



**SUREKEY EXAMINATIONS BOARD**

**PRE-PLE EXAMINATION SERIES TWO**

**2022**

**INTEGRATED SCIENCE MARKING GUIDE**

**PREPARED BY:**

**MR. JAMIE HUMPHERY: 0757 282305**

**MR. MUBIRU SULAIMAN: 0700 758668**

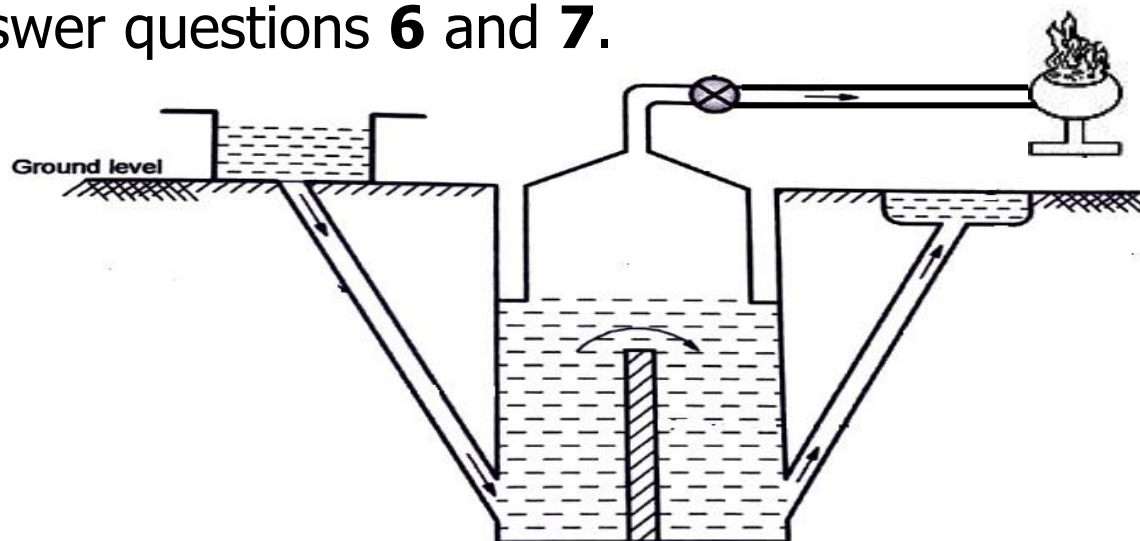


**“Don’t speak for Quality, Let the Quality Speak for  
itself”**

## SECTION A: 40 MARKS

1. Name the first type of teeth to grow in the mouth of a baby.
  - **Incisors / incisor teeth.** (*Reject milk teeth*)
2. Which digestive juice does not contain enzymes?
  - **Bile juice/ Bile** (*Reject any other digestive juice*)
3. Name the gas used by cattle farmers to preserve semen for artificial insemination.
  - **Nitrogen** (*Reject liquid nitrogen*)
4. In which way is blubber useful to a whale when in water?
  - **Keeps a whale warm**
  - **Acts as a food store**
  - **Generates / produces heat in the whale's body**
5. State any **one** way in which a housefly contaminates food.
  - **Rubbing germs on food using its hairy body**
  - **Lays eggs on food**
  - **Spitting on food**
  - **Disposing its wastes on food**
  - **Walking on food**
  - **Vomiting on food**

The diagram below shows an equipment used to produce fuel. Use it to answer questions **6** and **7**.



