RICH MATHEMATICAL TASK BOOKLET

MEASUREMENT

YEAR 7/8
EVEN YEARS

Teacher Booklet

Task 1

Estimate how long the _____ is and record the estimate and measurement unit.
Estimate -

Use a measuring tool to measure the length and record the measurement count and measurement unit.
Measurement –

Convert the measurement to two different units.
Measurement conversion –
Measurement conversion –

Teacher Notes

During the launch, give the students different measurement tools (metric rulers and tape measures) to look at and discuss. Ask them to look at the metre ruler or tape measure and the markings. What do the numbers represent? What are the extra markings between the centimetre? Elicit that millimetres are centimetres divided into ten parts and written as mm. How many millimetres are in a centimetre? What happens if you measure in different units? Facilitate them to notice that the smaller the unit the larger the measurement count and vice versa.

Have centimetre rulers, metre rulers, and tape measures.

Ask the students to measure a variety of objects around the classroom that are under a metre, between 2 – 5 m and over 5 m long.

Expect students to record using the correct measurement notation and to measure accurately using mixed units (e.g., metres and centimetres).

Facilitate students to convert between the different metric units and connect this to understanding of base ten.

Shareback

Select students to share who are able to accurately measure objects using the measurement tools and to convert between whole number units.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume. When we measure, we use comparison, specifically, we compare like properties to see which is greater. We can make comparisons using standard or non-standard units of measure and we use mathematical language to describe these.

Conceptual understanding of measurement requires understanding of conservation and transitivity. Conservation requires understanding that when moved or subdivided, an object will retain its size. Transitivity involves understanding that the measures of two objects can be compared to a third object. For example, if object A weighs more than object B, and object B weighs more than object C, then object A will weigh more than object C.

There are key principles related to measurement including that the size of the measurement unit remains the same (including identical units or subdivisions), units are repeated with no gaps or overlaps (iteration), the unit is part of a whole and the measurement is expressed as the total number of units used.

Connect

If I ran 1.5 kilometres, how many metres would I have run? How many centimetres would that be? How many millimetres?
If I ran 250 metres, how many kilometres would I have run? How many centimetres would that be? How many millimetres?

Suggested Learning Outcomes

Estimate length in a range of measurement units (mm, cm, m).

Measure length in a range of measurement units (mm, cm, m).

Identify the relationship between centimetres, millimetres and a metre.

Independent Tasks

Find the perimeter for these shapes. (see copy masters).

Curriculum Links

During Year 7/8

Estimate and then measure, length, area, volume, capacity, mass (weight), temperature, data storage, time, and angle, using appropriate units

Select and use an appropriate base measure within the metric system, along with a prefix to show the size of units.

Convert between metric measurement units, including square units

Mathematical Language

Metre, centimetre, millimetre, length, unit of measure, measurement count, ruler.

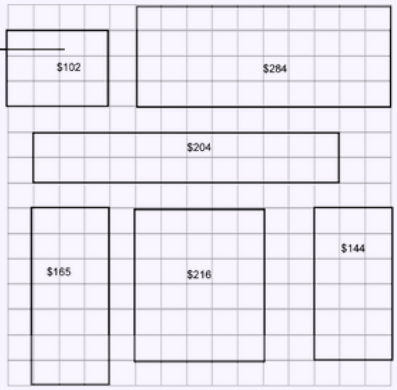
Anticipations

Solutions, Misconceptions

Task 2

Kiwi Carpet supplies sells custom made rugs for different sized rooms. They calculate the price of these by using the area of rug and the perimeter of the lining for the rug

Work out how they arrived at the prices of the rugs.



Teacher Notes

During the launch, remind the students of the term perimeter and ask them to identify where the perimeter would be on a 2D shape as well as the area and discuss the difference between the perimeter and area.

Notice whether students use multiplication and calculate area using the side lengths for each rectangle.

Facilitate the students to record the measurement for each rug in a table to help them notice the relationship between the cost of the perimeter lining and the area of the carpet. Notice when two rugs have the same perimeter but different area. Facilitate the students to calculate the difference in cost to determine the cost per m for the perimeter. Note the perimeter is $3 per metre with the area $5m^2$

Expect students to use measurement language including area and perimeter.

For the independent task, have ten squares available for the students to use.

Shareback

Select students to share who have used multiplication to find the area and grouping to find the perimeter and solved the task by identifying the relationship between the cost of each segment of the perimeter and each area measurement.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume.

