

SECTION A:

ITEM 1

On a sunny day, John was travelling with his two kids who slept off. He parked his car alongside the tarmac road to buy some items from a supermarket. He locked the car to ensure safety of the bags and kids in the car. However, he delayed in the supermarket due to a long queue. The kids suddenly woke up before their father came back. All they could see was a pool of water ahead which scared them and they tried to call out for help. Unfortunately, the people passing by the car did not seem to hear. They accidentally banged a hooter which produced sound and the people outside were alerted. The people found the two kids covered with too much sweat due to radiations.

Tasks

- As a physics student, explain how the pool of water came about.
- Explain why initially people did not hear the voices of the kids until they hooted.
- Identify the type of radiations that could have caused the warmth within the car and how they reached the kids.

ITEM 2

Two learners were having a conversation that there was a bomb blast in Lugogo as people had gone to watch a live football match. Many people died and others ended up with a lot of side effects which is believed can be carried onto other generations.

Task

- As a physics student, help the people to understand the structure of an atom and identify the radiations emitted by unstable radioactive atoms.
- Explain the dangers of unnecessary exposure to nuclear radiations and suggest safety precautions.
- Identify the medical and industrial applications of radiations.

ITEM 3

A certain school in Wakiso district, at the end of the year the management discovered that they had made many losses due to a number of students who had not paid fees and the school found its self in debts. The school management sat and agreed that for any student to be allowed in school the following year had to:

Pay half of the school fees at the start of the term. On addition to that, he/she must either carry a ream of paper or liquid soap to attend lessons.

Task

- Help the school to design the system that will help it to achieve its goal.
- Show all the possibilities for a learner to attend lessons the next term.