6. Identify the fuel obtained from the above equipment.
  - **Biogas/ methane gas**
7. Give any **one** reason why the above equipment is buried in the ground.
  - **To prevent it from exploding/ bursting**
  - **To maintain proper temperature in the digester**
  - **To keep it free from accidents**
  - **To keep it from damage by children or animals**

8. State any **one** way in which plant leaves are adapted to photosynthesis.
- **Presence of chlorophyll to trap sunlight**
  - **Broad flat shape which increases surface area for sunlight absorption**
  - **Most stomata are on the lower side to allow efficient exchange of gases**
  - **Numerous network of veins to supply water to the cells**
  - **Arranged in a regular pattern to enable each leaf receive enough sunlight**
  - **Have thin walls and stomata which allow quick diffusion of carbon dioxide into the plant cells.**
- (Reject features with no function)*
9. Apart from the comb, name any **one** other feature that differentiates a cock from a hen.
- |                          |                   |
|--------------------------|-------------------|
| • <b>Wattle</b>          | • <b>Earlobes</b> |
| • <b>Tail feathers</b>   | • <b>Claws</b>    |
| • <b>Spur</b>            | • <b>Beak</b>     |
| • <b>Hackle feathers</b> |                   |
10. Mention any **one** method of family planning that destroys sperms
- **Use of spermicides**
  - **Use of foams**
- (reject use of pills, injectaplan intra-uterine device )*
11. State the difference between the feeding of a dog and that of a goat.
- **A dog feeds on meat / flesh while a goat feeds on vegetables**
12. Why is it difficult to use a burdizzo when castrating boars?
- **Testes in boars do not dangle (swing in space)**
13. State the body organ that regulates blood sugar.
- **The liver** *(reject pancreas)*
14. Which property of sound enables a bat to locate its food?
- **Sound can be reflected/ bounced back / an echo.**

The diagram below is of a disease vector. Study and use it to answer questions **15** and **16**.



15. Which communicable disease is spread by the disease vector shown in the diagram above?
- **River blindness/onchocerciasis**  
*(reject; any other disease)*
16. In which way is the breeding of the vector different from that of a mosquito?
- **The above vector lays eggs in fast flowing water yet a mosquito lays its eggs in stagnant/ still water.**
17. State the role of melanin pigment in the human skin.
- **Protects the skin against ultraviolet rays of the sun**
  - **Absorbs harmful ultraviolet rays from the sun.**
18. Give any **one** reason why water is not used in thermometers.
- **Water is a bad conductor of heat**
  - **Water wets / sticks to the bore walls**
  - **Water is colourless thus not easily seen**
  - **Water needs a lot of heat to expand**
  - **Water evaporates when heated**
  - **Water does not expand uniformly**
19. Name the type of bees that make honey in the hive.
- **Worker bees**
20. In which way are proteins in the diet of a pregnant woman important in the development of the baby in the womb?
- **Proteins help to build up the body of the unborn baby**  
*(Reject: Proteins help to repair the worn out body tissues of the pregnant mother)*
21. Which part in an electric circuit safeguards the circuit in case of high voltage?
- **Fuse**



22. How does litter prevent eggs from breaking in a poultry house?  
• **Provides soft landing ground for an egg when the hen lays**

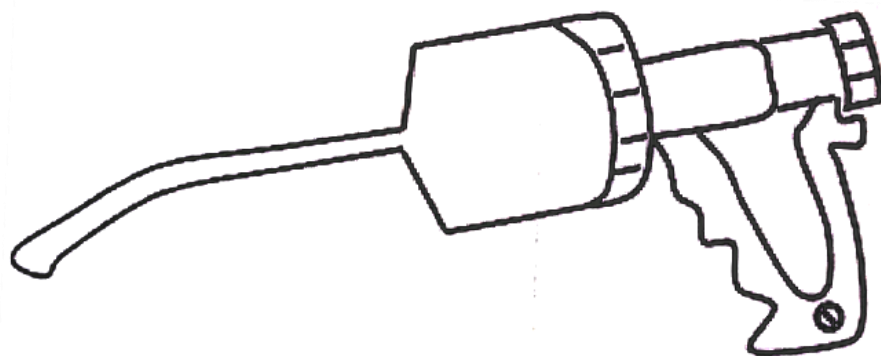
23. State any **one** method of controlling soil exhaustion.

- **Practising crop rotation**
- **Limiting the use of artificial fertilizers**
- **Controlling soil erosion**
- **Practicing agro forestry**
- **Regular application of organic manure on the soil**
- **Mulching the soil**

24. State the importance of having enough rest and sleep to human health.

- **Refreshes the minds/ brain**
- **Relaxes the mind**

The diagram below shows a farm equipment used on a cattle farm. Use it to answer questions **25** and **26**.



