B. Tsetse fly
    C. Mosquito
    D. Flea
42. AIDS continue to spread worldwide. This phenomenon is termed as
    A. Sporadic
    B. Pandemic
    C. Epidemic
    D. Endemic
43. Which one of the following is not a method of waste disposal
    A. Burning
    B. Compost
    C. Incineration
    D. Burying
44. The following are causes of breathing to stop
    A. Drowning
    B. Chocking

C. Something stuck in the throat
D. Fainting

45. Effective ways of reducing waste are displayed in the following. except
    A. Using rechargeable batteries
    B. Using recycled materials
    C. Buying new plastic shopping bags every time we go shopping
    D. Using cloth instead of paper to clean windows
46. Which of the following is most important basic difference between plants and animals
    A. Growth
    B. Movement
    C. Nutrition
    D. Irritability
47. Characteristics of living things are
    A. Breathing, growth, locomotion irritability and cell wall
    B. Cell membrane, breathing, growth and feeding
    C. Nucleus, reproduction, irritability and growth
    D. Reproduction, breathing, growth, excretion and irritability
48. Interpretation means
    A. To make sense of information
    B. An opinion
    C. A school of thought
    D. An idea
49. If you look at a cell in frog, muscles you will observe that these cells contain nuclei but lack cell wall. The statement that frog muscles contain nuclei but no cell wall is termed as
    A. Hypothesis
    B. Conclusion
    C. An assumption
    D. None of the above
50. Match the items below from LIST A with corresponding item from LIST B

LIST A	LIST B
i). Study of fungi, toad stool and mushroom ii). A doctor locating the location of pituitary gland iii). The study of how the body functions iv). The study of housefly, mosquitoes and sand fly v). Study of infectious diseases	A. Anthropology B. Virology C. Physiology D. Anatomy E. Epidemiology F. Mycology G. entomology

51. Write TRUE or FALSE
    i) T.B, cholera and malaria are contagious disease

ii) A hypothesis is an idea or explanation that is proposed as an answer to the observed problem
iii) Corrosive chemical can burn clothes and books because they catch fire easily
iv) Any material that is not in use is called waste
v) Personal hygiene includes cleanliness of the body clothing the environment
vi) Wearing short, transparent and skin tight clothes is an example of good manners
vii) A person will get sick when he/she is infected with pathogens
viii) Drug abuse and taking alcohol are risky practices that can lead to transmission of STDs
ix) Only person with many sexually partners can gets STIs
x) Passive natural immunity lasts throughout human life

52. Match the response in LIST A with the phrase in LIST B by writing the letter of the correct response below

LIST A	LIST B
i) Massage ii) Iodine tincture iii) Vaseline iv) Respiration v) Explosive	A. Oxidation of food substances B. To clean fresh cut and bruises C. To apply on burn D. Accident E. Preserve dead dry living things F. Nose bleeding G. Muscles clamp H. Warning sign

53. Fill the gaps below with the correct word
    i) Organism made of many cells.....
    ii) The study of virus is called.....
    iii) Loss of mineral salts into the soil due to water logging.....
    iv) The study of yeast, toad stool and mushroom is called.....
    v) A person who study botany is called.....
54. You find your friend is very sick and you suspect that it is due to poisoning
    a). How would you know that it is poisoning?
    b). How would you do to help your friend?
    c). Why it is not advisable to induce vomiting to a person who has been poisoned?
55. advise the community that surrounds you on ten ways to prevent spread of infectious diseases
56. youth face much obstacle of adapting to their society due to unethical practices. Briefly give four principles of the good manners to be followed by youth so as to be accepted in their societies.
57. the government sent 30 million at your school to build laboratory. As a biology teacher what are four qualities will you advice the engineer and school management team to consider during building the biology laboratory
58. Write TRUE or FALSE
    i) Electric shock, fire, colds and burns can endanger our lives
    ii) Drivers and passengers are more concerned with road signs and not students
    iii) Improper use of useful substances such as vehicle, electricity and water bodies can endanger our lives
    iv) Biting and stinging animals can cause harm to our bodies, yet they are very useful to man

v) Do not wear high heeled shoes in the laboratory
vi) All fires are flames as all flames are fire
vii) In case of accident in laboratory, run faster to save your life
viii) A victim of snake bite should be given enough alcohol to relieve pain
ix) Always follow teacher instruction while in the laboratory
x) All fires can extinguished by use of water

59. Fill in the space provided
    i) Scientific investigation begin with_____
    ii) We make observation using_____
    iii) In biology we can measure the height of the plant by using_____
    iv) A scientist can be able to accept or reject hypothesis by doing_____
    v) An experiment that is set to make comparison with the test experiment is called_____
60. What do you understand by the term experimentation
    a) Give the meaning of
        i) Hypothesis
        ii) Theory
        iii) Fact
61. Which factors to consider when constructing a biology laboratory
62. Identify the step of the scientific method in each of the following stuations
    a. Makeja is not feeling well, he goes to see a medical doctor at a nearby hospital.....
    b. The doctor asks john several questions about how he feels.....
    c. The doctor orders makeja's body temperature, blood and urine samples for observation in the laboratory.....
    d. The laboratory technician diagnose malaria parasite in makeja's blood.....
    e. The doctor confirms that makeja has malaria and prescribes medicine for him.....
63. What is the importance of control experiment when testing a given hypothesis
64. Using relevant examples explain how a quality of matter can be estimated through local observation
65. Why is it important for scientists to use a standard system of measurement?
66. What does the following safety symbol below represent

67. Give two weakness of using sense organs to make observations
68. Where can you see the following safety signs in real life situation?
    a. Slippery floor
    b. Flammable
    c. High voltage

