

بسم الله الرحمن الرحيم



**SUREKEY EXAMINATIONS BOARD**

**PRE-PLE EXAMINATION SERIES ONE**

**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”**

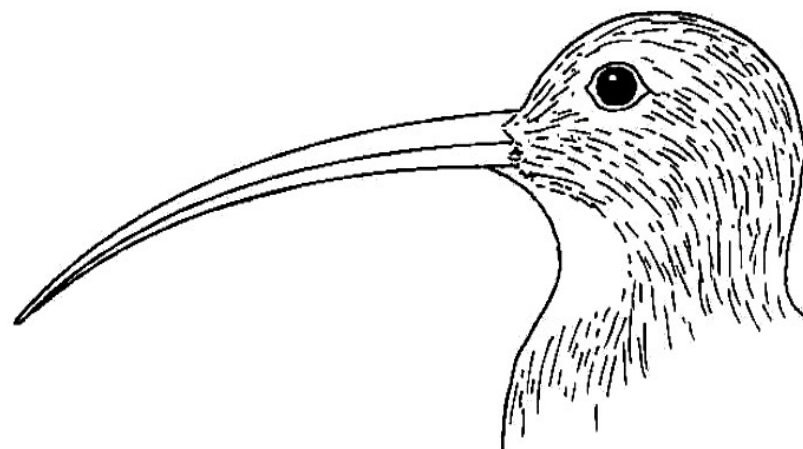
## SECTION A: 40 MARKS

Questions **1** to **40** carry **one mark** each

1. Name the disease vector that breeds in fast flowing water.
  - **Simulium fly**
  - **Black fly**
  - **Simulid fly**
  - **Jinja fly**
2. State any **one** way in which coal is used as an energy resource.
  - **Used as a fuel in steam engines**
  - **Used to make tar for surfacing roads**
  - **Used in steel industries for smelting metals**
  - **Used in filters for water and air purification**
  - **Used as fuel for steam-electric power generation**
  - **Used for heating houses during winter in some countries**
  - **Used for cooking**
  - **Burt to produce heat**
  - **Used in blast furnace to melt iron**
3. Which process in animals increases the amount of carbon dioxide in in the atmosphere?
  - **Respiration**
4. Name the component of soil formed from weathering of rocks.
  - **Rock particles**
5. What is the function of a micropyle on a germinating bean seed?
  - **Lets in air and moisture into the seed**

(Reject; lets in oxygen and water into the seed)

The diagram below shows a beak of a bird. Use it to answer questions **6** and **7**.



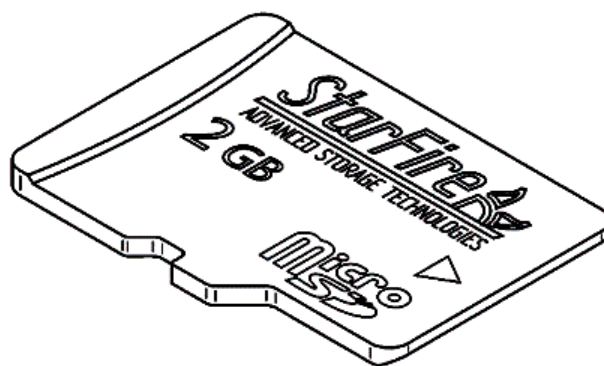
6. What kind of food does a bird with the beak above eat?
  - **Nectar**
  - **Plant juice**

(Reject; nectar, pollen)