25. Name the farm equipment shown in the diagram above.

- **Drenching gun.**

26. How is the above equipment useful to a cattle farmer?

- **It is used to give liquid medicine to cattle through the mouth.** (*Reject: it is used to give liquid dewormers/drugs/medicine to cattle*)

27. Which group of non-flowering plants are able to make their own food?

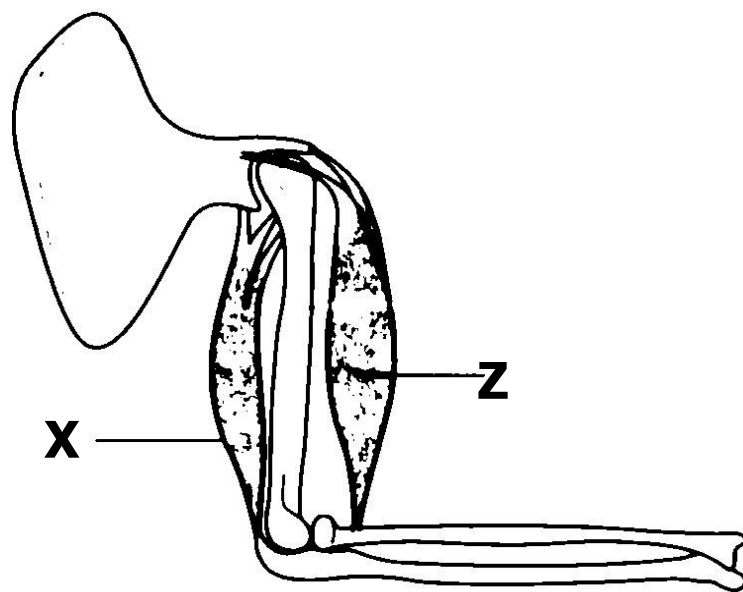
- **coniferous plants**
- **conifers**

28. By what process does paraffin move up to the wicks of a kerosene stove during cooking?

- **Capillary attraction**
- **Capillarity**
- **Capillary action**

29. State any **one** reason why most birds are able to fly.
- **Their fore limbs are modified into wings**
  - **Birds have streamlined body to overcome friction in air during flight**
  - **Birds have hollow bones which reduce weight in air**
  - **They have strong pectoral muscles for moving wings during flight**
  - **Their eyes are covered with nictitating membrane which protects them from foreign bodies during flight**
  - **Have no pinna to obstruct air flow during flight**
30. Which crop pest is prevented by putting rat guards on the stands of a granary?
- **Rats** (*reject: termites, weevils, squirrels*)
31. Name the food deficiency disease that causes poor eye sight.
- **Night blindness**

The diagram below shows antagonistic muscles. Study it to answer questions **34** and **35**.