When we measure, we use comparison, specifically, we compare like properties to see which is greater. We can make comparisons using standard or non-standard units of measure and we use mathematical language to describe these.

There are key principles related to measurement including that the size of the measurement unit remains the same (including identical units or subdivisions), units are repeated with no gaps or overlaps (iteration), the unit is part of a whole and the measurement is expressed as the total number of units used.

Curriculum Links

During Year 7/8

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

Connect

Draw two rectangles on the board (16 by 4 and 14 by 9) write in the measurements for two sides. Ask students to find the perimeter, area, and cost for those windows.

Suggested Learning Outcomes

Find the perimeter of a rectangle.

Find the area of a rectangle by using multiplication.

Use measurement language to describe how to measure area.

Mathematical Language

Area, square, unit of measure, measurement count.

Independent Tasks

The City Council is asking for help and suggestions for designs for a new library building. It will be built using square modules. The squares are scaled so that 1 cm represents 1 metre.

Use the squares to make different designs for the library.
Draw around the outline and record the perimeter and area with the measurement unit.

What is the smallest perimeter you can make?
What is the area?

The council decides to put the books lining the walls so to fit the most books, they would like to have a building with the longest perimeter.

What is the longest perimeter you can make?
What is the area?

Anticipations

Solutions, Misconceptions

Task 3

What would be the perimeter and area of the _____?

Use the metre ruler or square metre.

Estimate perimeter (m):
Estimate area (m2):

Measurement perimeter (m):
Measurement area (m2):

Convert perimeter measurement to a different unit:
Convert area measurement to a different unit:
Repeat three times.

Teacher Notes

Before you launch the task, ask students to convert between these measurements; 500 cm = ?? m, 0.75 km = ?? m, 45 mm = ?? cm; 2 km = ?? cm.

During the launch, ask the students to use the metre rulers to make a square metre. Use the term square metre and model how to record the measurement count (e.g., 5 m^2). Ask the students to estimate how many students could stand in a square metre and then measure this. Have a large rectangle (6 m by 4 m) marked out using masking tape or with chalk outside the classroom. Ask the students to use the metre rulers to find the perimeter and area.

Facilitate the students to use the metre rulers or square metres to measure the large spaces and then to use multiplication to work out the area.

Expect the students to record using the correct measurement units and abbreviation.

For the independent activity, have the activity below.

Shareback

Select students to share who are able to accurately partition the large spaces into metres to work out the area in square metres and represent this and then convert between different metric units by drawing on understanding that metric units use a base ten conversion.

Big Ideas

There are key principles related to measurement including that the size of the measurement unit remains the same (including identical units or subdivisions), units are repeated with no gaps or overlaps (iteration), the unit is part of a whole and the measurement is expressed as the total number of units used.

Curriculum Links

During Year 7

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Connect

Ask students to develop a set of rules for converting between different metric units.

Suggested Learning Outcomes

Estimate how much will fit in a square metre.

Measure perimeter in metres and decimals precisely.

Convert between metric units for length.

Measure area in square metres.

Convert between metric units for area.

Independent Tasks

Here are the footprints for new buildings for a school.
(see copy masters)
Each square represents 1 m^2.

Find the area and perimeter for each footprint.

What do you think each space could be used for?

Mathematical Language

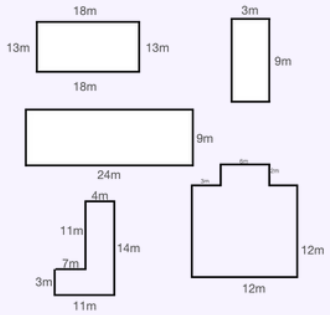
Mass, massive, massive, equal, kilogram, gram, scale.

Anticipations

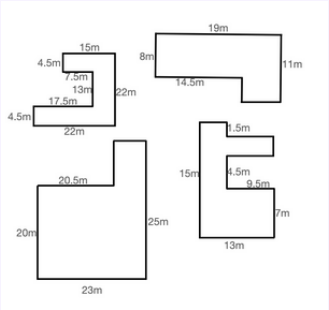
Solutions, Misconceptions

Task 4

Find the area and perimeter of these building designs.



Year 7 Option



Year 8 Option

Teacher Notes

Notice whether students use grouping or multiplication to find the perimeter and area of each composite shape. Facilitate the students to record the measurement units correctly for each using the abbreviation.