7. How are birds with such a beak useful to crop farmers?
- **Pollinates flowers in farmer's crops**  
(Reject; pollinates farmer's crops because not every part of a crop is pollinated)
8. Which system of keeping cattle controls tickborne diseases on the farm?
- **Paddock grazing**
  - **Paddock**
  - **Rotational grazing**
9. State the principle on which an electric bell works.
- **Electromagnetism**
10. State any **one** condition under which a mother may be stopped from breast feeding the baby.
- **When the mother is dead**
  - **When the mother is HIV positive**
  - **When the mother has breast cancer**
  - **When the mother cannot produce enough breast milk**
  - **When the mother is not always around**
11. Give any **one** example of the chemicals used in treating water for drinking.
- |                           |                             |
|---------------------------|-----------------------------|
| • <b>Chlorine</b>         | • <b>Potassium</b>          |
| • <b>Fluorine</b>         | • <b>permanganate</b>       |
| • <b>Aqua</b>             | • <b>Iodine</b>             |
| • <b>Water guard</b>      | • <b>Aluminium silicate</b> |
| • <b>Calcium chloride</b> |                             |
12. State any **one** way in which the breeding of lice can be controlled.
- **Bathing regularly**
  - **Wash clothes regularly**
  - **Spread beddings in sunshine**
  - **Ironing clothing and bedding**
  - **Trimming long hair**
  - **Combing hair with clean combs**
  - **Avoid sharing clothes**  
(Reject; promoting personal hygiene)
13. Which method of heat transfer enables people to light charcoal stoves?
- **Convection**  
(Reject; radiation)

14. State any **one** factor that a bee keeper should consider when setting a hive.
- **Quiet place.**
  - **Cool place.**
  - **Distance from homes, roads and schools.**
  - **A place with flowers.**
  - **A place with water nearby .**
  - **Smoke free place.**
  - **Pest free place.**
15. How is a maize plant able to withstand the weight of the fruits during flowering stage?
- **By developing prop roots on the nodes which provide extra support to the plant.**
  - **Prop roots grow to provide extra support to the plant.**
- (Reject; they have prop roots)
16. State the method used to separate liquids with different densities.
- **Separating funnel method**
  - **Decantation**
- (Reject; fractional distillation)
17. Give any **one** way in which a school health committee is important at School.
- **Organizes cleaning campaigns in a community**
  - **Supervises Primary Health Care activities**
  - **Conducts health parades in the school**
  - **Plans for health activities**
18. Why should houses of goats be built with wooden floors?
- **To enable droppings to go down through the spaces in the floor**

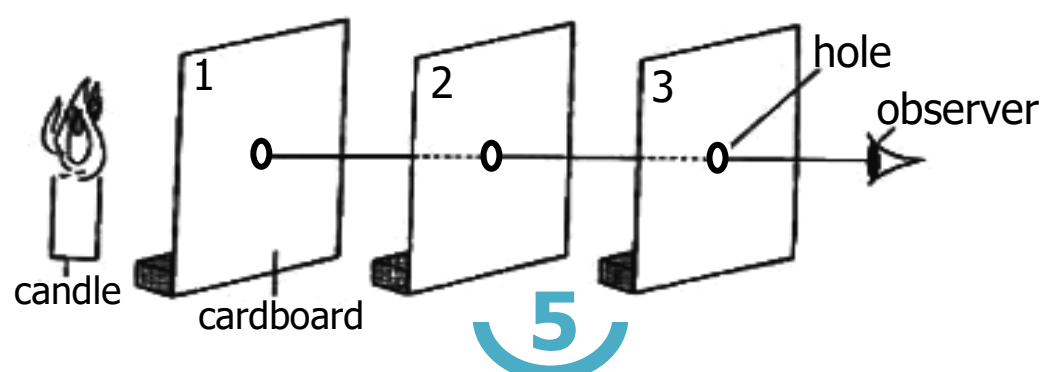
The diagram below is of a device used to store sound. Use it to answer questions **19** and **20**.



19. Name the method of storing sound that involves the use of the above device.
- **Recording**
- (Reject; recording using a memory card)