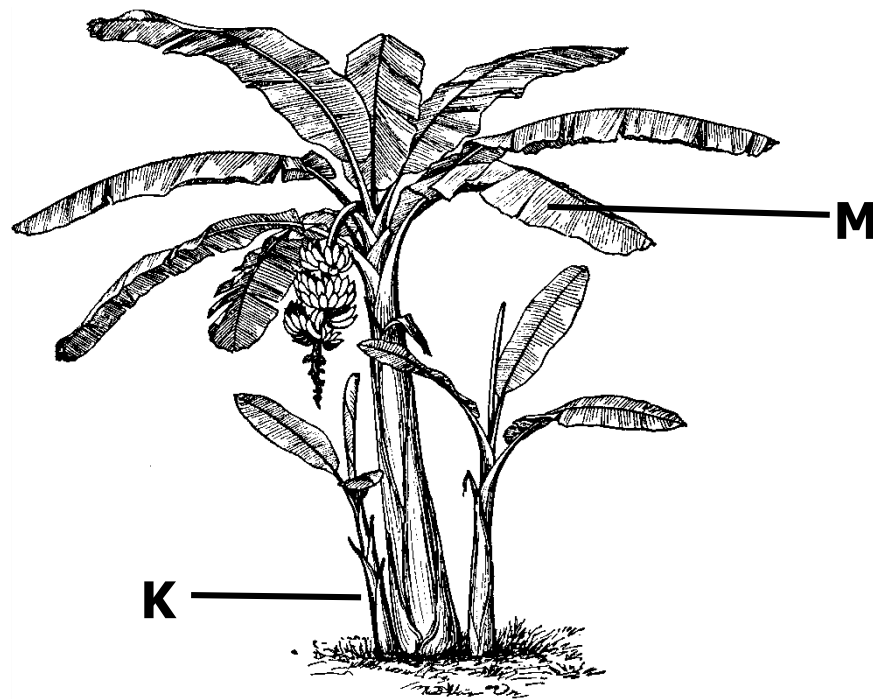


32. What happens to the muscle **Z** when the arm is raised?
- **Contracts**
33. Why are the above muscles called antagonistic muscles?
- **They work in pairs but have opposite effect on each other**
34. Write down any **one** animal fibre used in textile industries.
- **Wool**
  - **Mohair**
  - **Fur**
  - **Cony hair**
  - **Silk**
- (*reject: skin / hide*)

35. Name the germ that causes AIDS in human beings.
- **HIV /Virus/ human immunodeficiency virus**  
(Reject: Human Immuno Deficiency Virus)
36. State any **one** way in which smoking affects the health of an individual.
- **Causes respiratory diseases like lung cancer and emphysema.**
  - **Damages body organs like the brain, heart and lungs**
  - **Leads to poverty**
  - **Leads to lack of self control**
  - **Worsens the condition of the patient suffering from tuberculosis, asthma, bronchitis and pneumonia**
  - **Leads to self neglect**
37. Which disease attacks both human beings and rabbits?
- **Pneumonia** (reject: coccidiosis)
38. Name the component of blood that controls bleeding at the cut.
- **Blood platelets/ platelets/ thrombocytes**
39. Why does a cockroach die when it passes through flour?
- **Flour blocks/ closes its spiracles**
40. In which way does lightning improve the fertility of the soil?
- **Fixes nitrates into the soil. (reject fixes nitrogen into the soil/ helps in nitrogen fixation)**

## SECTION B: 60 MARKS

41. a) Mention **two** methods of making compost manure.
- **Pit method**
  - **Heap method**
- b) State the importance of each of the following materials when making compost manure.
- i) ash
- **Improves the nutrient content of the manure**
  - **Adds potassium to the manure**
- ii) water
- **Speeds up the rate of decomposition**
  - **Makes rotting faster.**
42. The diagram below shows a food crop. Study and use it to answer questions that follow.



- a) Name the part marked **K**.
- **Sucker**
- b) State the importance of the part you have named in (a) above to a crop farmer.
- **it is used for vegetative propagation.**
- c) Why does a crop farmer cut off part marked **M** before planting the above food crop?
- 8
- **To reduce the rate of transpiration.**
  - **To prevent the plant from wilting after planting it.**
- (reject to promote faster growth)*



- d) Which farm practice does a crop farmer do to support the above food crop during fruiting stage?
- **Propping (accept Staking)**
43. a) Give any **two** signs and symptoms of bilharziasis.
- **Blood stained urine**
  - **Fever**
  - **Passing out blood in faeces.**
  - **Enlargement of the liver and spleen**
  - **Difficult in urination**
  - **Pain in the lower belly**
- b) State any **two** ways in which the spread of bilharziasis can be controlled among human beings.
- **Drink boiled water.**
  - **Ensure proper disposal of human wastes.**
  - **Avoid swimming in contaminated water.**
  - **Wear shoes when walking in wet places.**
  - **Killing water snails**
44. a) Name the part of the lens camera that has the same function as each of the following parts of the human eye.
- i) pupil - **Aperture**
- ii) iris - **diaphragm**
- b) Why are images formed in the lens camera and human eye appear upside down?
- **Light rays intersect as they pass through a small pinhole**
  - **Light travels in a straight line and the rays intersect at the pinhole**
  - **Light rays cross each other as light travels in a straight line**
- c) Apart from appearing upside down, state any **one** other characteristic of images formed by both the lens camera and the human eye.
- **Images are real**
  - **Images are diminished (smaller than the object)**

45. The following list is of animals belonging to different classes of arthropods. Study carefully and use it to answer the questions that follow.