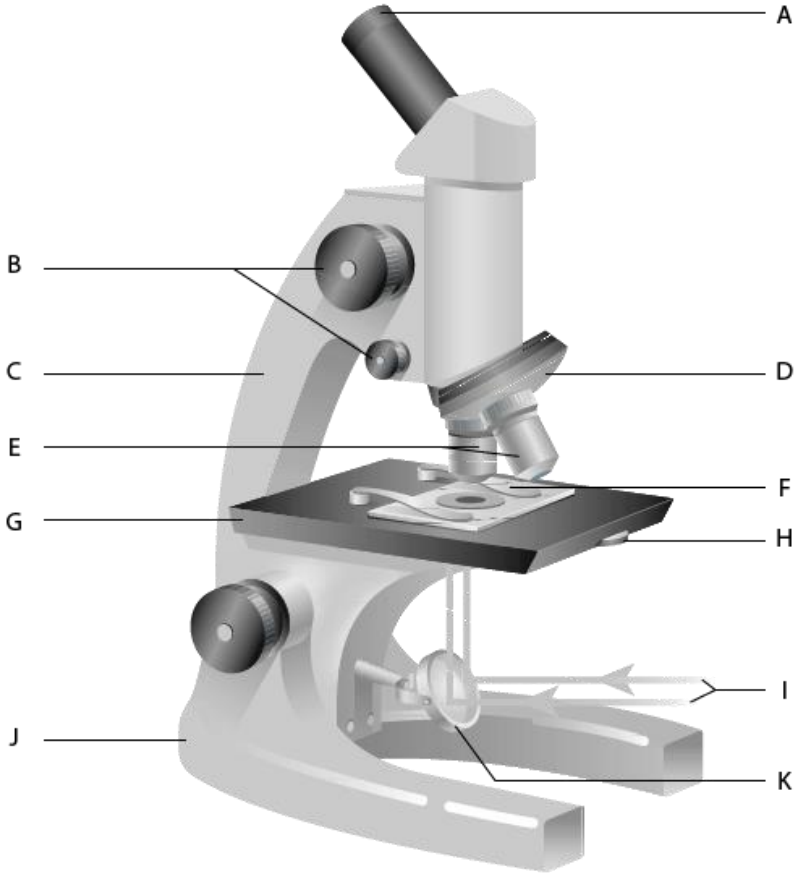
d. Strong radiation
e. Bioharzard

69. Write seven processes that take place in the bodies of living things
70. Excretion is the process of removing-by- products from the body of an organism. Give three examples of excretory products eliminated by the living things
71. Biology is more than plants and animals. Explain
72. Name five chemicals used in the laboratory
73. What does the following safety symbol represent?



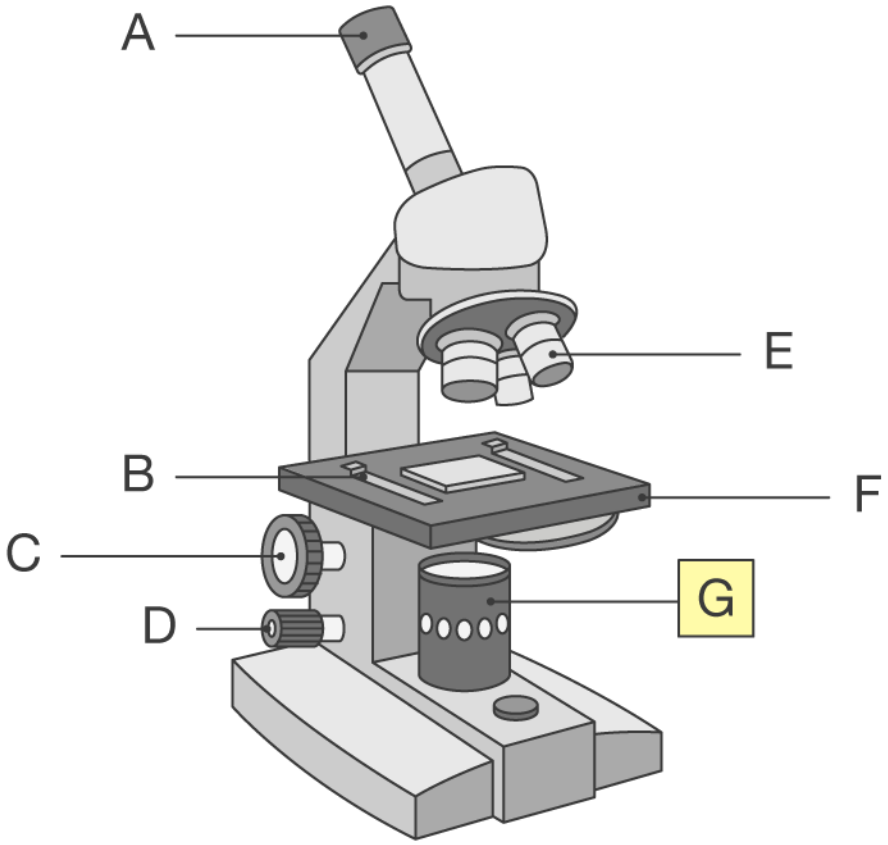

A..... B..... C..... D.....

74. How do you determine the magnification of an object viewed under a light microscope?
    b). State the function of the following parts
    i) Base
    ii) Diaphragm
    iii) Mirror
    iv) Condenser
    v) Stage
75. How can you tell that someone is suffering from shock
76. Name atleast five causes of fainting
77. Describe three warning chemicals found on the laboratory containers
78. Study the diagram below and answer the questions that follow



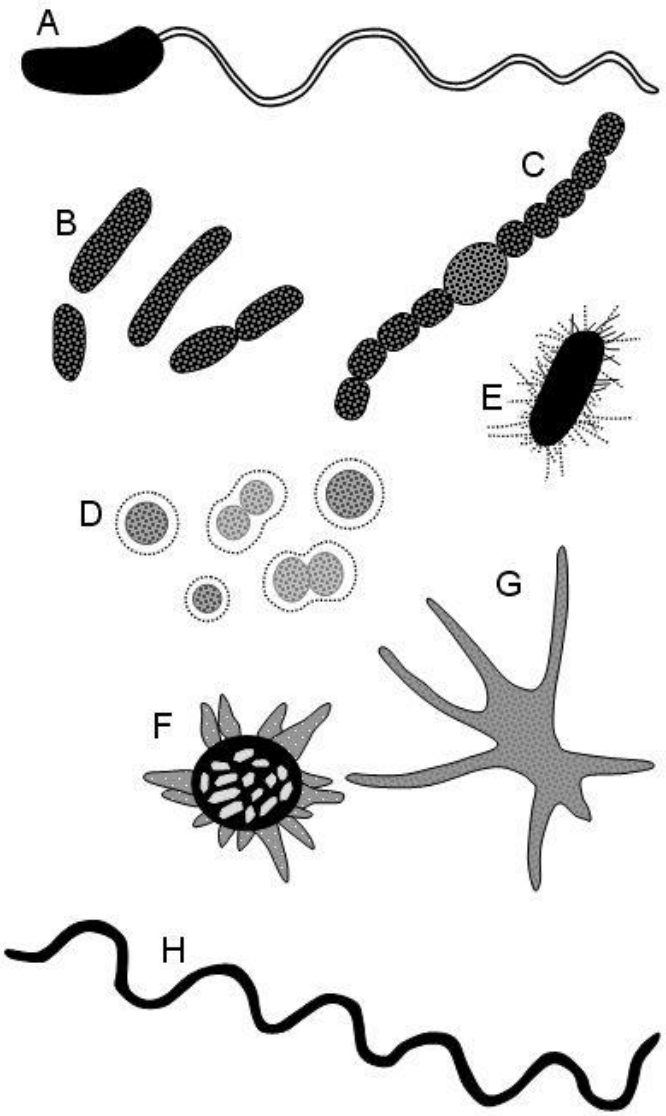
i) Identify the diagram above
ii) Name the structures labelled A-K
iii) State the function of the structure labelled

79. Study the diagram below of a microscope and answer the questions that follow



i) Identify the structure labelled A-G
ii) Give the function of the part labelled B, C, D, F, G
iii) How can we care a microscope?