20. State any **one** way of reproducing sound stored using the above device
- **Playing using a phone**
  - **Playing using a woofer**
  - **Playing using a DVD player**
  - **Playing using a computer**
21. How is the urinary bladder different from the gall bladder in terms of their function?
- **The urinary bladder stores urine while the gall bladder stores bile**
22. State any **one** factor that a doctor considers when prescribing drugs to a patient.
- **Age of the patient**
  - **Condition of the illness**
  - **Gender**
  - **Presence of underlying health conditions**
  - **Weight of the patient**
  - **Method of administration of the drug**
  - **Type of disease**
  - **Side effects of the drug to the patient**
  - **Type of drug to be prescribed**
23. Name the method of preserving food where blocks of ice are put in fresh fish.
- **Freezing** (Reject refrigeration)
24. State any **one** way in which the spread of germs can be prevented.
- **Through proper disposal of faeces - Boiling water for drinking**
  - **Through proper disposal of rubbish – Scrubbing urinals**
  - **Washing hands before eating food. -Killing vectors by spraying**
  - **Cooking food from clean kitchen. -Having children immunized**
  - **Covering wounds and cuts.**
  - **Having clean latrine/toilet**
  - **Destroying breeding places of vectors**

The experiment below was carried out to find out how light travels. Study and use it to answer questions **25** and **26**.

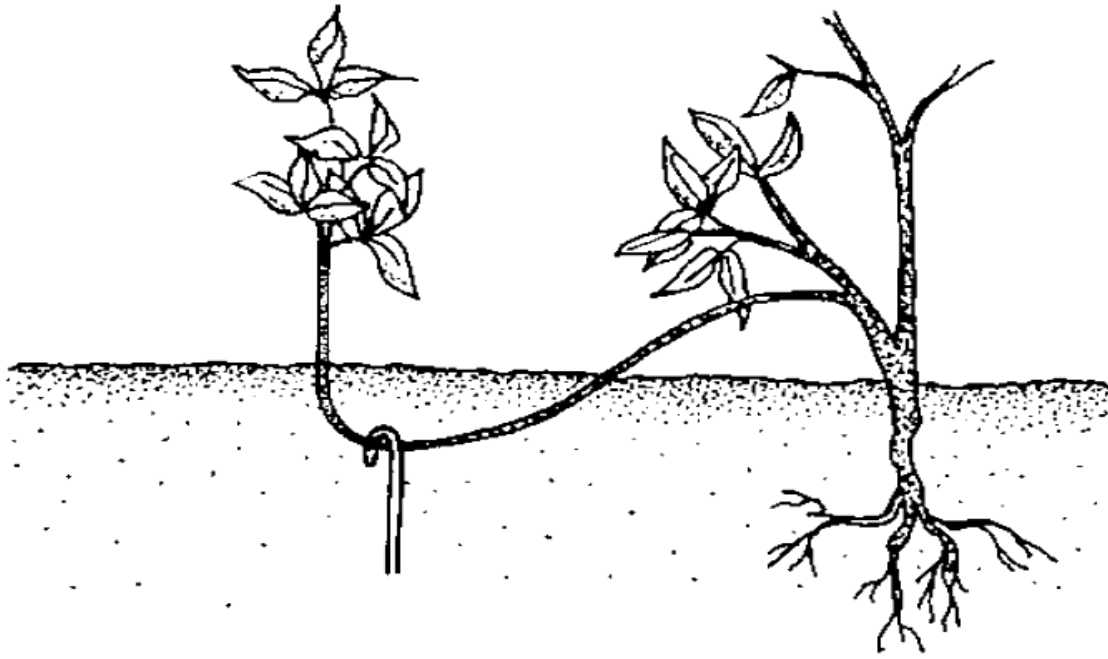




25. Give the role of the candle in the above experiment.
- **It is a source of light**
  - **It provides light**
26. State what would happen to the observer if cardboard **2** was displaced in a way that its hole is not in the same line with that of 1 and 3.
- **Light would not reach the observer's eye**  
Reason: due to blockage of light by the displaced cardboard
27. How is ash useful in an Ecosan latrine?
- **Dries faeces so that they are taken to the garden as manure**
  - **Reduces unpleasant smell in the latrine**
  - **Kills germs in faeces**
  - **Makes faeces less attractive to house flies for breeding there.**
28. Name the type of temporary magnet made using electricity.
- **Electromagnet** (reject; electro magnet)
29. Give any **one** reason why used engine oil should be applied on wood for electricity poles.
- **To make them water resistant**
  - **To prevent rotting**
  - **To prevent destruction by termites, wood shrimps and carpenter bees**
30. Apart from synovial fluid, which other substance helps to reduce friction between bones at a joint?
- **Cartilage**
  - **Gristle**
31. Mention any **one** system of keeping poultry that can be used for commercial purposes.
- **Battery system**
  - **Cage system**
  - **Deep litter system**  
(Reject; battery cage system)
32. Give any **one** characteristic of crustaceans.
- **They have a hard crusty skin**
  - **They have a pair of antennae on the head**
  - **They breathe through gills**
  - **They have more than four jointed legs**
  - **They have an open circulatory system**
  - **They have two main body divisions**
  - **Most of them live in water**