Expect students to use measurement language including area and perimeter.

Shareback

Select students to share who have divided the composite shapes and then used multiplication to find the area of each part and added them together OR have changed the composite shape into a rectangle and then found the total area and subtracted the missing parts.

Connect

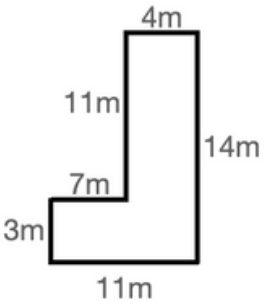
Litea is finding the area of this shape. This is her solution:

$A = 11 \times 14 = 154\ m^2$

$A = 11 \times 7 = 77\ m^2$

$154 - 77 = 77\ m^2$

Do you agree or disagree with her solution? Explain why.



Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume. When we measure, we use comparison, specifically, we compare like properties to see which is greater. We can make comparisons using standard or non-standard units of measure and we use mathematical language to describe these.

Conceptual understanding of measurement requires understanding of conservation and transitivity. Conservation requires understanding that when moved or subdivided, an object will retain its size. Transitivity involves understanding that the measures of two objects can be compared to a third object. For example, if object A weighs more than object B, and object B weighs more than object C, then object A will weigh more than object C.

There are key principles related to measurement including that the size of the measurement unit remains the same (including identical units or subdivisions), units are repeated with no gaps or overlaps (iteration), the unit is part of a whole and the measurement is expressed as the total number of units used.

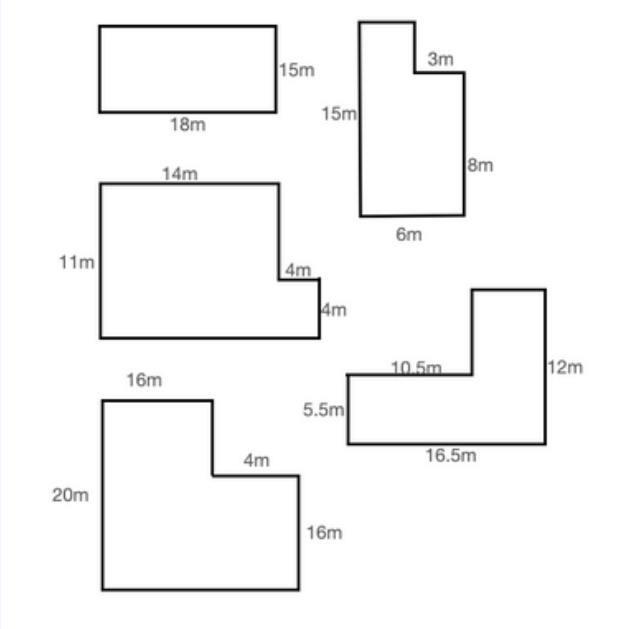
Suggested Learning Outcomes

Find the perimeter of a shape using the side lengths.

Find the area of composite shapes.

Independent Tasks

Find the area and perimeter of these building designs.



Curriculum Links

During Year 7/8

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

Mathematical Language

Square metre, area, perimeter, unit of measure, measurement count.

Anticipations

Solutions, Misconceptions

Task 5

Find the area and perimeter of these triangles:
See copy masters for triangles.

Teacher Notes

For the task, provide students with squared paper (1 cm^2) and a ruler. Facilitate the students to use the squared paper to measure the area of the triangles and then to begin abstracting the process for this and prove why you need to divide by two. Students could also use the ruler to measure the height of the triangle.

Support students to see that they need to either decompose the shape (similar to the composite shapes) or to turn it into a larger rectangle find the total area and then subtract.

Notice whether students over-generalise the formula for finding area for rectangles and apply it to the area of a triangle.

For the independent activity, provide students with squared paper (1 cm^2) and a ruler.

Shareback

Select students to share first who used the squared paper to re-construct the triangle to a rectangle by redrawing or cutting it up. Select other students to share who have used the ruler to find the height and then used the measurements successfully to find the area. If no students have done this, then model this as a solution that students previously used and illustrate how this connects to the grid paper.

Connect

Ask students to develop a rule for finding the area of a triangle. Ask them to prove that the rule (e.g., half base times height) would work to find the area of any type of triangle.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume. When we measure, we use comparison, specifically, we compare like properties to see which is greater. We can make comparisons using standard or non-standard units of measure and we use mathematical language to describe these.