1. Study the following diagrams and answer the questions that follows



i) Identify organism labelled A-H
ii) Give four shapes of bacteria and their examples
iii) Bacteria reproduce asexually by dividing into two. What form is used for this form of asexual reproduction?.....
iv) What do bacteria form when environment condition become unfavourable?.....
v) What does the term pathogenic mean in relation to bacteria.....
.....

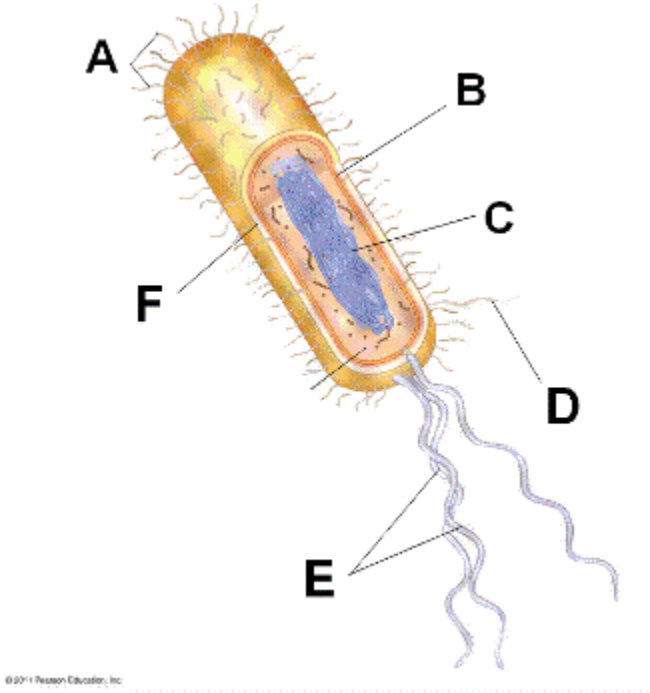
2. Select the correct term from the following list to match each of the items in column A and write it in column B

Sap, liver, lipid, sperm, hot water

A	B

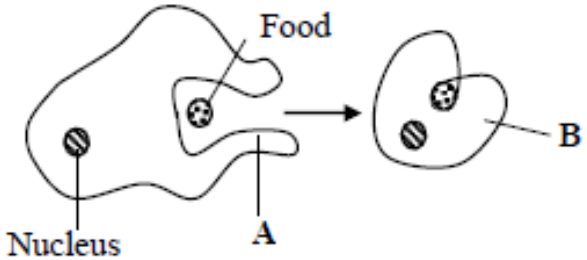
i) Cell membrane	
ii) Vacuole	
iii) Organ	
iv) Scald	
v) Gamete	

3. study the following diagram and then answer the questions that follow



i) name the structure labelled A-F
ii) what is the name of the organism shown on a diagram
iii) name the kingdom of the kingdom of the organism above
iv) what does the term “biofilm” mean
v) mention three economic importance of the organism above

4. study the diagram below and then answer the questions that follows

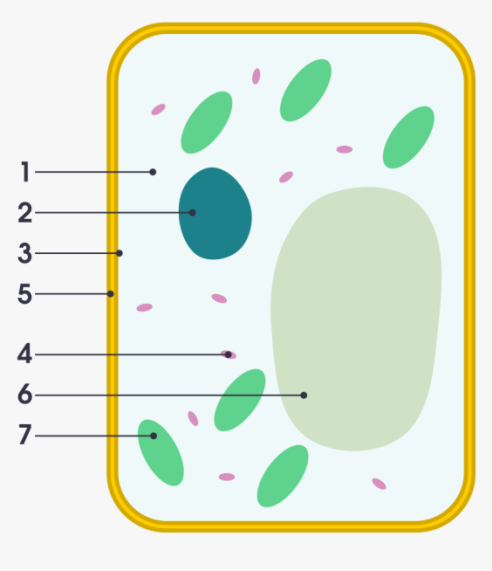


i) name the process that is taking place above
ii) name the structure labelled A and B

iii) Name the group of organism that depend on this form of feeding

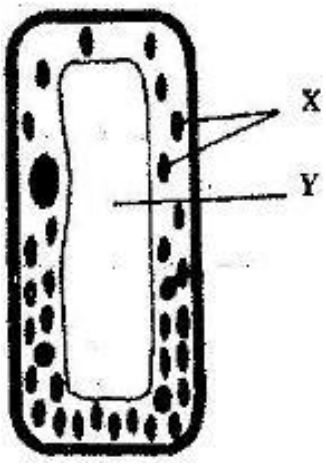
5. Using examples
   a. Mention five ways of preventing STI_S
   b. Briefly explain five ways through which a person can contact HIV
   c. Outline five habits that can lead to STD_S
   d. Mention five ways in which PLWHA are stigmatised in the society
   e. Give two precaution that you should take when caring for PLWHA
6. Explain the importance of the following
   a. Early testing and proper treatment of opportunistic infections and diseases for PLWHA
   b. Proper and early health care for PLWHA
   c. Staying in secluded area with persons of the opposite sex or strangers
   d. Staying away from immoral friends
   e. Reporting immediately all cases of sexual abuse to parents, teachers and police
7. How can the following risk behaviour or practices contribute to HIV infection?
   a. Drinking alcohol
   b. Sharing razol blades
   c. Having immoral friends
   d. Drug abuse
8. Explain seven ways through which HIV can be prevented.
9. Explain causes, symptoms and effects of the following diseases
   a. COVID 19
   b. Malaria
   c. gonorrhoea

10. Study the following diagram and then answer the questions that follows



i) Name the structure labelled 1-7
ii) Name the type of cell represented by the diagram
iii) Give the function of the parts labelled 1, 2, 5 and 6

11. Study the following cell and then answer the questions that follows



i) Name the type of cell represented by the diagram
ii) Name the structure labelled X and Y
iii) What is the function of the structure labelled X

12. Explain why it is advised for a person who has been beaten by a snake not to drink alcohol?
13. What are the two components of a virus
14. Compare the structures of a plant and an animal cell as seen under the light microscope
15. Explain what will happen if the following are removed from plants or animal cell
    a. Nucleus
    b. Mitochondria
    c. Cell wall
    d. Cell vacuole
    e. chloroplast

16. Describe the structure of bacteriophage
17. Describe the functions of any three specialized cells in plants
18. Name the parts of the cell described in each of the following statements
    a. The semi permeable membranes that encloses the cytoplasm of a cell
    b. A large cellular organelle that contains hereditary information
    c. The site of respiration in the cell
    d. A jelly like mixture consisting mostly of water located between the cell membrane and the cell nucleus
    e. A part that protects, support, and give shape to plant cells
    f. It is responsible for synthesis of protein
19. The following terms are arranged in alphabetical order. Rearrange them into an appropriate biological sequence, starting with the lowest level

    Cell → organ → organism → system → tissue
20. Explain the meaning of sexually transmitted diseases.
21. Outline the causes, symptoms and effects of the following infections and diseases
    a. Syphilis
    b. Candidiasis
    c. Hepatitis B
    d. COVID-19
22. Animal show different forms of locomotion. Differentiate the forms of locomotion by filling the table

Forms of locomotion	**Structure for locomotion**	**Representative organism**
Amoeboid movement	i).....	iv.....
Ciliary movement	ii).....	v).....
Flagellated movement	iii).....	vi).....

