

## S.2 HOLIDAY WORK TERM 3, 2024

### MATHEMATICS

**ITEM:** Following the passing away of a grandfather, the family convened a month later to settle his estate and read his will, to which you were invited. However, a surprise revelation emerged when the youngest child revealed a mysterious envelope left by the grandfather, containing a secretive message. The envelope contained a piece of paper with the number 31, which needed to be converted to a ternary numeral system (base three) to unlock the secret code to gain access to his office strong box. But to their dismay, none of the family members recalled how to perform the conversion, and they turned to you for assistance, the secret code to gain access to his office strong box. Upon opening the safe, they discovered 349 million shillings and a will outlining the distribution of the wealth. The will stipulated that the grandmother was to receive 40% of the total, the eldest son was to receive one-third of the remaining amount and the two younger grand children were to share the balance in a ratio of 2:3 according to their birth order.

To ensure a fair and impartial distribution, your expertise was sought once again to calculate the exact share for each beneficiary preventing my potential disputes or biases.

- TASK:** (a) Advise the family on how to unlock the safe.  
(b) Show how you helped the family to receive their shares fairly.

### KISWAHILI

Andika isha ya bageti kwa kutumia elfu hamsini (50,000)

### PHYSICAL EDUCATION

The Ministry of Education and Sports carried out a nation-wide school assessment to find out the number of schools which carry out the rounders game.

The assessment revealed that the percentage of these schools in the country is less as compared to the number of schools in the country. In response, the Ministry has decided to collect presentations about made by students about rounders which it will use in its national wide campaign of sensitizing schools the game

**TASK:** Assuming your school has been selected to send a presentation about the game of rounders, as an individual, write about all the basic skills and techniques of rounders you have learnt.

### ENTREPRENEURSHIP

You have gone to the shop to buy something. When you pay money you are given a commodity in exchange.

- Task:** (a) What is meant by the term 'Money?'  
(b) Watch a documentary about the evolution of money or make research to describe the various stages through which the present money changed.

### ART

At your village there is a new **Bakisimba Dance group** which is going to perform at Rio grounds on 25<sup>th</sup> December 2024, for only ugx.10,000/= entrance. But the organizers are lacking ways of reaching/informing the entire village about this performance.

#### Task

As an Artist, create an art work of your choice that can solve the organizers' above challenge.

### TECHNICAL DRAWING

- Obtain geometrically the shape of an oval shaped swimming pool which is 60 meters wide and 100 metres long. Use a suitable scale.
- Obtain a tangent and a normal at any point on the curve.

### LUGANDA

Oweeredddwa ekifo mu ssomero eppya naye ne weesanga nga essomero lino lyawukana nnyo ku eryo gyobadde osomera. Wandika ng'onnyonnyola by'osanze mu ssomero lino.

### ICT

- What is meant by information processing cycle?
- Give two advantages and two disadvantages of using computer for information processing.

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3. Suggest four considerations before using computer for information processing
4. Describe briefly the differences between batch processing and real-time processing. Give one real life example for each of these information processing methods.
5. Suggest two ways to improve the speed of a personal computer system.

### BIOLOGY

**Theme: TRANSPORT IN PLANTS AND ANIMALS**

**Topic: TRANSPORT IN PLANTS**

**Competency:** *The learner appreciates how substances enter and exit from cells and knows the transport processes in plants, the structures involved, and their functions.*

Research Guiding question

Copy and complete the table below to show how transport occurs in plants

Material transported	Source	Destination in plants	Pathway in plant body	Processes involved in its transport	Reason for its transport plants

**Topic: TRANSPORT IN MAMMALS**

**Competency:** *The learner appreciates that animals have special systems for the efficient transport of materials around their bodies, and understand the principles of how these systems operate.*

Research Guiding question

Copy and complete the table below to show how transport occurs in mammals

Material transported	Source	Destination in mammals	Structures of its transport	Processes involved in its transport	Reason for its transport

### CHEMISTRY

Your nephew is very interested in preparing meals at home. As she was preparing your home breakfast, she accidentally knocked the tin containing cooking oil, fell into a nearby bucket containing water and being puzzled about what to do she poured the resultant mixture on the ground to hide evidence of what had happened. Your aunt has however got to know about it due the CCTV surveillance around your home and she has called the two of you to caution you about the situation as well as requesting you as a student of chemistry to advice on what would have been done by your nephew.

Task:

As a student of chemistry please guide about;

- a). category of the resultant substance formed and was poured away by your cousin.
- b). the properties of the resultant substance
- c). impact of what your cousin did after the accident had happened
- d). your aunt's request.

### GEOGRAPHY

**Item 1.**

According to the 2021 Uganda Population Survey, the country's population was estimated to be 42 million, and growing at a rate of 3 % per year. At this rate, the country's population is expected to reach 72.4 million people by 2040;

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representing an annual increase of 1.6 million people per year. Members of your community have different views about this rate of population growth. Some see it as a benefit, while others think it is a danger to the country.

### Support materials:

Table showing Uganda's population between 1980 and 2023

Year	Population (in millions)
1980	12
1991	16
2002	24
2014	34
2023	48

*Adopted: (UBOS, and Trending Economics)*

### Task:

- (a) Draw a suitable graph to show the information in the table. (10 scores)  
(b) Using the information provided in the text and table, write an article of between 250 – 300 to be published in one of the local newspapers that will help you deal with the concerns of the members of your community. (10 scores)

### HISTORY

When Kabaka Daudi Chwa grew up, he said this about the Buganda agreement. "My present situation is so precious that I am no longer the direct ruler of my people. I am being considered by my subjects as merely one of the British servants. His is solely due to the fact that I pose no real power over my people."

### Task

- Give seven reasons why you think the Kabaka made the above statement.
- How is Uganda today being influenced by the 1900 Buganda Agreement?

### CRE

And I prayed earnestly to the Lord God, pleading with him, fasting, wearing sackcloth, and sitting in ashes. I prayed to the LORD my God and confessed the sins of my people. I said, "Lord God, you are great, and we honor you. You are faithful to your covenant and show constant love to those who love you and do what you command. Daniel 9:3-4(GNB)

### Task:

- How are the worship practices among Christians today reflected in the above Bible text?
- Explain the Traditional African worship practices that are related to those in the above Bible text.

### PHYSICS

You have been moving around your home community with a friend and found a construction site that had a storey building of around five floors. On a clear observation you realized a crack at a certain floor, this forced both you and your friend to ask the engineers what had really happened to the building, and he was also left suspicious about the matter. Using the knowledge of physics,

- Mention any eight and more examples of material that were used while building on site.
- State the mechanical properties, advantages and disadvantages of the materials mentioned above.
- Why did the crack develop within the building and how can it be minimized?

### AGRICULTURE

Sandra's father picked interest in growing beans after watching Harvest Money Expo on one of the television channels. However, it was amidst planting season, so he decides to just slash his garden area and immediately started planting using a hoe that had a blunt blade. He ordered for the planting materials from one of the leading agricultural produce supplier in the city. When he received the seeds, they were tiny, wrinkled and had holes but he was not bothered. The bean seeds were mixed with other seeds from wild plants that germinated before the beans. A few bean seeds germinated and he had to buy more other seeds for planting. She used a non selective herbicide to remove the unwanted plants. She had no harvests that season.

**Task:** Carefully give proper advice to Sandra's father on what he should do next season of planting beans.