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There are key principles related to measurement including that the size of the measurement unit remains the same (including identical units or subdivisions), units are repeated with no gaps or overlaps (iteration), the unit is part of a whole and the measurement is expressed as the total number of units used.

Suggested Learning Outcomes

Find the area of triangles using 1 cm^2. paper.

Develop a rule/generalisation to find the area of a triangle.

Find the area of triangles using the rule height multiplied by length and divided by two.

Independent Tasks

Draw a right-angled triangle with a base of 8 cm and an area of 24 cm^2.

Draw a triangle that has a base of 12 cm and an area of 30 cm^2.

Draw a non-right-angled triangle with an area of 15 cm^2.

Draw as many different triangles as you can with an area of 10 cm^2.

Curriculum Links

During Year 7/8

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

Mathematical Language

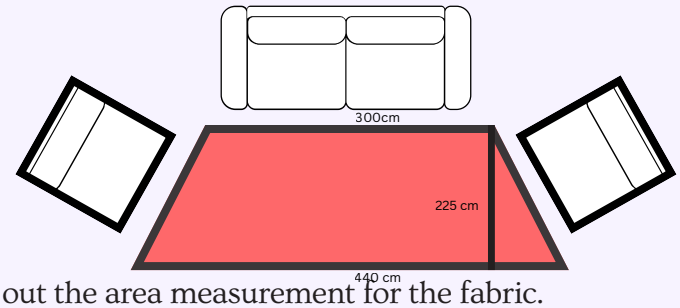
Square metre, area, perimeter, height, unit of measure, measurement count.

Anticipations

Solutions, Misconceptions

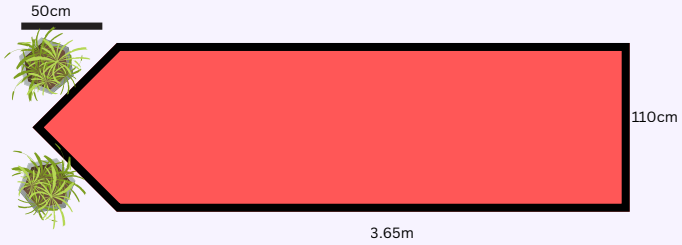
Task 6

Alethia is designing a new rug for the lounge floor.



Work out the area measurement for the fabric.

Alethia is also designing a hallway rug and wants to keep her pot plants off the rug.



Work out the area measurement for the fabric required to make the rug. How much fabric does Alethia need altogether?

Teacher Notes

Before you launch the task, ask the students to discuss the formula for finding the area of a triangle in the previous lesson and to explain why this works.

During the lesson, support students to see that they need to decompose the shape (similar to the rectangular composite shapes) and find the total area of the shapes.

Ask students to solve the first task, and then share solutions before introducing the second part of the task.

For the second task, notice whether students see that different measurement units are used in the task and convert these to a common unit.

Facilitate the students to record the measurement units correctly for each using the abbreviation.

Expect students to use measurement language including area and perimeter.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume.

When we measure, we use comparison, specifically, we compare like properties to see which is greater. We can make comparisons using standard or non-standard units of measure and we use mathematical language to describe these.

Curriculum Links

During Year 7

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Shareback

Select students to share who have decomposed the shape and used the formula to find the triangle/s and a formula to find the area of a rectangle and added this together.

Connect

Ask the students to develop a rule for finding the area of a trapezium and prove how it would work.

Suggested Learning Outcomes

Find the area of a rectangle using the side lengths.

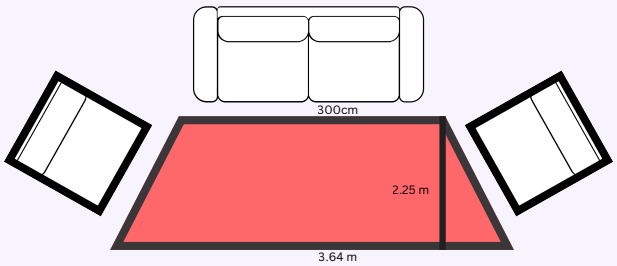
Find the area of a triangle.

Use formulae to find area.

Find the area of composite shapes including rectangles and triangles.