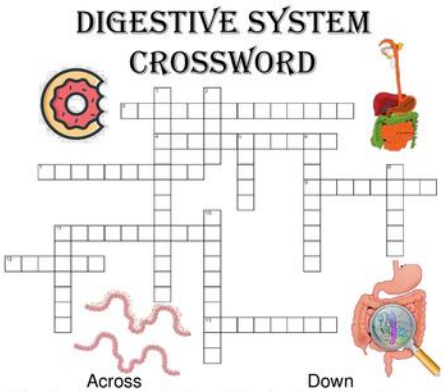
23. Describe the characteristics of *trypanosoma sp*
24. Distinguish between apicomplexa and other protoctists
25. Draw a well labelled diagram of *trypanosoma* sp
26. Explain the effect of the following organisms to humans
    a. *Amoeba sp*
    b. *Plasmodium sp*
    c. *Trypanosome sp*

27. Below is a photography of *Brassica oleracea.* Sukuma wiki leaf

i) State two observable features that adapt the leaf to gaseous exchange

ii) Explain the relationship between photosynthesis and aerobic respiration

28. Name the characteristic of living things illustrated by each of the activities described below
    i) Dressing heavily.....
    ii) Bursting of the sporangium in the rhizopus species.....
    iii) Bending of plant toward the source of light.....
    iv) Crying of people after a heavy punishment.....
    v) Diffusion of oxygen into the gills in fish.....
29. a) Name the respiratory structure in the amoeba
    b). Give a reason for your answer in (a) above



Across

3) Location of where most nutrients are absorbed

4) Organ that stores and releases bile

7) The sum of all the chemical reactions occurring in the body

9) Organ that produces digestive enzymes and secretes insulin

11) Area in an enzyme where the substrate fits

12) Biological catalyst

13) Type of digestion which involves breaking down food with enzymes

Down

1) Absorbs water and forms faeces

2) Projections in the small intestine that increase surface area

5) Organ which produces bile

6) Muscular tube that connects the mouth to the stomach

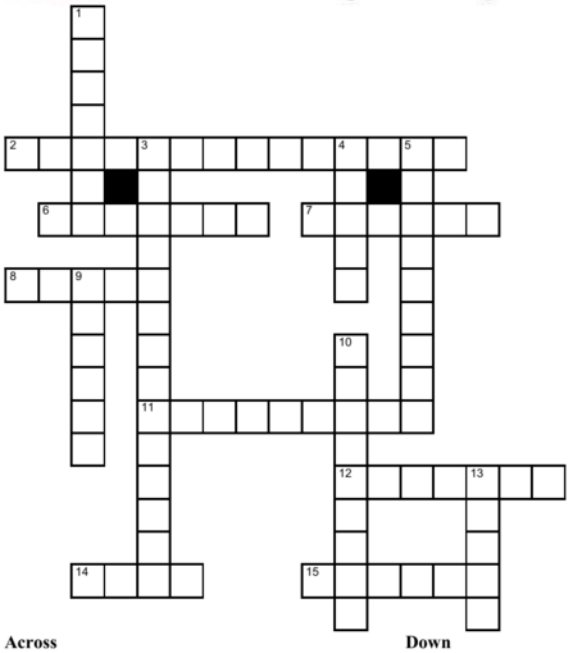
8) Enzyme that converts protein into amino acids

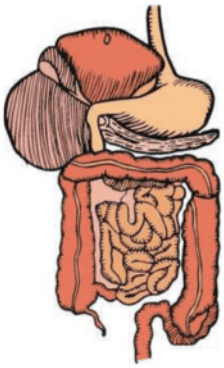
10) Type of digestion which involves breaking down food by crushing or mashing

11) Enzyme that converts starch into glucose

The Human Digestive System

Find the digestive system words below in the grid to the left.





Across

2. A long folded tube inside the body attached to the stomach where nutrients in the food are absorbed.

6. A part of your throat that acts like a gateway sending air into the lungs and food down into the stomach.

7. The place where waste is stored before it leaves the body.

8. The part of the food that is not digested.

11. The tube that connects the stomach to the mouth.

12. A verb that means to push food through your pharynx.

14. Crush food with your teeth.

15. Muscle in your mouth that is used for pushing food around.

Down

1. After being swallowed, food goes to this place where it is mixed with acid.

3. The tube after the small intestine where liquid is absorbed.

4. These are used to chew food.

5. The good things in food.

9. A slippery liquid that makes food easy to swallow and helps to break the food down.

10. The process of breaking down food for use as energy and building materials for your body.

13. This produces juices (called bile) that go into the small intestine and help digest the food.

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Digestive System Crossword

Down

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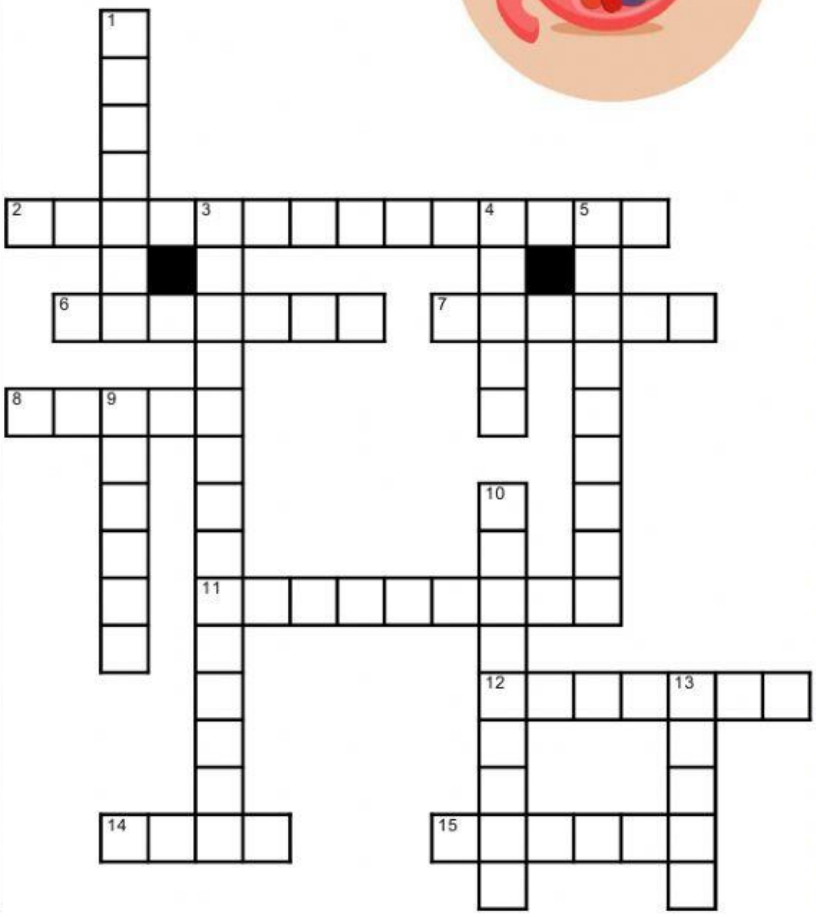

