



1. Dear Mr. Kiremya / Salutation
- The garbage attracts houseflies and is a breeding place for them. House flies are vectors for pathogens / germs that causes cholera, diarrhea and dysentery. When the houseflies go to garbage to feed they also breed in it, the germs attach on the hairy bodies of house flies which when they land on food left open transmit the germs and when the family members feed on this same food they take in the germs that cause the various diseases. The old pit latrines attract cockroaches and house flies. The cockroaches are vectors for germs that cause dysentery, diarrhea and salmonellosis. These are transmitted through direct contact or through their dropping, saliva and urine. The pond is the breeding place for mosquitoes which are vectors for plasmodium malariae that cause malaria. When they bite an infected person the germs are picked and when the same mosquito bites another person the germs are transmitted and the person suffers from malaria. It is therefore important to ensure hygiene. Remove garbage to eliminate the breeding place for houseflies, drain / oil the pond to eliminate mosquitoes and spray / demolish old pit latrines to eliminate cockroaches and houseflies.

20 scores

2. The different persons need different soil types for their business.

Farmers

Loam

Need such soil with enough humus, well aerated, drained, many living things, enough water, minerals and average sized soil particles, the soil should be dark to ensure suitable temperature. Humus provides plant nutrients as it decomposes for plant growth, it also stabilize soil pH. The dark colour of humus enable soil absorb heat and so maintain a suitable temperature for seed germination, root growth and microbial growth.

Water

Soil water is required for seed germination, softens soil for easy root penetration, reacts with carbon dioxide forming carbonic acid which provide suitable soil pH for proper growth of some plants. It also provides support in non-woody plants.

Soil Air

Oxygen is necessary for root respiration. Oxygen is needed by bacteria that decompose organic matter to release plant nutrients. Nitrogen in air is absorbed by plants in form of nitrates to form plant proteins. Nitrogen is also vital for the synthesis of chlorophyll.

Soil particles

Provide a surface area for anchorage of plant roots and for plants to get support, soil particles also determine drainage and aeration.

Living things

The micro - organism are decomposers and so recycle nutrients. Macro - organisms accrete soil and improve on drainage.

Builders

Need sandy soil for plastering because sandy soil mixes well with cement, the large particles of sandy soil allow better incorporation and distribution of cement through the mixture, resulting into uniform and cohesive and adhesive mixture. The large spaces also allow water to evaporate allowing plaster to dry and set faster.

Potters

Clay soil is best for the potters, because it contains finer particles with a higher water retention capacity. This makes it suitable for ceramics. When clay is mixed with water it becomes sticky and malleable forming a workable body. This property allows artists to mold and shape clay into various forms before firing. The high water retention *achieved* *adhesion* prevents cracking during the drying and firing processes.

20 scores

3 Person A

Is thin implying malnutrition, he therefore needs a balanced diet which should include;

- Proteins for body building.
- Carbohydrates for energy production.
- Fats for energy production during starvation.
- Vitamins for prevention of deficiency diseases.
- Minerals for proper body functioning.
- Water for cells to function well, and as a medium for chemical reactions.
- Roughage to prevent constipation.
- All these should be taken in right proportions and quantities and on daily basis.

Person B

- Is obese which puts him a risk of un health disorders. Obesity implies his diet is mainly based on proteins and fatty foods.
- To grow healthy he should avoid eating Junk foods like chips which contain much fats / oils.
- Ensure a balanced diet consisting of carbohydrates, roughage, vitamins, enough water and reduction in proteins foods.
- Understand the relationship between sleep, stress and weight management.

20 score

4. Sarah's poor oral hygiene and dental problems significantly have many effects and affects the digestion of food and assimilation of the end products of digestion. Poor oral hygiene results into smelly mouth, which makes her a social misfit as people do not want to associate with her. The teeth appear yellow / brown and the gums are bloody / bleed.

Proper oral hygiene, regular brushing and flossing promote healthy teeth. Health teeth allow for efficient chewing and mechanical breakdown of food into small particles for easy swallowing and to increase surface area for enzyme to catalysis and for easy absorption.

However, Sarah's neglected oral hygiene leads to tooth decay and gum disease, resulting into weakened teeth and teeth fall out. As a result her ability to chew food properly is reduced and eventually slows down the first step of digestion.

Saliva contains salivary amylase which catalysis the breakdown of starch to maltose. However Sarah's dental problem cause a decrease in saliva production due to gum infection and tooth decay. The insufficient saliva means reduced salivary amylase and so incomplete breakdown of starch in the mouth.

The absorption of the end products of digestion largely occurs in the small intestines, so poor oral hygiene and dental problems reduce the absorption of nutrients, since her

inability to chew food properly results into large food particles to pass into the stomach and intestines.

This hinders the optional absorption of nutrients since surface area available for nutrients uptake is reduced. Similarly, since absorption is reduced then assimilation of food is also reduced and so resulting into reduction in Sarah's body size.

20 scores

5. Bruno Fernandes.

The fact that he healed without medicine and had no fracture means he had a dislocation, at the elbow and shoulder joints.

At the shoulder joint there is a ball and socket joint which allows movement in all directions. At the elbow there is hinge joint which allows movement in one direction only. Movement at the elbow is due to two antagonistic muscles, the biceps contract and triceps muscles relax pulling the radius and the arm is bent. When the triceps muscles contract the biceps muscles relax, pulling the ulna and the arm is straightened.

Therefore when he fell the convex head of the bone moved out their normal positions making fail to stretch and move the arm. The physiotherapist work was therefore to re-align the above bones in their normal positions.

20 scores