33. How do hookworms affect the circulatory system?
- **Hookworms suck blood from the body and lead to anaemia**  
(Reject; the feed on blood)

The diagram below shows a method of artificial vegetative propagation. Use it to answer questions **34** and **55**.



34. Identify the method of artificial propagation shown above.
- **Layering**
35. Give any **one** advantage of the above method of propagation.
- **New plants mature faster**
  - **The farmer gets high yields**
  - **Desired characteristics of the plant are maintained**
  - **Plants need less attention**
  - **Only one plant is needed to produce an offspring**
  - **Plants which do not produce seeds are propagated**
  - **Helps plants to escape risky seedling stage**
  - **Controls unnecessary distribution of plants in an area**
36. Which body system is attacked by bronchitis?
- **Respiratory system**
37. Why does a pen fail to write on paper where oil has been poured?
- **There is less friction between the pen and the paper**  
(Reject; there is no friction on the paper)
38. Mention any **one** condition that can lead to fever.
- **Diseases like malaria, typhoid and measles**
  - **Food poisoning**
  - **Putting on too tight clothes**

39. Give any **one** way in which non bio degradable wastes can be reused at home.
- **For holding construction materials**
  - **For making dustbins**
  - **For holding animal feeds**
  - **Used as laying nests for poultry**
  - **Can be used as play materials by children**
  - **Can be used for drenching animals**
  - **Used in making crafts**
  - **For carrying harvested food**
40. Which type of changes in living things do not involve chemical reactions?
- **Biological changes**  
(Reject; physical changes/ natural changes)

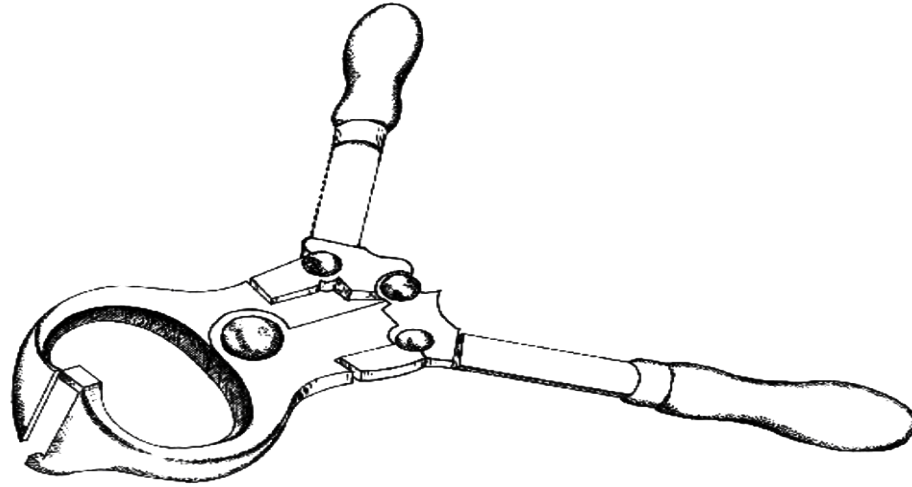
### **SECTION B: 60 MARKS**

Questions **41** to **55** carry four marks each.

