



Grade 9

Science

Unit: 1 – applications of  
Micro-organism

01) Write short answers.

i) Explain following terms

- a) Micro organisms
- b) Bio fertilizer
- c) Bio pesticides
- d) Bio leaching
- e) Bio remediation
- f) Biological weapons

ii) Write the examples for following micro organisms.

- a) micro organisms that use to produce golden rice.
- b) micro organisms that use to produce bio gas.
- c) micro organisms that use as bio fertilizer.
- d) micro organisms that use to produce youghurt

02) Fill the blanks with suitable words.

Micro – organisms are useful to the human in various ways one of it is production of .....  
 It use to sabotage the growth of ..... and ..... are  
 use to control bacteria. Further, micro – organisms are use to produce youghut .....  
 and ..... are two types which used for it.

(Lactobacillus, Amoxicillin, Streptococcus, Erythromycin, micro – organisms, Antibiotics)

03) Write short answers for following questions.

1. Write 2 harmful effects of micro organisms, except food spoilage and creating diseases.
2. Write the pathogen of following diseases
  - a) Dengue
  - b) AIDS
  - c) Leishmaniasis
  - d) Pityriasis
3. What are the different times that use to explain food spoilage of following food.
  1. Carbohydrates
  2. Protein
  3. Lipids

04) Underline the correct answer

1. The micro organisms which cause to create late blight.  
1) Bacteria            2) Fungi            3) Protozoa            4) Virus
  
2. What is the antibiotic which is used against fungi infections.  
1) Pencillin            2) Tetracycline            3) Griseofulvin            4) Tetracycline
  
3. What is the reason for mixing culture into the milk to produce youghurt.  
1) To add Lactic acid into the mixture.  
2) To add micro organisms in to the mixture.  
3) To add favourable micro organisms into the mixture  
4) None of above
  
4. What are the metals extract by micro organisms  
1) Copper, Iron            2) Copper, Nickel  
3) Copper, Radium            4) Copper, Uranium
  
5. A disease caused by bacteria is  
1) Malaria            2) Turberculosis            3) Rabies            4) Ebola

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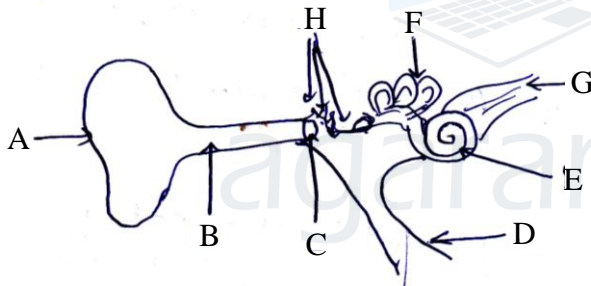


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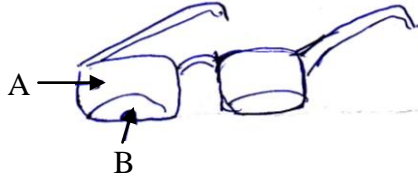
Unit: 2 – Eye and Ear

- 1) Write the functions of following parts of eye
  - 1) Choroid layer
  - 2) Pupil
  - 3) Optic nerve
  - 4) Retina
- 2) Name the above parts in a labelled diagram of eye.
- 3) Long sight (hypermetropia) is an eye defect.
  - 1) Write a reason for such disease.
  - 2) What the problem of this disease.
  - 3) What is the method of correcting sort sight.
  - 4) Name the focus of diverging lens in a labelled diagram.
- 4) Perceives the auditory sensation by the ear.



- i) Name the part A to H.
  - ii) Write the function of A, D, F & G.
  - iii) Write 2 hearing problems.
  - iv) What is the equipment that use as a remedy for hearing impairement.
- 5) Visionary sensation receives by the eye.
    - i) Name the following part of the eye
      - a) Change the curvative of the lense.
      - b) Change the size of the iris.
      - c) Move eye ball in horizontal and vertical plane.

- ii) Draw a ray diagram to show the method of focussing object at far away by a healthy eye.
- iii) Draw a ray diagram to show the remedial action to be taken to solve the problem with short sightness.
- iv) A spectacle wearing by a person, who is suffering with both defects, has shown in following diagram. Name A & B lenses used in it.



- 6) 1) Which is not a transparent part in eye
- 1) Cornea                      2) Aqueous humor                      3) Viterous humor                      4) Retina
- 2) What are the properties of image formed by eye.
- 1) A and B                      2) only A                      3) only B                      4) only C
- 3) Which of following part does not participate in hearing.
- 1) Pinna    2) Auditory canal
- 3) Tymphonic membrane                      4) Semi circular canal
- 4) A disease that gradually reduces the visual range of the eye and leads for blindness due to damage of the optic nerve is known as
- 1) Cataract    2) Colour blindness
- 3) Glucoma    4) Long sight



