

ADELANTE AFRICA SECONDARY SCHOOL

PHYSICS END OF TERM ONE 2024

12th /4/2024

1 hour

Attempt all questions

Item 1

You are working in the office of a precious metals' buyer. A miner brings you a nugget of metal that he claims is gold. The person wants you to buy it for \$2000. You suspect that the metal is a form of "fool's gold," called marcasite, which is composed of iron and sulfur. In the back of your office, you have a chunk of pure gold. Density of gold is **19.3 grams per cubic centimeter**.

Task :

- What simple experiments could you perform to determine whether the miner's nugget is pure gold? Is it gold? Should you buy it?
- Explain other ways through which the knowledge of density is applicable in daily life.

Item 2

It is always best, to follow all safety rules while in the laboratory because unprepared for accidents could happen in a twinkle of an eye. People could get hurt. Maybe even die, if safety rules and regulations are ignored. No one needs to get hurt. No one needs to die, because of stupid mistakes.

This evening we received bad news from our neighboring school in igayaza town council about Fire outbreak that started from the physics laboratory and many school properties were destroyed in the process.

Task

Having studied physics .

- Explain what could have been the cause of the problem .
- What should other schools in the same area do to avoid the problem in future.

END