41. a) Name the group of crops that provide multiple harvests.
- **Perennial crops**
- b) Write down any **two** examples of crops named in (a) above.
- |                  |                   |                         |
|------------------|-------------------|-------------------------|
| • <b>Tea</b>     | • <b>Oranges</b>  | • <b>Pawpaw</b>         |
| • <b>Coffee</b>  | • <b>Avocados</b> | • <b>Passion fruits</b> |
| • <b>Cocoa</b>   | • <b>Sisal</b>    | • <b>Pears</b>          |
| • <b>Mangoes</b> | • <b>Coconut</b>  | • <b>Oil palm</b>       |
| • <b>Bananas</b> | • <b>Vanilla</b>  | • <b>Lemons</b>         |
- c) State any **one** method used when harvesting the crops written in (a) above.
- **hand picking**
  - **Plucking**
  - **Cutting**



42. The diagram below shows a farm tool. Study and use it to answer the questions that follow.



- a) Name the farm tool shown in the diagram above.
- **Burdizzo**
- b) Which farm practice is done using the farm tool shown in the diagram above?
- **Castration**
- c) State any **one** reason why farmers carryout the farm practice given in (b) above.
- **To control inbreeding**
  - **To make animals docile**
  - **To make animals grow fast and fat**
  - **To prevent unnecessary mating**
  - **To remove bad smell from animals**
- d) Give any **one** way of caring for the farm tool shown in the diagram above.
- **Painting**
  - **Keeping it in a cool dry place**
  - **Oiling or greasing to reduce friction**
  - **Washing and drying it after use before storage**
43. a) State the importance of each of the following parts to a vein.
- i) thin walls.      **Allow smooth flow of blood**
- ii) wide lumen.      **Allow more blood to flow with less resistance**
- b) How are arteries able to prevent the back flow of blood yet they have no valves?
- **By transporting blood at higher pressure**
- c) Why do arteries have thick walls?
- **To withstand high blood pressure**

44. a) State what happens to each of the following when ice melts;

i) volume **decreases/reduces**

ii) density **increases**

b) Give any **two** ways in which melting is important to people.

- **It helps in formation of alloys**
- **It helps in extraction of honey**
- **It helps in ice skating**
- **It helps in recycling of metals and plastics**
- **It helps in forging metals**
- **It helps in obtaining water from ice**
- **It helps a fuse to work in an electric circuit**
- **It helps in preparing food using butter and ghee**

45. The diagram below shows a certain plant process. Study and use it to answer the questions that follow.



a) Name the plant process shown the diagram above.

- **Transpiration**

b) State any **two** factors that affect the rate of the above process.

- **Temperature**
- **Humidity**
- **Wind**
- **Sunlight intensity**
- **Size of the plant leaves**
- **Number of leaves on the plant**

c) In which **one** way is the above process beneficial to plants?

- **It cools plants**
- **Allows plant roots to absorb more water from the soil**

46. a) Name the waste material excreted by the liver.
- **Bile pigments**
- b) Apart from excreting wastes, give any **two** other functions of the liver.
- **Produces bile juice which emulsifies fats**
  - **Stores vitamins and mineral salts like iron**
  - **Metabolises medicines**
  - **Detoxifies poison**
  - **Regulates blood sugar levels**
  - **Produces heat in the body**
  - **Destroys old red blood cells in the body**
- c) Which disease of the liver is caused by excessive drinking of alcohol?
- **Liver cirrhosis**
  - **Cirrhosis**
47. In the table below, list **A** shows alloys and list **B** shows the metals used to make each alloy in the wrong order.

List <b>A</b> : alloy	List <b>B</b> : metal
Brass	Iron and copper
Bronze	Copper and zinc
Solder	Copper and tin
Steel	Lead and tin