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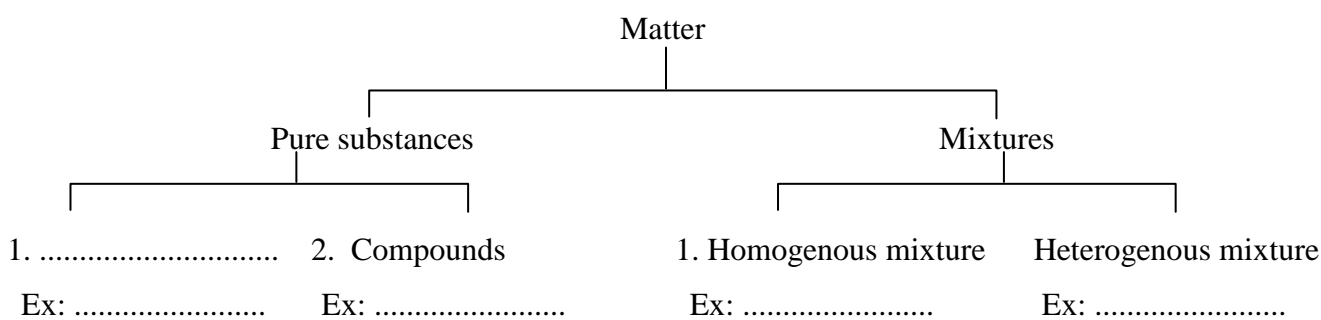
Unit: 3 –Nature and properties of matter

1) You are provided with following substances to study about the properties of matter.  
 Sodium Chloride, Water, Carbon, Copper, Zinc, Copper Sulphate, Calcium Carbonate, Iron, Pottassium Permanganate (Kondis), Sulphur, Sodium.

- i) Write the chemical symbols of elements given above.
- ii) Write 2 colourful compounds in it.
- iii) What are the compounds in above list that form homogenous mixtures.
- iv) What are called as heterogenous mixtures.
- v) Number of protons in a element is 16 and it has 16 neutrons.
  - a) Write the element in a standared way.
  - b) Find the number of electrons and mass number of it.
- vi) Iron powder, copper sulphate, and carbon power, get mixed by a student. Propose a method to separate constituents in the mixture.

2) You have given following substances in the laboratory copper sulphate solution, chlorine gas, water taken from the tap, sodium chloride, washing blue mixture with water.

1) Fill the chart using suitable words from above.



- 2) Identify the method of seperating components from following mixtures.
  - 1) Separating gems from ores.
  - 2) Obtaining salt from sea water.
  - 3) Separating various fuel from crude oil.
  - 4) Separating sugar from sugar cane sap

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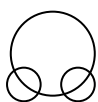
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3) Identify the elements in following compounds.

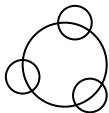
- 1) Acetic acid
- 2) Sucrose
- 3) Calcium carbonate

3) Underline the correct answer

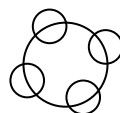
i) Find the structure of Ammonia molecule



(1)



(2)



(3)



(4)

ii) What is the correct statement about nucleus

- i) It has spreaded on a large area.
- ii) Negatively charged particles contain in it.
- iii) Positively charged particles contain in it.
- iv) It is a neutral structure.

iii) What is suitable name that can be given to the soda bottle, in which the cap is just opened.

- |                           |                     |
|---------------------------|---------------------|
| i) Homogenous mixture     | ii) Compound        |
| iii) Heterogenous mixture | iv) Pure substances |

iv) What is homo atomic molecule.

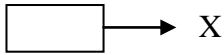
- |             |             |            |             |
|-------------|-------------|------------|-------------|
| i) Chlorine | ii) Ammonia | iii) Water | iv) Methane |
|-------------|-------------|------------|-------------|



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Unit: 4 – Basic concepts  
 Associated with Forces

- 1) A push or pull is called a force.
- Is it a vector or scalar quantity?
  - Write 3 changes that can be made to an object by applying a force.
  - What is the SI unit of force.
  - What are known as vector quantity. 
  - The above X is 5N force represent the force by showing 3X force that acts to the opposite direction.
  - Two forces apply on an object has shown in following diagram. Find the magnitude and the direction of resultant force.



- Find the force exerted by a student with the mass of 35 kg who carrying a bag with 5N.
- 2) Underline the correct answer.
- A force be applied to move an object A point where the force is applied is known as
    - centre of gravity
    - A point of application
    - Line of action
    - Resultant force

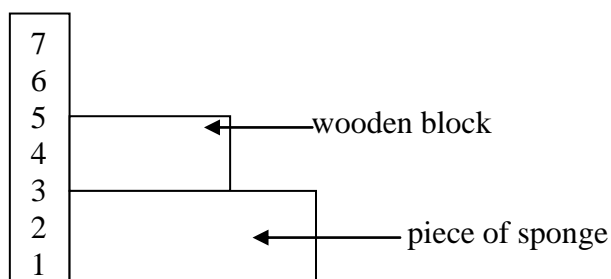


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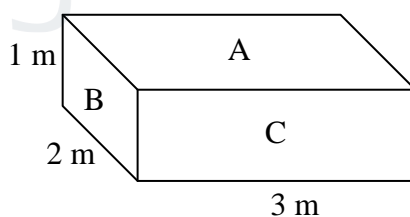
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Unit: 5 – Pressure

- 1) Following diagram shows the place of a wooden block on the piece of the sponge. The reading of scale at the upper edge of the piece of sponge is noted.



- i) If 1 kg is placed on the wooden block, what will happen to the reading.
- ii) State the reason for it.
- iii) The effect of which factor on solid pressure can be tested from the above activity.
- iv) Mention an instance where
  - a) increase of pressure.
  - b) decrease of pressure is used in day today life.
- v) Weight of the cuboid is 600 N. It has kept on a table.



- i) Find the pressure created by A, B and C surfaces.
- ii) If another cube kept on A surface, with weight of 500 g what is the pressure created on the table.
- iii) Write 2 factors affecting on pressure.