



# Ministry of Education and Youth

## Primary Exit Profile (PEP 5)

June 2023

### Performance Task - Science

Time: 1 hour 30 minutes

**Write your name and the name of your school below:** \_\_\_\_\_

\_\_\_\_\_  
Name of Student

\_\_\_\_\_  
Name of School

**DO NOT OPEN THIS BOOKLET UNTIL TOLD TO DO SO**

*MoEY/EAASB/G5PT/Science/23*

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**General Instructions:**

**This task has three parts: Part 1, Part 2, and Part 3.**

**Read the information in each part carefully. Use the information provided to answer ALL questions in each part.**

**Instructions to Begin:**

**Carefully read the introduction to the task then move on to answer each question.**

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## ***Introduction to task***

### ***The Tomato Garden***

Best friends Jenna and Patrick would like to start a tomato garden. However, they are not sure of which method of growing food to use.

Patrick believes **adding chemical fertilizers** to soil is the best way to increase the mass and number of tomatoes produced

#### **WHILE**

Jenna believes that **adding chicken manure** to soil will increase the mass and number of tomatoes produced.

Jenna and Patrick plan to carry out an investigation to determine which method of growing food is best. They have asked for your help.

You will need to:

- help plan a scientific investigation
- provide an explanation for changes observed during the investigation
- make a recommendation about which method of growing food is better for increasing the mass and number of tomatoes
- use data as evidence to suggest a disadvantage with using the method of growing food that was recommended

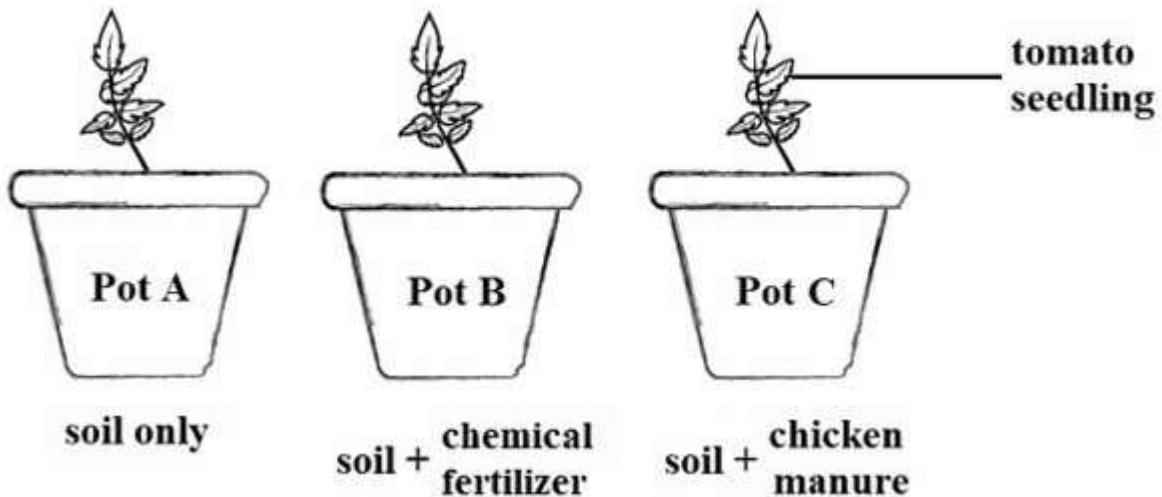
## Part 1 – Jenna and Patrick’s Investigation Plan

Use the information below to answer questions 1 and 2.

For their investigation, Jenna and Patrick decided to:

- place one tomato seedling in a pot containing **soil only** (Pot A)
- place one tomato seedling in a pot containing **a mixture of soil and chemical fertilizer** (Pot B)
- place one tomato seedling in a pot containing **a mixture of soil and chicken manure** (Pot C)
- then **count** and **weigh** the tomatoes produced by each plant at the end of 12 weeks

### Jenna and Patrick’s Investigation Set-up



1. Which method of growing food was used in **Pot C**?

The box below shows an unfinished hypothesis written by Jenna and Patrick. Use it to answer question 2.

If tomato plants are grown using chemical fertilizers they will produce \_\_\_\_\_ .

2. Which statement would **LIKELY** complete Jenna and Patrick’s hypothesis? Shade the correct response.
- A nicer looking and heavier tomatoes
  - B healthier tomatoes that taste better
  - C heavier tomatoes in larger amounts
  - D nicer looking tomatoes that taste better

Patrick wrote some steps to be included in the method of the investigation. He needs your help to determine if the steps are correct.

3. Read each step in the table below carefully. Then shade the appropriate circle in each row to indicate whether the steps are correct or incorrect.

Patrick's Steps	Correct	Incorrect
A. Plant one type of tomato seedling in Pot A and plant a different type of tomato seedling in Pot B and Pot C.	<input type="radio"/>	<input type="radio"/>
B. Use tomato seedlings that are similar in size and number of leaves.	<input type="radio"/>	<input type="radio"/>
C. Ensure that the seedlings in all three pots receive the same amount of sunlight daily.	<input type="radio"/>	<input type="radio"/>
D. Water Pot A every day in the morning. Water Pot B and Pot C every day in the afternoon.	<input type="radio"/>	<input type="radio"/>

## Part 2 – Observations

Jenna and Patrick’s investigation lasted 12 weeks. During that time, they recorded data on the number of organisms seen in the soil in each pot.

The table below shows the data they recorded. Use it to answer questions 4a and 4b.