Across

2. A long folded tube inside the body attached to the stomach where nutrients in the food are absorbed.
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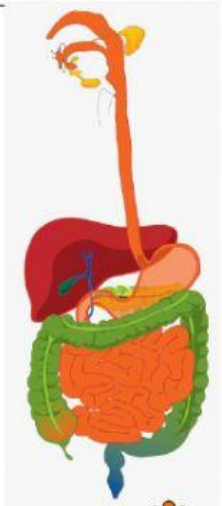
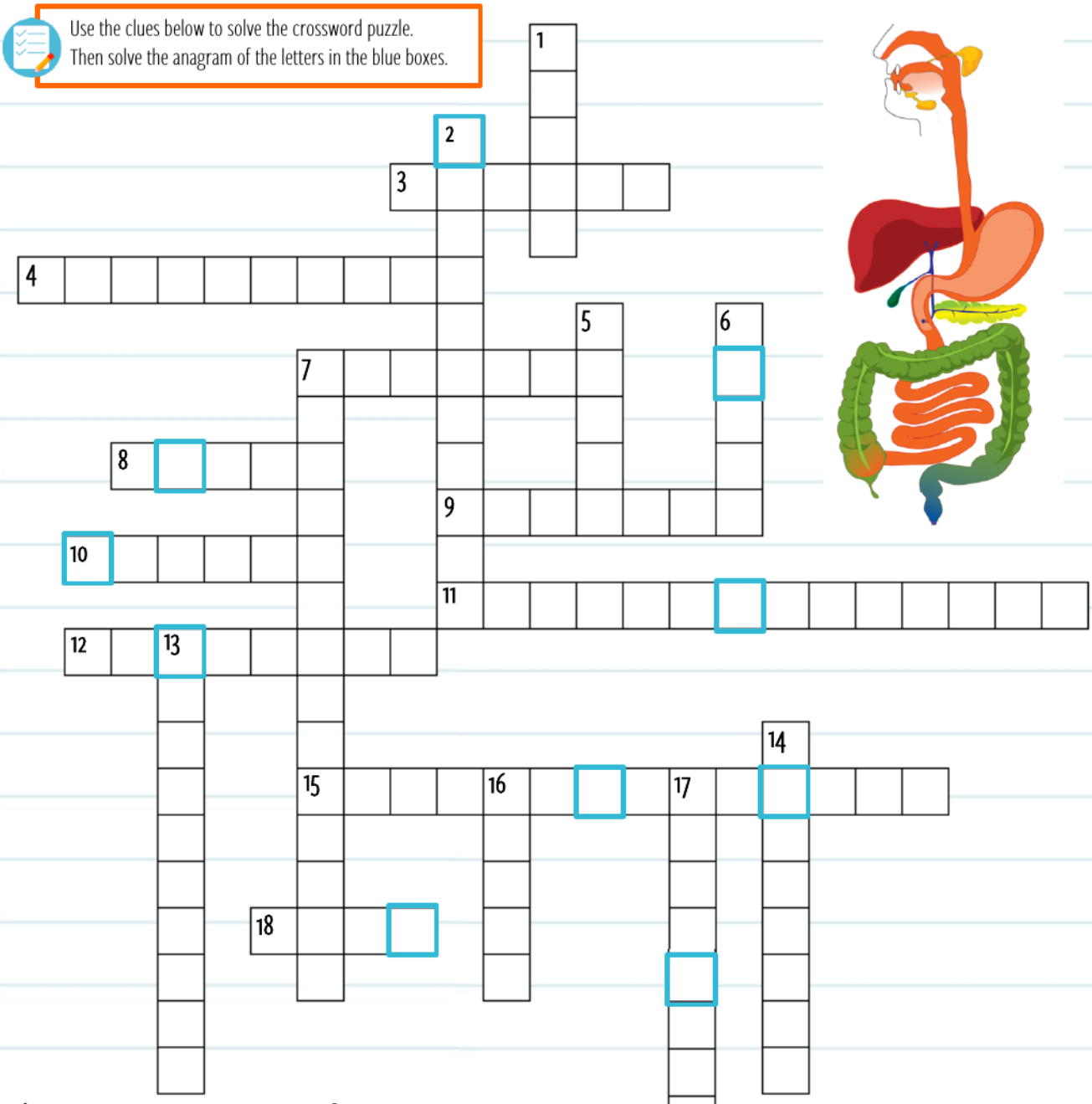


María Liste

The digestive system - Crossword

Use the clues below to solve the crossword puzzle.
Then solve the anagram of the letters in the blue boxes.



Across

3. temporary storage of faeces
4. small projections on surface of cells lining villus
7. vessel absorbing lipids in ileum
8. site of bile salt production
9. storage and digestion of food
10. mixes food with saliva
11. duodenum and ileum together

Down

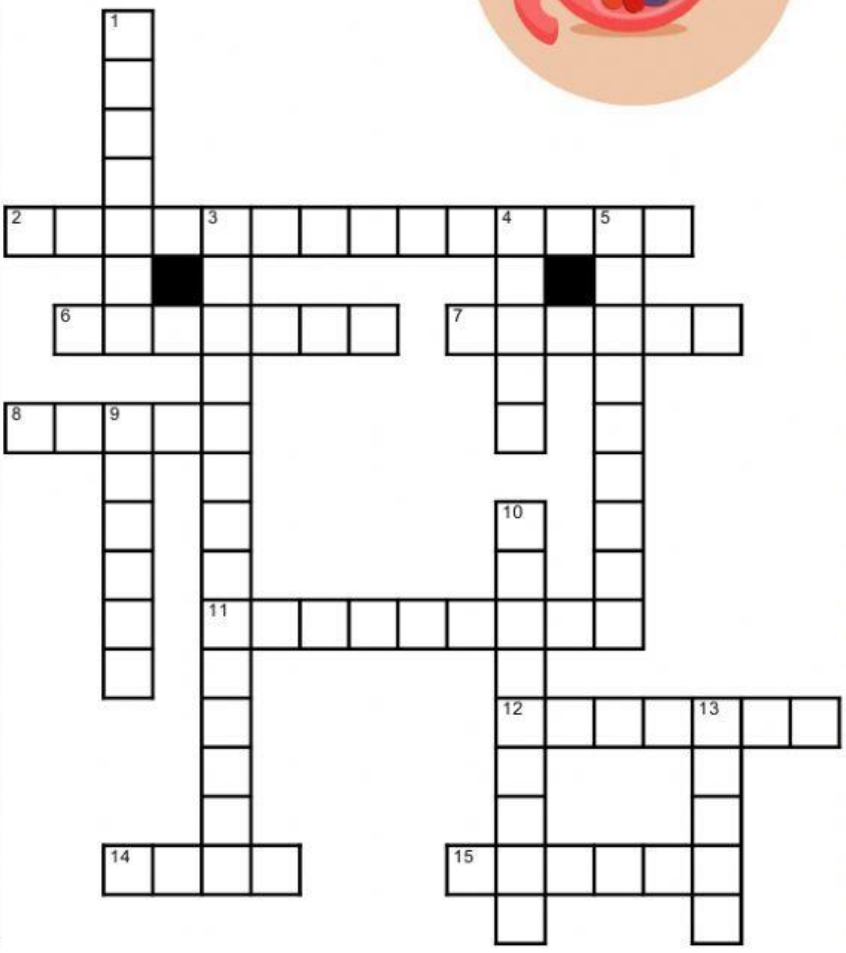
1. break up food mechanically in the mouth
2. wave-like muscle movement pushing along food in digestive system
5. main absorption of nutrients
6. starting point of digestion
7. absorption of water
13. transport of food to stomach