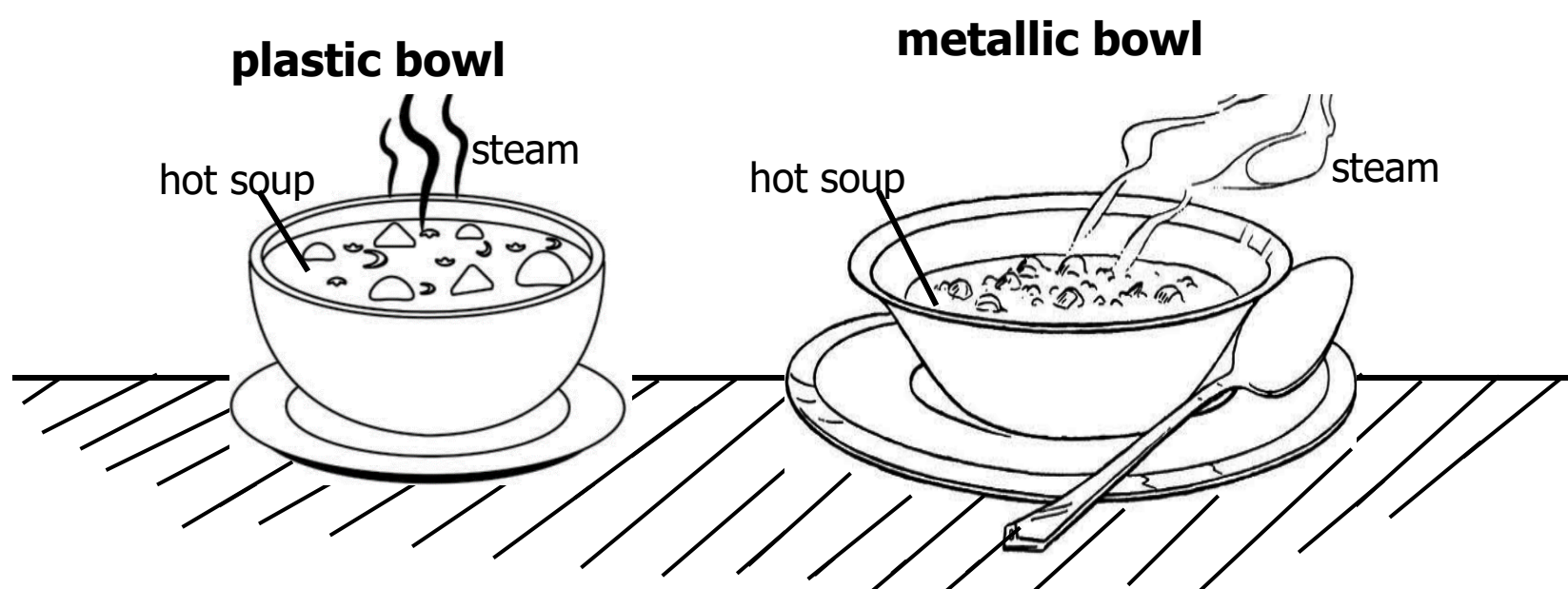
Write the correct combination of metals for each of the alloys in the space provided below.

- i) Brass      **Copper and zinc**
- ii) Bronze      **Copper and tin**
- iii) Solder      **Lead and tin**
- iv) Steel      **Iron and copper**

48. a) State the importance of a cistern tank on a flush toilet.
- **Stores water for flushing the toilet**
- b) Why is the cistern tank on a flush toilet raised above the bowl?
- **To maximize pressure of flushing a water**
  - **To increase pressure of water flow when flushed**
- NOTE:** Be mindful and keen on the spelling of the word “flush”

- c) In which **two** ways is the water that remains in the bowl of a flush toilet after flushing of an advantage?
- **Prevents smelly air from coming out from the septic tank**
  - **Prevents the backflow of sewage in the toilet room**
  - **Prevents houseflies from reaching faeces in the septic tank**
  - **Keeps the toilet bowl hygienically clean**