Table showing the number of organisms seen in soil over 12 weeks

Time (weeks)	Number of Soil Organisms		
	Pot A	Pot B	Pot C
week 1	12	14	10
week 3	11	13	10
week 6	12	10	9
week 9	12	8	10
week 12	12	5	10

- 4a. State what would **LIKELY** happen to the number of organisms in **Pot A** if the investigation lasted three more weeks.

- 4b. Explain the **LIKELY** cause for the decrease in the number of organisms that was observed in **Pot B**.

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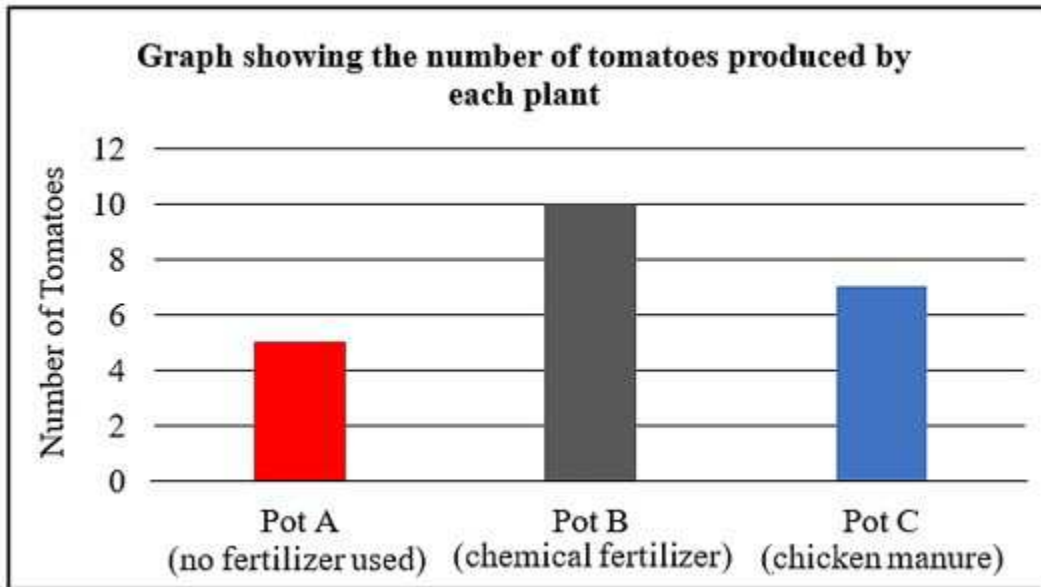
### Part 3 – Results and Conclusion

At the end of the investigation, Jenna and Patrick created the bar graphs shown below.

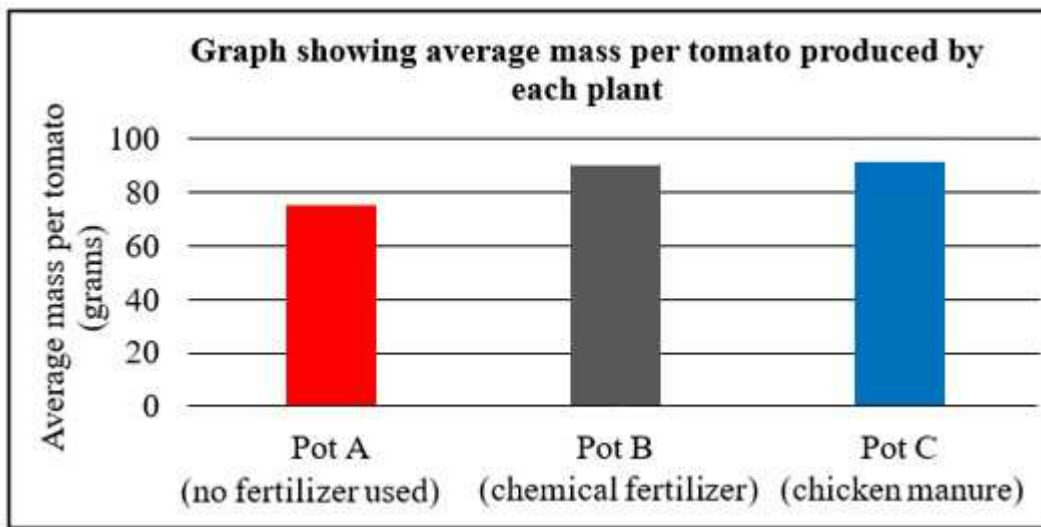
- Graph 1 shows the number of tomatoes produced by each plant.
- Graph 2 shows the average mass per tomato produced by each plant.

Use the graphs to answer questions 5 and 6.

Graph 1



Graph 2



5. Tick the box below to show which method of growing food you would recommend that Jenna and Patrick use.

- Soil only, no fertilizer used (Pot A)
- Chemical fertilizer mixed in soil (Pot B)
- Chicken manure mixed in soil (Pot C)

Give a reason for your recommendation.

**Patrick and Jenna would like to know of any disadvantage that may come with the growing method you recommended.**

6. State **ONE** disadvantage Jenna and Patrick should consider if they decide to use the method of growing food you recommended.

**Use information from the investigation as evidence to support your answer.**





# Primary Exit Profile - 2023

Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

School Name: \_\_\_\_\_

School Code: \_\_\_\_\_

Centre: \_\_\_\_\_

Parish: \_\_\_\_\_

Name of Test: PERFORMANCE TASK 2023 -SCIENCE



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Absent

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## GENERAL INSTRUCTIONS

1. Your booklet contains six (6) questions. Write the answer to all six questions in your test booklet.
2. Read each instruction carefully before responding to the questions in each section.
3. Ensure that all questions are answered.

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BOOKLET # ASSIGNED

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