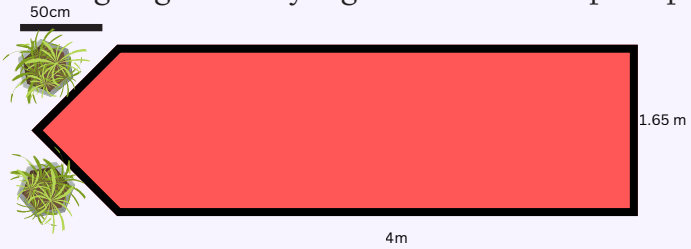
Independent Tasks

Alethia is designing a new rug for the lounge floor.



Work out the area measurement for the fabric.

Alethia is also designing a hallway rug and wants to keep her pot plants off the rug.



Work out the area measurement for the fabric required to make the rug. How much fabric does Alethia need altogether?

Mathematical Language

Area, height, base, length, right-angled triangle, rectangle.

Anticipations

Solutions, Misconceptions

Task 7

Here are some rectangular cuboids (see Copy Masters).
Find the volume of each cuboid.
Write an explanation for how to find the volume of any cuboid.

Note: Putting a rule is NOT an explanation!

Teacher Notes

Begin by exploring with students the 3-D cube and all its attributes. Make links to the differences between cubes and cuboids (length, breadth, height). Emphasise that a cube is a special case of a square prism, and a square prism is a special case of a rectangular prism and that they are all cuboids.

Facilitate students to understand the concept that the volume of an object is the amount of space it takes up and that an object is measured by the number of unit volumes that fit into it.

For the independent activity, have multi-link or centi-cubes available if needed.

Shareback

Select students to share who have developed different explanations to find the volume of the cuboids. Work towards having all groups display their explanations side by side so that they can see all and work to refine down to an agreed explanation.

Connect

Discuss, explore, and refine the explanations until a generalised rule emerges. You may want to put this rule on your maths wall.

Suggested Learning Outcomes

Compare volume of objects using whole number units.

Use appropriate units/whole numbers to measure volume.

Use multiplicative reasoning to find the volume of cuboids.

Use all the dimensions to find the volume of cuboids.

Develop a generalised for finding the volume of a cuboid.

Big Ideas

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Independent Tasks

Use 12 x 1 cm^3 cubes to build as many different box-shaped (cuboid) buildings as possible. Draw a 3-D representation for each cuboid.

Use 18 x 1 cm^3 cubes to build as many different box-shaped (cuboid) buildings as possible. Draw a 3-D representation for each cuboid.

Use 20 x 1cm^3 cubes to build as many different box-shaped (cuboid) buildings as possible. Draw a 3-D representation for each cuboid.

Curriculum Links

During Year 7

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Mathematical Language

Cube, cuboid, face, vertex, vertices, length, breadth, height, surface, centimetre, 3-dimensional, 2-dimensional, volume, width, depth, multiply, rectangular prism.

Anticipations

Solutions, Misconceptions

Task 8

Our church hall has a room for practising singing for special occasions. The dimensions of the room are width 5.1 m, length 7 m, height 2.5 m.

Our church membership has increased so we need a larger room. We decided to double all three dimensions.

Does that mean that the new room will have double the volume? Make sure you justify and explain your thinking.

Teacher Notes

Note, the context of the problem is set in a church room. These are often used for practising singing and that is why all three dimensions might be doubled.

Notice student discussions related to their first intuitive response and facilitate them to use representations to explore the relationship between the increasing dimensions and volume.

Shareback

Select students to share who drew on initial intuitive erroneous reasoning in which they thought that the volume had doubled. Draw on further explanations that use different forms of justification for why it does not double.

Connect

If you double all the dimensions for a cuboid does the volume double? Construct an explanation for a younger person to show why you agree or disagree.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume.

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Curriculum Links

During Year 7

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8
Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Mathematical Language

Volume, girth, width, length, breadth, rectangular cuboid, metres, centimetres

Suggested Learning Outcomes

Use multiplicative reasoning to find volume.

Explain the relationship between increasing dimensions and volume.

Develop justification for an explanation.

Independent Tasks

Here is the volume of some rectangular blocks of wood.
Draw the outline of the block of wood and mark the dimensions in cm which could match the volume.
There may be more than one solution so make sure that you have all possible solutions.