**Scorpion, Butterfly, Centipede, Mite**

a) To which class of arthropods does a butterfly from the list above belong?

- **Insects** (*reject: invertebrates*)

b) Which class of arthropods is not represented in the list above?

- **Crustaceans**

c) Name any **one** animal from the list which is an arachnid.

- **Scorpion/ mite**

d) Give any **one** way in which all the above arthropods are similar.

- **They are all invertebrates (lack backbone/ spine)**
- **They all have jointed legs**
- **They all have segmented bodies**
- **They all have exoskeleton**
- **They all undergo internal fertilization**  
(*reject they all lay eggs*)

46. a) Why is it not good to share the same injecting syringe during treatment of a particular disease?

- **Leads to easy spread of blood diseases like HIV/AIDS**

b) How useful is sterilization of cutting and piercing instruments in hospitals?

- **Helps to kill germs on the medical instruments.**

c) Apart from injection, state **one** other method in which drugs are administered into the body.

- **Oral method / orally**

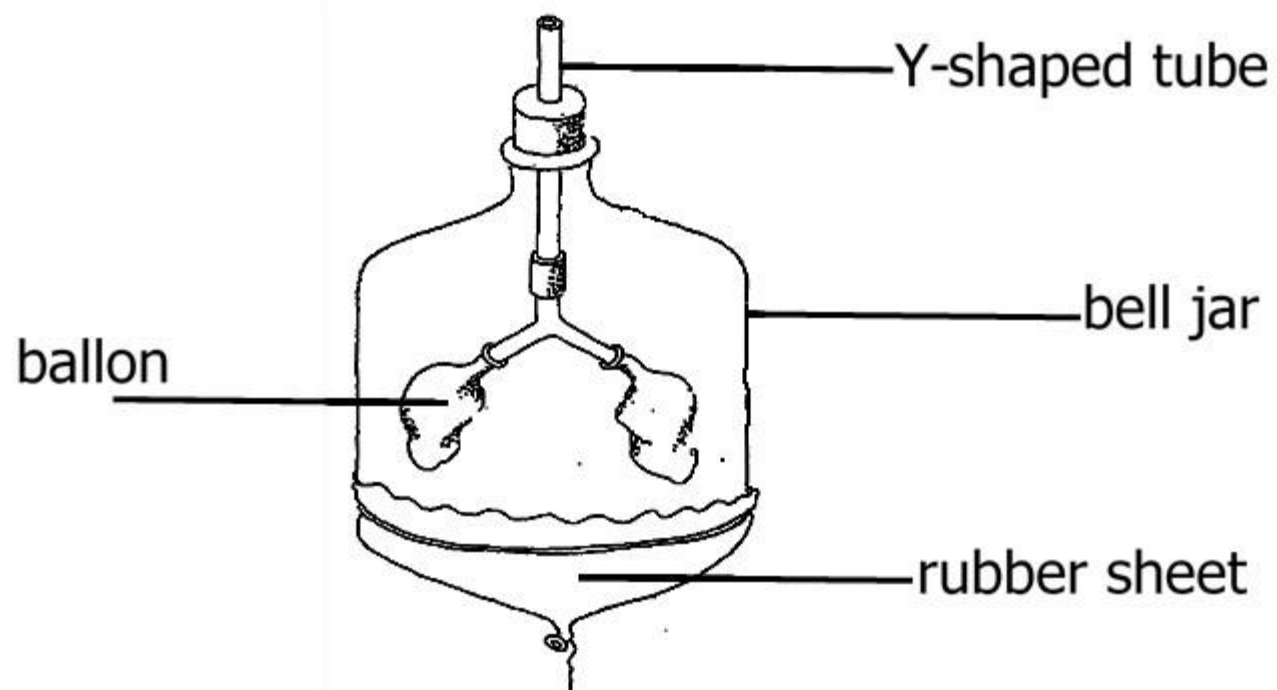
d) Give any **one** reason why essential drugs should be prescribed before being given to a patient.