Anagram letters:

Digestive System Crossword

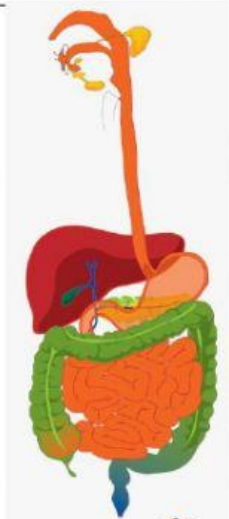
Down

1. After being swallowed, food goes to this place where it is mixed with acid.
3. The tube after the small intestine where liquid is absorbed.
4. These are used to chew food.
5. The good things in food.
9. A slippery liquid that makes food easy to swallow and helps to break the food down.
10. The process of breaking down food for use as energy and building materials for your body.
13. This produces juices (called bile) that go into the small intestine and help digest the food.



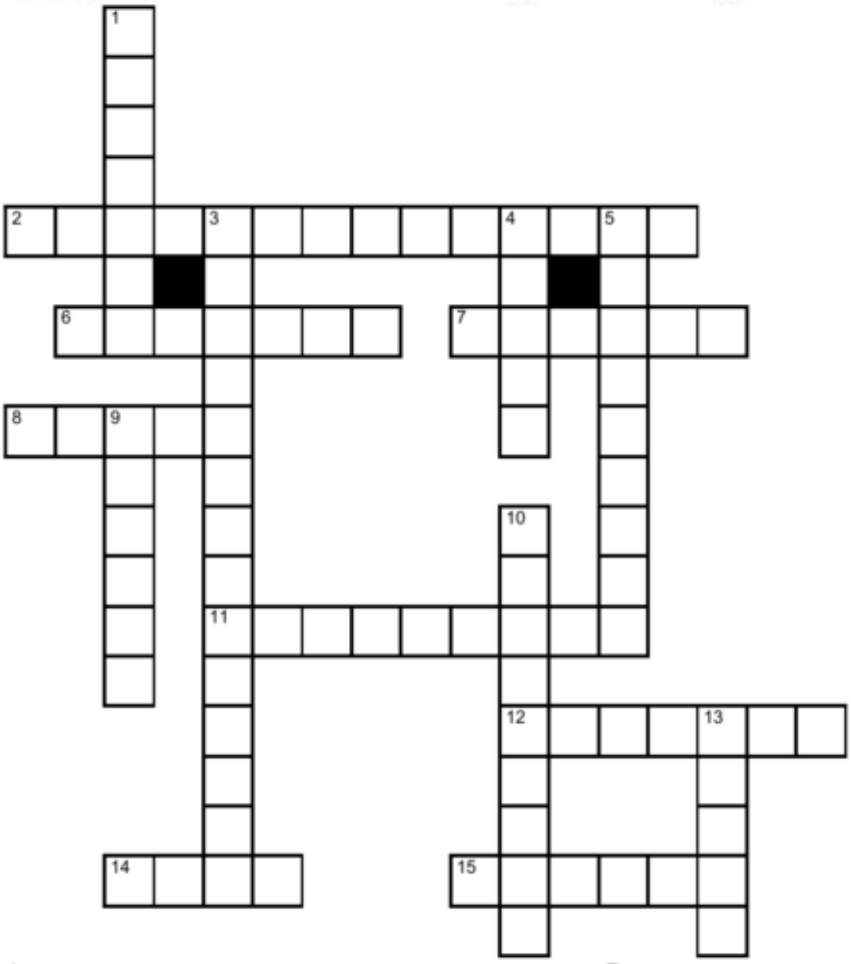
Across

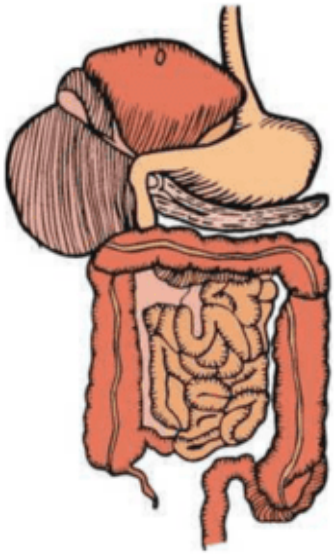
2. A long folded tube inside the body attached to the stomach where nutrients in the food are absorbed.
6. A part of your throat that acts like a gateway sending air into the lungs and food down into the stomach.
7. The place where waste is stored before it leaves the body.
8. The part of the food that is not digested.
11. The tube that connects the stomach to the mouth.
12. A verb that means to push food through your pharynx.
14. Crush food with your teeth.



The Human Digestive System

Find the digestive system words below in the grid to the left.





Across

2. A long folded tube inside the body attached to the stomach where nutrients in the food are absorbed.

6. A part of your throat that acts like a gateway sending air into the lungs and food down into the stomach.

7. The place where waste is stored before it leaves the body.

8. The part of the food that is not digested.

11. The tube that connects the stomach to the mouth.

12. A verb that means to push food through your pharynx.

14. Crush food with your teeth.

15. Muscle in your mouth that is used for pushing food around.

Down

1. After being swallowed, food goes to this place where it is mixed with acid.

3. The tube after the small intestine where liquid is absorbed.

4. These are used to chew food.

5. The good things in food.

9. A slippery liquid that makes food easy to swallow and helps to break the food down.

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13. This produces juices (called bile) that go into the small intestine and help digest the food.