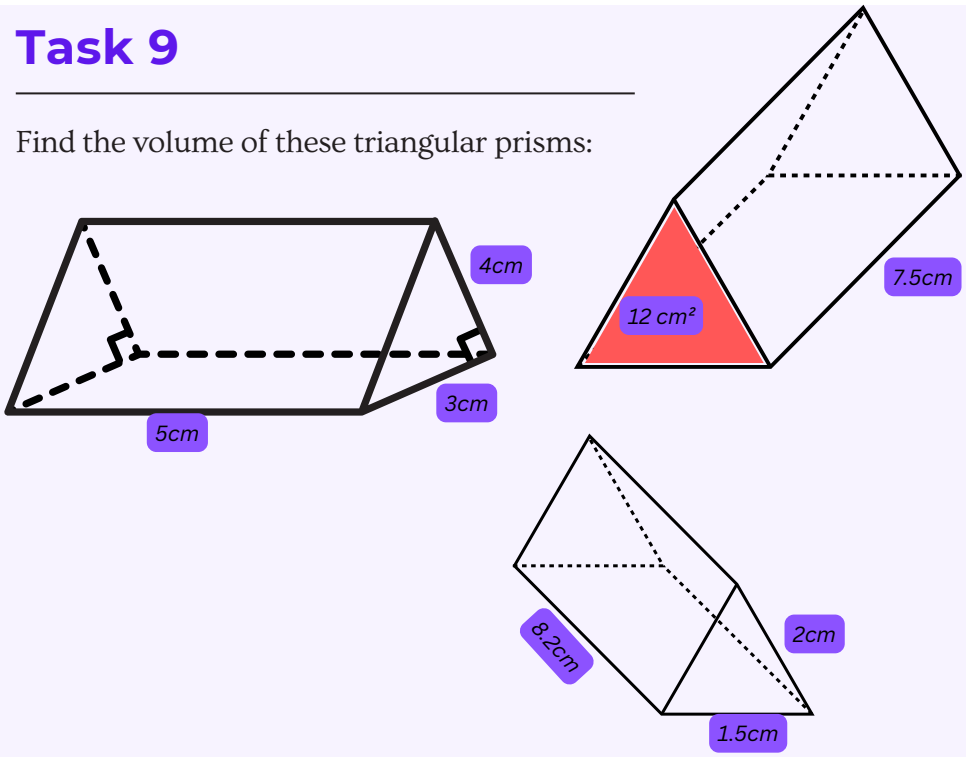
1. 60 cm^3
2. 12 cm^3
3. 99 cm^3
4. 45 cm^3
5. 13 cm^3
6. 150 cm^3

Anticipations

Solutions, Misconceptions

Task 9

Find the volume of these triangular prisms:



Teacher Notes

Before you launch the task, ask the students to discuss how to find the area of a triangle and also a rectangular prism.

To launch the task, if possible, show the students a right-angle triangular prism to support them to notice the relationship between the triangular prism and a rectangular prism.

Launch each part of the task separately, for the second task, show the students a triangular prism (not right-angle) and highlight that a triangular prism has the same triangular cross-section throughout its length.

Expect students to record using the correct measurement units.

Shareback

Select students to share who have found the volume by using the formula for a rectangular prism and dividing this by two. For the third task, select students to share who have used the area of the triangle and multiplied this by the length.

Connect

Ask students to develop a rule for finding the volume of a triangular prism. Ask them to prove that the rule would work to find the area of any type of triangular prism.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume.

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Curriculum Links

During Year 7

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Suggested Learning Outcomes

Find the volume of a triangular prism.

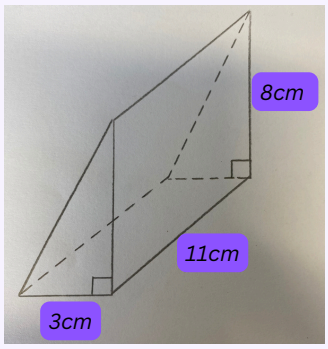
Develop formula to find the volume of triangular prisms.

Mathematical Language

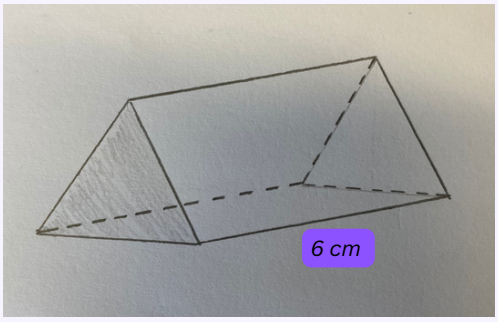
Volume, triangular prism, rectangular prism, cross-section.