- **To prevent the patient from taking over dose.**
- **To prevent the patient from taking under dose.**
- **To prevent drug misuse.**
- **To enable the patient take the right dose.**

47. The diagram below shows a farm practice done in sheep keeping. Study and use it to answer the questions that follow.



- a) Identify the farm practice shown in the diagram above.
- **Sheep shearing/ shearing**
- b) In which season is the above farm practice done?
- **Summer / dry season**
- c) Why is the farm practice done in the season you have given in (b) above?
- **To protect the sheep against coldness at night.**
  - **To ensure that hair grows again before winter.**
  - **There is enough warmth to protect the sheep from coldness**
- d) Mention the product obtained from the farm practice shown in the diagram above.
- **Wool / fleece.**
48. The diagram below shows a model of a certain body system. Study it and use it to answer the questions that follow.



- a) Which body system is shown by the model above?
- **Respiratory system.**

- b) What does each of the following material on the model represent on the body system you have given in (a) above?
- i) Y-shaped - **Tube trachea/ windpipe / bronchus**
- ii) balloons - **lungs**
- c) State what happens to the balloons when the rubber sheet is pulled downwards.
- **The balloons increase in size (volume)**

49. a) Write down any **two** diseases that breakout at home due to lack of latrines.
- **Cholera**
  - **Typhoid**
  - **Diarrhoea**
  - **Dysentery**
  - **Trachoma**
- (reject: malaria, yellow fever, relapsing fever, elephantiasis)*
- b) Why should a pit latrine be built at least 30 metres away from a water source?
- **To prevent human wastes from seeping through soil to the water source.**
  - **To prevent water contamination by excreta**
- c) Which type of pit latrine requires a lid on its hole?
- **ordinary pit latrine /conventional pit latrine.**

50. In the table below, list **A** shows forms of accidents and list **B** shows their first aid measures in the wrong order.

<b>List A: Accidents</b>	<b>List B: First aid</b>
Fainting	Perform tepid sponging.
Nose bleeding	Dip the injured part in cold water.
Burns	Lean the casualty forward.
Fever	Raise the legs higher than the head.

Write the correct first aid for each of the form of accident in the spaces provided below.

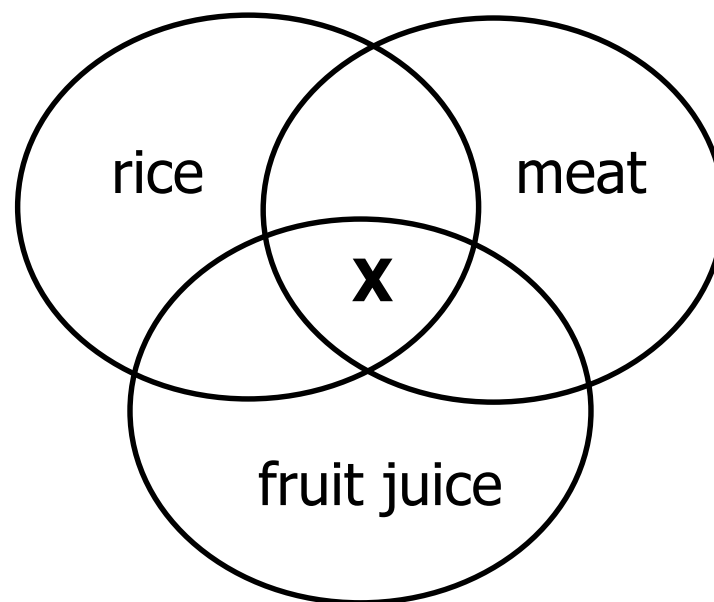
- i) Fainting: - **Raise the legs higher than the head**
- ii) Nose bleeding: - **Lean the casualty forward.**
- iii) Burns: - **Dip the injured part in cold water**
- iv) Fever: - **Perform tepid sponging**