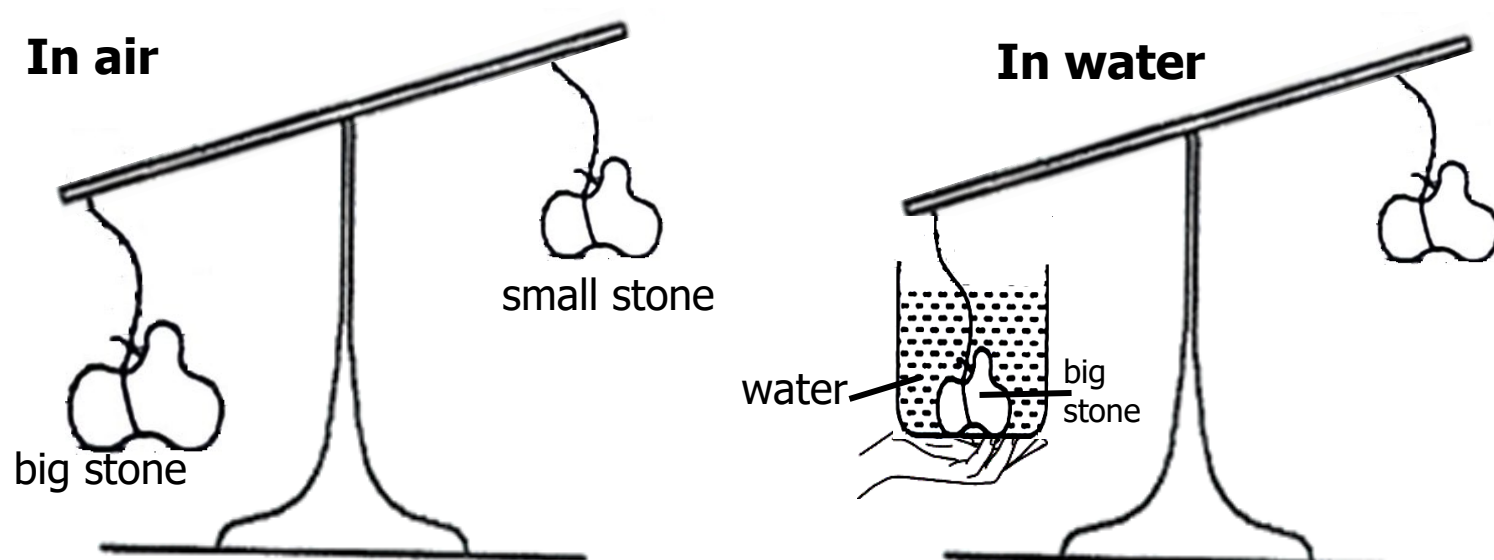
49. The diagram below shows a plastic bowl and a metallic bowl containing hot soup which was left to cool. Study and use it to answer the questions that follow.



- a) In which bowl will the soup cool faster?
- **Metallic bowl**
- b) Why would the soup cool faster in the mug you have given in (a) above?
- **The metallic bowl is a good conductor of heat**
  - **The metallic bowl conducts heat faster than the plastic one**  
(Reject; has a large surface area for evaporation)
- c) What physical process leads to the cooling of soup in the bowls shown in the above diagrams?
- **Evaporation** (Reject; evapouration/ cooling)
- d) In which state of matter is soup shown in the above bowls?
- **Liquid state**
50. a) How does prolonged breast feeding help in birth control?
- **Prevents pregnancy by preventing ovulation**
  - **Delays monthly ovulation**
  - **Delays the next pregnancy**

- b) Apart from prolonged breast feeding, mention any **two** other natural methods of family planning.
- **abstinence from sex (reject; abstinence)**
  - **withdrawal method / coitus interruptus**
  - **basal body temperature**
  - **calendar method / rhythm method**
  - **cervical mucus method**
- c) State any **one** way in which the use of natural methods of family planning is better than artificial methods.
- **Natural methods are cheaper and easier to use than artificial methods**
  - **Natural methods have no side effects to the body yet some artificial methods have side effects to the body**

51. The diagram below shows an experiment carried out by a Primary five class. Study and use it to answer the questions that follow.