Independent Tasks

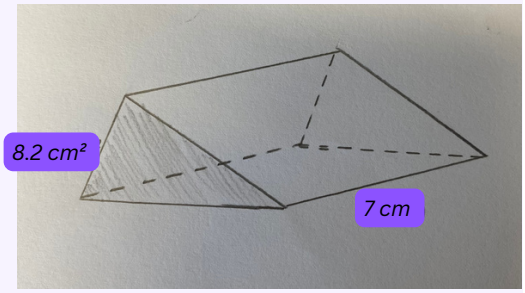
Find the volume of these triangular prisms:

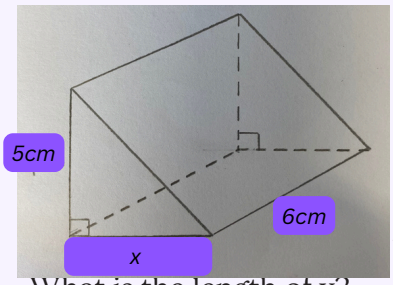


The volume of this triangular prism is 90 cm^3. What is the area of the shaded triangle?



Find the volume of this triangular prism:





The volume of this triangular prism is 84 cm^3. What is the length of x?

Anticipations

Solutions, Misconceptions

Task 10

Our recycling bin is a rectangular cuboid with the dimensions of length 1.8 m, width 1. 5m, height 1.2 m.

Every day we add approximately 0.25 m^3 to it.
How many days will it take until it is filled?

Teacher Notes

To launch the task, ensure that the students understand that the focus is on the number of days.

Facilitate the students to notice the need to have larger unit measures than the use of centimetres cubed (cm^3).

Expect students to both visualise the space taken by a cubic metre and use gesture (hands) to outline either form of volume. Use the term cubic metre and record as 1 m^3

Notice students who recognise that the measure for volume can be described in cubic metres even when the materials measured are not exactly the same.

Facilitate students to make links to how they had to find the volume of the container and then apply an additive or subtractive measure (as measurement division) to find the total of days.

Notice students who highlight that 0.25 m^3 is the same as one quarter of a cubic metre.

Shareback

Select students to share who provide an exact measure (in decimals) and an approximate measure in days (rounded to the nearest whole number).

Connect

Papa Joe has five and half bags of pig feed in the storeroom.
A pig eats 0.25 m^3 of a bag of feed every day.
How many days will the feed last?

Suggested Learning Outcomes

Use multiplicative reasoning to find the volume.

Solve volume problems involving decimals.

Big Ideas

There are a range of attributes that we can measure including length, mass, time, area, angle, and volume.

When we measure, we use comparison, specifically, we compare like properties to see which is greater. We can make comparisons using standard or non-standard units of measure and we use mathematical language to describe these.

Curriculum Links

During Year 7

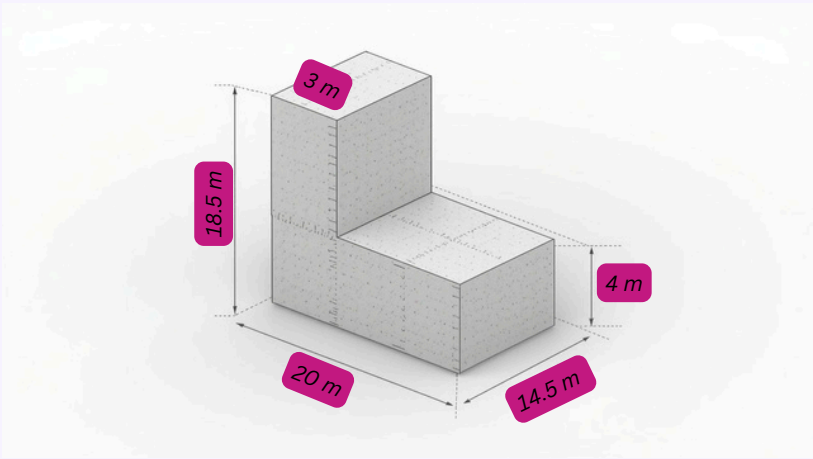
Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Independent Tasks

Cooper believes to calculate the volume of this shape you split it into two different rectangular cuboids and add them together but Frankie believes there are measurements missing and this can not be solved.
Who is correct? Justify your response.