51. a) Name the physical process in matter that helps in the following activities.
- i) Drying clothes after washing  
**Evaporation** (*reject: evapouration / evapourating*)
- ii) Making ice cream  
**freezing** (*reject condensation*)
- b) State any **two** ways of putting out petrol fire in case of an outbreak.
- **Using a fire extinguisher**
  - **Using sand**
  - **Using fire blankets**
- (*Reject: using water*)
52. a) Give any **one** negative effect of floods in the environment.
- **Lead to displacement of people**
  - **Lead to death of aquatic animals**
  - **Lead of rotting of crops**
  - **Cause leaching of plant nutrients**
  - **Lead to destruction of property**
  - **Retard transport**
  - **Lead to drowning or near drowning of people**
  - **Retard people's activities**
- (*Reject kills people and animals*)
- b) Apart from floods, mention any **two** other natural causes of environmental degradation.
- **Landslides / mudslides**
  - **Volcanic eruptions**
  - **Drought**
  - **Earthquake**
  - **Storms**
  - **Hailstones**
- c) Write down any **one** of the 6R<sup>s</sup> in waste management.
- **Reuse**
  - **Recycle**
  - **Reduce**
  - **Refuse**
  - **Reject**
  - **Return**
  - **Rethink**
  - **Reinvent**



53. a) Apart from nuts and bolts, name any **one** other simple machine which is classified as a screw.
- **Screw nails**
  - **Carjack**
  - **Bottle lid**
  - **End of light bulbs**
  - **Drill bits**
  - **Jar lid**
  - **Gas tank cap**
  - **Corkscrew**
  - **Water fauce**
  - **Engineer's vice**
- b) State any **two** ways in which screws are useful to people.
- **Car jacks are used to raise vehicles during repair**
  - **Screws are used for fastening parts of radios and Tv sets**
  - **Bolts and nuts are used for fastening some parts of machines together**
  - **For closing bottles and jerry cans using their lids**
  - **For creating holes in wooden and metallic objects using drilling machines**
- c) Give any **one** factor that affects the proper working of screws.
- **Friction**
  - **Rusting**
54. a) Mention any **two** examples of chemical changes that take place in living things.
- **Respiration**
  - **Digestion**
  - **Photosynthesis**
- (reject decomposition and fermentation)*
- b) State any **one** characteristic of chemical changes.
- **Form new permanent substances**
  - **Are irreversible**
  - **There is change in amount, size or weight**
  - **Heat or light is gained or lost**
  - **Chemical properties of a substance change**
- c) How is moulting in animals similar to germination in plants?
- **Both are biological changes**
  - **Both cause growth in living things.**

55. The diagram below shows food stuffs eaten by family members in a certain home. Study and use it to answer the questions that follow.



- a) What does part marked **X** represent in the diagram above?
- **Balanced diet**
- b) How does the father from the family who is a builder benefit from eating rice in the diagram above?
- **Gets energy in the body**
  - **Rice provides energy in the father's body**
- c) Which foodstuff from the diagram above would you recommend the mother to give her children to prevent kwashiorkor?
- **Meat** (*reject any other food stuff*)
- d) Name any one food nutrient that family members get from drinking fruit juice shown in the meal above.
- **Vitamin C.** (*accept; vitamins*)

### **Advice to integrated science teachers**

Use abridged curriculum properly. A lot of emphasis should be put on P.5 and P.6 work because the biggest percentage of questions are most likely to come from the work covered in the above classes. Nevertheless, do not neglect work for other classes.

SCIENCE DEPARTMENT SURE KEY EXAMINATIONS BOARD

*Shine brightly in the upcoming PLE*

