MINISTRY OF EDUCATION & YOUTH

Grade 4 Mathematics Sample Items

Performance Task

Prepared by the Student Assessment Unit

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Introduction

This booklet consists of items originally found on the 2019 administration of the Primary Exit Profile (PEP) Mathematics Performance Task (PT). Six (6) questions are contained within this booklet and together they provide a guide that should support the preparation of students for the 2022 administration of the Grade 4 Mathematics PT.

Grade 4 Performance Task

Starting a Chicken Farm

Read the Introduction to the task below, then answer ALL the questions that follow.

Your school wants to start a chicken farm in order to provide meat for the canteen and to raise funds for the school. There is a plot of unused land to the back of the school that the principal has identified to place a chicken coop for the farm.

Overall Description of Task

You have been asked to help your principal to:

- determine the number of chickens the coop will fit
- determine the number of feeders needed
- calculate cost of the feeders needed

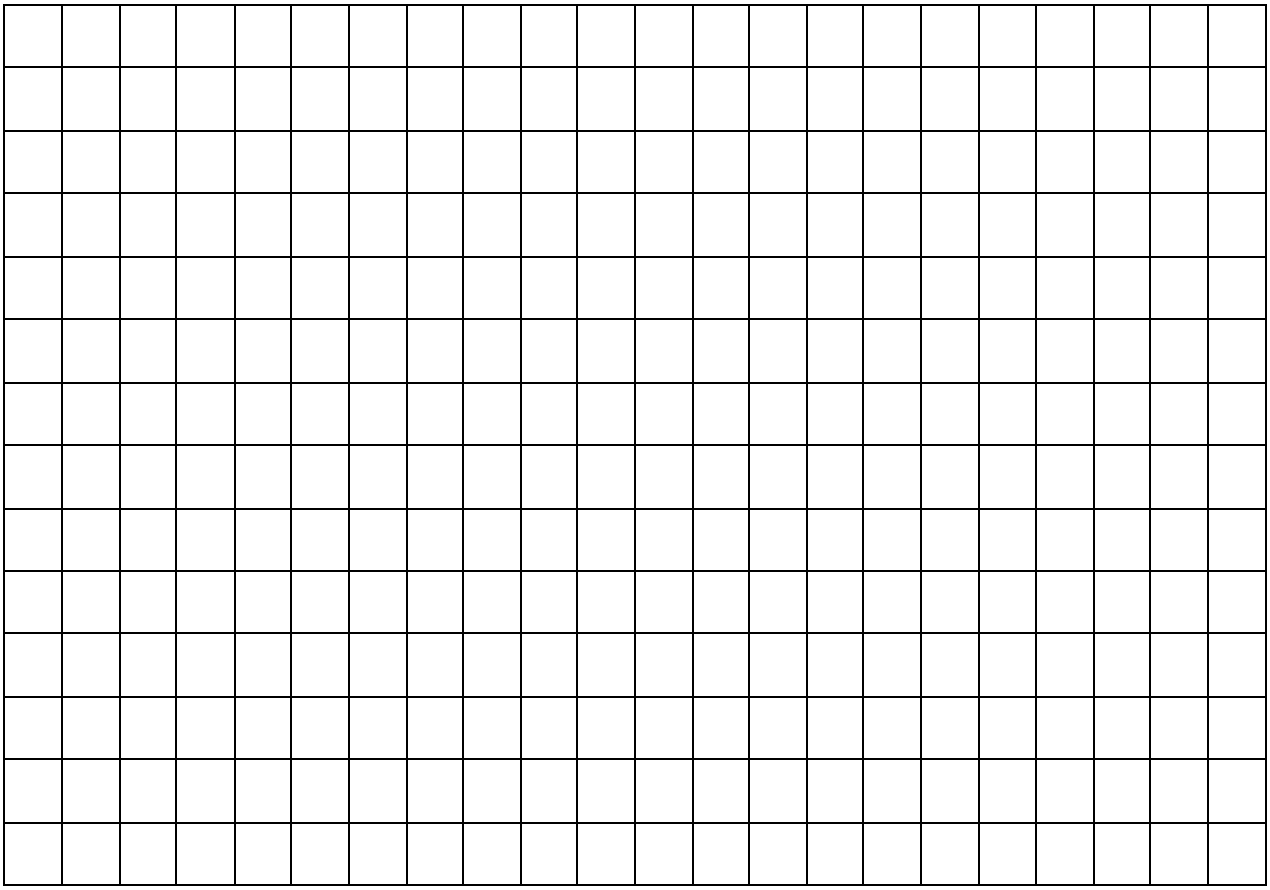
Source: Amazon.com

Question 1

The rectangular base of the chicken coop has a length of 10 m and a width of 4 m.

Draw the outline of the base of the chicken coop in the grid below.

Each square represents 1 m^2



Strand:

Measurement

Item Description:

Students are required to model mathematics by applying their knowledge of area to an everyday life situation, which involves drawing the rectangular base of a chicken coop.

Objective:

Use unit squares or centimetre grid to cover regions so as to determine their area.

Key Description:

A rectangle with dimensions 10 by 4 is drawn on the grid.

Question 2

What is the area of the base of the coop in m^2?

Strand:
Measurement

Objective:
Use a square grid (1 cm^2 squares) to find the area of any shape.

Item Description:
Students are required to solve a pure mathematical problem by demonstrating their conceptual understanding of area by counting squares or using the formula.

Key Description:
An area of 40 m^2 is stated.

Question 3

Each chicken needs a floor space of approximately $\frac{1}{2}$ m^2. What is the maximum number of chickens that will fit in the coop? Show your work.

Strand:
Measurement

Objective:
Demonstrate an understanding of the units of length and the units of area.

Item Description:
Students are required to solve a mathematical problem by applying their knowledge of area to an everyday life situation, which involves determining the maximum number of chickens that can fit in a coop based on its area.

Key Description:
The area stated is divided by ½ m^2 or multiplied by 2.

The table below shows the number of chickens that three (3) parents wish to donate. Use the information in the table to help you answer question 4.

Parent	Number of Chickens
Mrs Grey	100
Mr White	70
Miss Brown	50

Question 4

Based on your response in question 3, which parent's donation would you suggest the school take? Explain your choice.

Strand:
Number

Objective:
Select data relevant to a problem when finding its solution.

Item Description:
Students are required to communicate their reasoning by constructing an argument based on reference to the maximum number of chickens that the coop can hold.

Key Description:
A parent is selected and explanation is based on the maximum number of chickens calculated in question 3.

Question 5

The chickens need feeders from which to eat. Ten (10) chickens use one (1) feeder.

Based on your response in question 4, how many feeders will be needed for the farm?

Show your work.

Strand:
Number

Objective:
Differentiate between the use of addition and multiplication, subtraction and division in problem situation.

Item Description:
Students are required to solve a real life mathematical problem involving division, which requires them to calculate the number of feeders needed based on the number of chickens.

Key Description:
Number of chickens stated in question 4 is divided 10.

A farm store has two options when selling the feeders. The options are outlined in the table below. Use the information in the table to help you answer question 6.

Option A	Option B
Feeders are sold individually. One (1) feeder costs $300.00.	Feeders are sold by the case. One case has five (5) feeders. One case costs $1300.00.

Question 6

Which option is better for the school? Explain your choice.

Strand:
Number

Objective:
Select data relevant to a problem when finding its solution.

Item Description:
Students are required to make sense of a problem by analysing constraints given in order to choose an option, based on the cost that is better for the school and to explain their choice.

Key Description:
One option is selected and the cost of the feeder is correctly calculated using their answer from question 5.