Mathematical Language

Cuboid, length, breadth, height, surface, centimetre, 3-dimensional, 2-dimensional, volume, width, depth, rectangular prism, dimensions.

Anticipations

Solutions, Misconceptions

Task 11

We are sending a container to the Islands with school supplies.
The container is:

- Length: 6 m
- Width: 2.4 m
- Height: 2.6 m

The school supplies are packed into six different sized boxes.

What are the different lengths, widths and heights of the boxes being packed into the container?

You must ensure that the whole container is filled.

Teacher Notes

To launch the task, ensure that the students understand that the focus is on the six different sized number of boxes. This is an open task - meaning the students can choose any different sizes provided they can reason their choices.

Notice student explanations that recognise that measure for volume can be described in cubic metres even when the materials measured are not exactly the same.

Expect students to use 3-D representations as a way to explain and justify finding the volume of the packaging boxes.

Shareback

Select students to share back who have a variety of representations to show the different sized boxes.

Highlight similarities and differences between the different sized boxes chosen by each group.

Connect

Discuss... what combination maximises container use while minimising wasted space?

Make connections to the size of the boxes and their contents. For example: What sized box would pencils get packed into verses exerices books verses sports equipment.

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Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Suggested Learning Outcomes

Use appropriate units/whole numbers to measure volume.

Use multiplicative reasoning to find volume.

Convert cm to m (converting between metric units).

Solve volume problems involving decimals.

Mathematical Language

Volume, cubic metres, centimetres, metres, length, depth, height, capacity, litres, millilitres.

Independent Tasks

My measurements are in a jumble. Sort them out so they match correctly.

Speed of a car on a motorway	2	metres squared
Height of a classroom door	750	km
Mass of a pencil	60	g
Duration of a maths lesson	100	m
Length of a football field	7	km
Temperature of boiling water	25	hour
Distance between two towns	1	kg
Mass of a full schoolbag	100	ml
Area of a classroom	12	m
Capacity of a water bottle	90	degrees

When you have finished write another five for someone else to solve.

Anticipations

Solutions, Misconceptions

Task 12

An aquarium tank measures 2.4 m high, 6 m long, and 1.5 m wide and is filled with water.
The density of water is 1000 kg/m^3.

What is the mass of the water in the tank?

Teacher Notes

Density is mass divided by volume $p = \frac{m}{v}$

Water was used as the basis for establishing the metric unit of mass, which means a cubic centimetre
(1 cm^3) of water weighs one gram (1g). So, 1 g /1 cm^3 = 1 g/cm^3 giving water its easy-to-remember density.

Notice students who recognise that 1000ml equals a litre and also that measures such as litres can be expressed as volume.

Notice students who recognise that 1000ml equal a litre and that measures such as litres can be expressed as volume.

Facilitate students to notice that uniformity is needed in measuring volume, and this is the same in measuring capacity.

Make links to the terms, millilitre, and millimetre, and that the term milli represents one thousand.

Shareback

Select students to share who use a range of measurement language and representations.

Connect

What measurements are used for mass, volume and capacity?
What is the relationship between the different measurements?

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During Year 7

Calculate the perimeter and area of composite shapes composed of triangles and rectangles.

During Year 8

Calculate the volume of triangular prisms and shapes composed of rectangular prisms.

Suggested Learning Outcomes

Use multiplicative reasoning to find volume.

Convert between metric units (cm/m and ml/l).

Identify the relationship between volume and capacity.

Mathematical Language

Volume, cubic metres, centimetres, metres, length, depth, height, capacity, litres, millilitres.

Independent Tasks

Assessment Task 1: Area and Perimeter
Assessment Task 2: Juice Container

Anticipations

Solutions, Misconceptions

Assessment Task 1 - Year 7/8 Odd Years

Draw at least 3 different shapes (e.g., rectangles, triangles, parallelograms, composite shapes) that have a perimeter of 48 cm.
Which shape would have the largest area?
Show how you work out the area and perimeter of each shape. Explain and justify how this works.

Assessment Task 2 - Year 7/8 Odd Years

A juice container has the volume of 240 cm^3. What could the dimensions of the container be?

Give a range of possible solutions and use representations to justify your reasoning.

Assessment Task 2 - Year 5-6

Cadbury wants to make a new box for their chocolates. Each chocolate is a cube that measures 2 cm^3
They would like to fit 24 chocolates in the box. Can you design some different options for them to choose from and include the measurements and volume of the boxes?