- a) In which medium does the stone weigh less?
- **Water**
- b) Why does the stone weigh less in the medium you have given in (a) above?
- **Due to upthrust force of water**
  - **The weight of the stone is reduced by the upthrust force in water**
- c) Name the force that acts on the stone in water according to the above experiment.
- **Upthrust force // Buoyancy force**
- d) What does the above experiment show about measurement?
- **Weight of objects in different media**

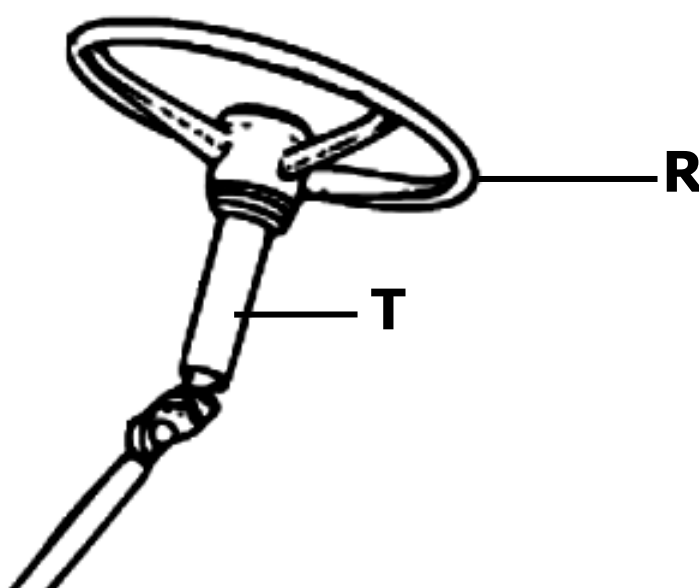


52. a) Give any **two** reasons why it is important to keep the body clean.
- **To control the spread of germs**
  - **To prevent skin diseases**
  - **To remove dirt from the body**
  - **Prevents breeding of diseases vectors**
  - **To prevent a body smell**
  - **To prevent tooth decay**
  - **To help one to be healthy**
- b) State any **two** dangers of failing to keep the body clean.
- **It can lead to the spread of skin diseases**
  - **It can lead to teeth decay**
  - **Easy spread of diarrhoeal diseases**
  - **It can lead to body smell**
  - **There is easy spread of germs**
53. a) Which method of making alcohol produces the highest alcohol concentration?
- **Distillation (Reject; distilling)**
- b) State any **two** ways in a medical worker uses alcohol.
- **For cleaning wounds**
  - **For sterilizing medical instruments**
  - **For cleaning areas on the skin where an injection is going to be taken**
- (Reject; For making surgical spirit / for mixing injectable drugs)
- c) In which way does alcohol affect the digestive system?
- **It causes peptic ulcers/ stomach ulcers/ gastric ulcers**
  - **(reject; cause liver cirrhosis)**
54. a) State the importance of each of the following items when giving first aid to a casualty;
- i) gauze
- **used to absorb fluids from wounds**
  - **used for dressing wounds**
- ii) razorblade
- **used for cutting torn skin**
  - **used for cutting bandages, gauze and plaster**

b) Give any **two** qualities of a good First Aider.

- **Should be kind**
- **Should be clean**
- **Should be trained**
- **Should be confident**
- **Should be tactiful/ skillful**
- **Should be knowledgeable**
- **Should be fast at taking actions**
- **Should be having common sense**
- **Should be sympathetic and empathetic**
- **Should be quick in decision making**
- **Should be observant**
- **Should be courageous**
- **Should be gentle**

55. The diagram below shows a simple machine. Study and use it to answer the questions that follow.



- a) To which group of simple machines does the above machine belong?
- **Wheels and axles** (Reject steering wheel)
- b) Name the parts marked **R** and **T** on the simple machine above;
- i) **R**      **-wheel**
  - ii) **T**      **-axle**
- c) How does the above simple machine simplify work?
- **By changing the direction of force while driving**
  - (reject; it is used for controlling direction of a car while driving)

### **ADVICE TO TEACHERS OF INTEGRATED SCIENCE**

- *Identify learners' challenges after marking this item and address them while making corrections.*
- *Make a comprehensive correction per question to enable learners discover more new concepts which they seem to have forgotten*

*INT. SCI. SKEB WISHES YOU SUCCESS IN PLE 2022*