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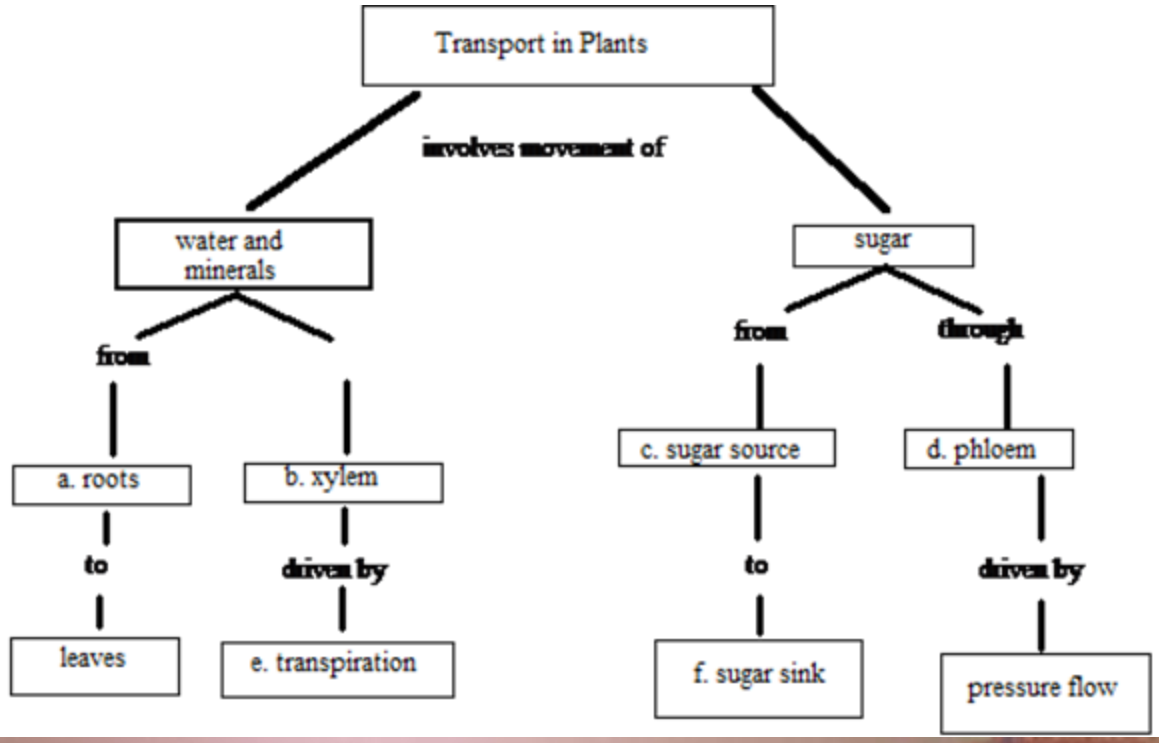
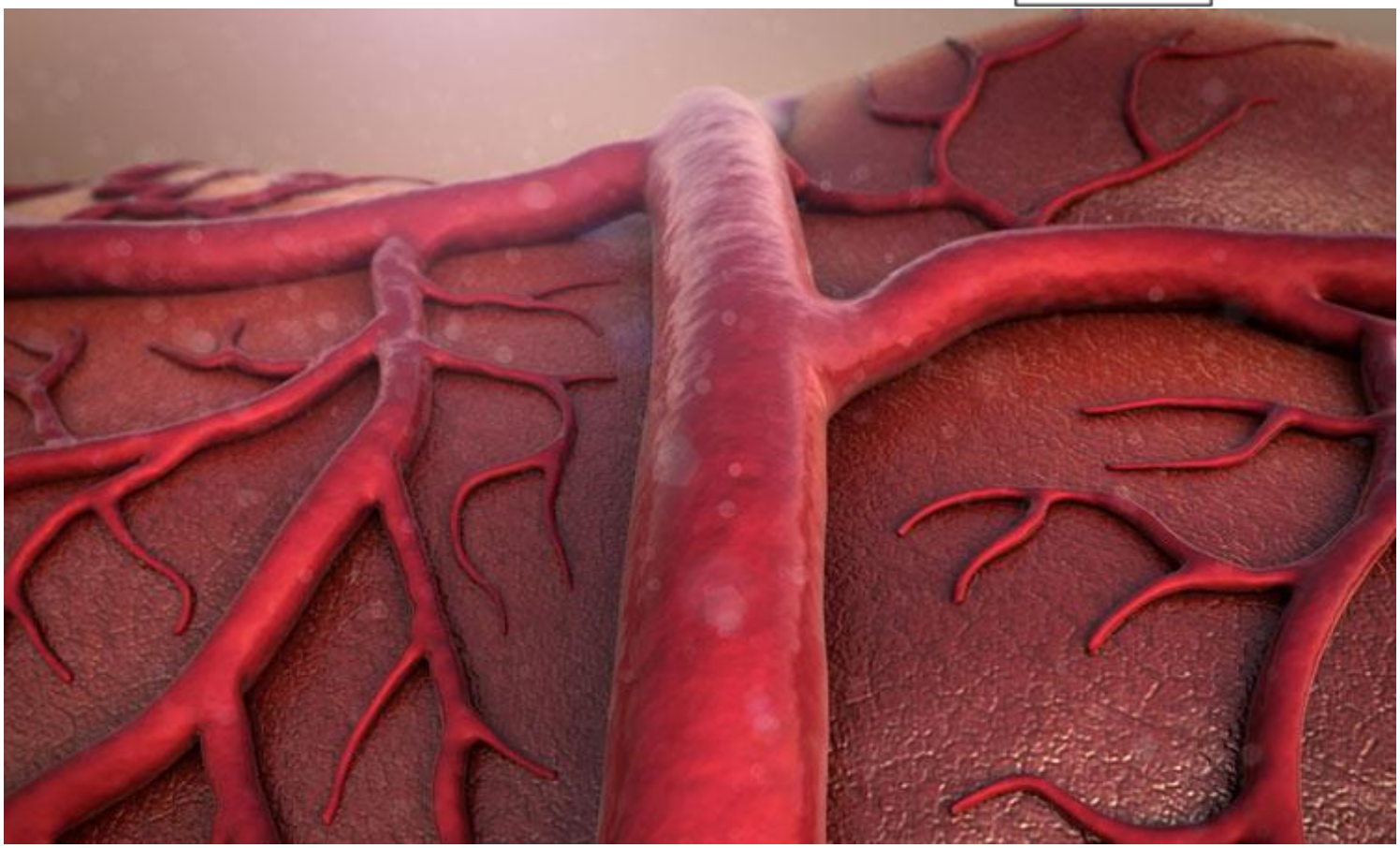

Transport in Plants
involves movement of
water and minerals
sugar
from
from
through
a. roots
b. xylem
c. sugar source
d. phloem
to
driven by
to
driven by
leaves
e. transpiration
f. sugar sink
pressure flow



---BEST WISHES---
Prepared by mwl. Thomas Makeja Nyenzeku
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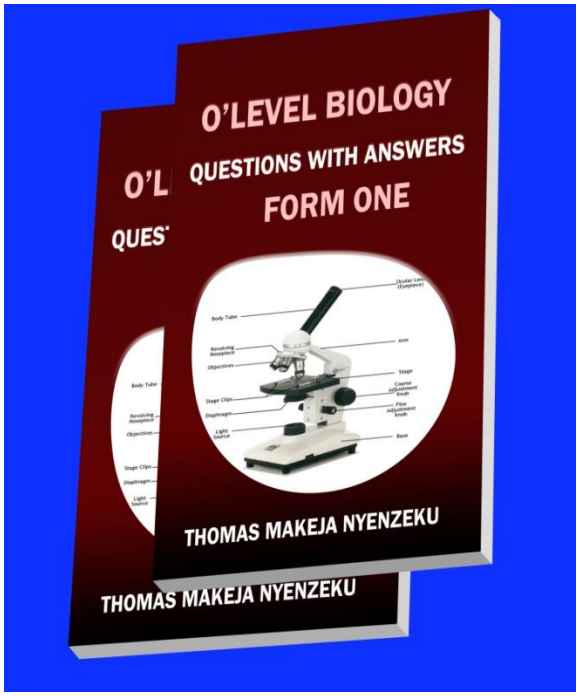
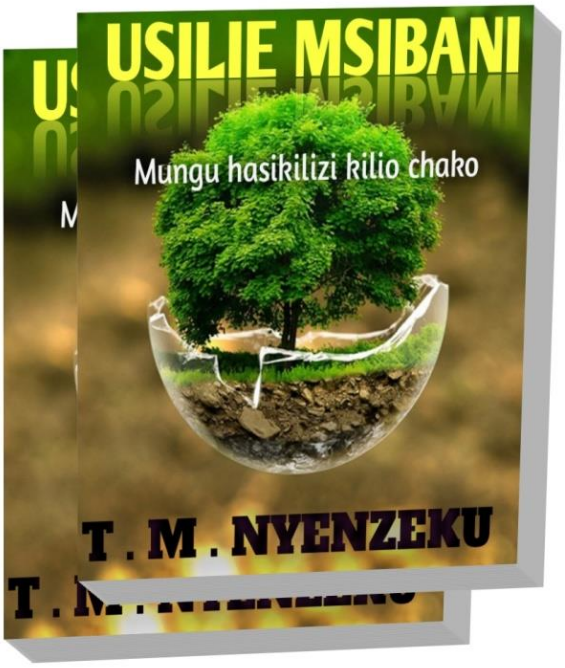
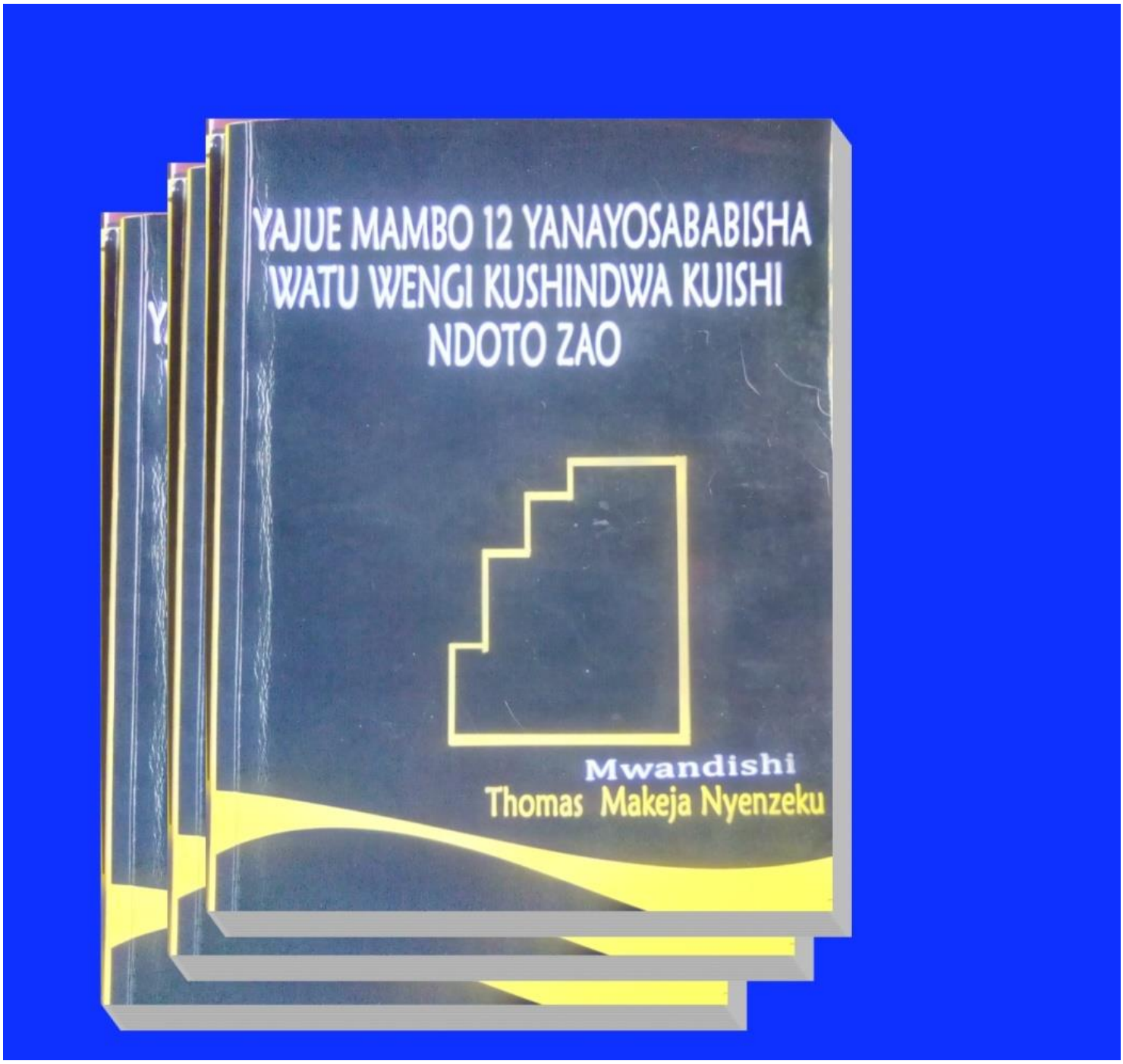
VIFUATAVYO NI VITABU VYETU VINAVYOPATIKA NCHI NZIMA KWA GHARAMA YA TSH. 5000 KILA KIMOJA UKIPENDA KUPATA NAKALA USISITE KUTUPIGIA KWA NAMBA 0768713247






YAJUE MAMBO 12 YANAYOSABABISHA
WATU WENGI KUSHINDWA KUISHI
NDOTO ZAO
Mwandishi
Thomas Makeja Nyenzeku