



Makes Maths Fun

Level 5 AREA

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

By Rachel McCann (B.Teach; B.Ed Hons; M.ED (Special Ed.))

Area

Level 5 is designed for students in their fifth year at school often called Year 4. Students will estimate, measure, compare and record the area of surfaces in square centimetres and square metres.

Knowledge: Students will find the floor area required for a number of common household items such as beds, couches, tables or chairs.



Students who demonstrate proficiency in this activity move on to Comprehension.



Students stop here as they require additional teacher support to master this activity.

Comprehension: Students will use these findings to draw scale drawings of items they would like in their bedroom.



Students who demonstrate proficiency in this activity move on to Application.



Students stop here if time has run out or they require additional support with this activity.

Application: Students will use their scale drawings to place the items in a given bedroom with the maximum floor space remaining.



Students who demonstrate proficiency in this activity move on to Analysis.



Students stop here if time has run out or they require additional support with this activity.

Analysis: Students will calculate the amount of paint required if 1L covers 14m^2 of wall.



Students who demonstrate proficiency in this activity move on to Synthesis.



Students stop here if time has run out or they require additional support with this activity.

Synthesis: Students will calculate the cost of wallpapering one wall in their room.

Evaluation: Suggested questions provide a starting point for discussions related to Area.



Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.

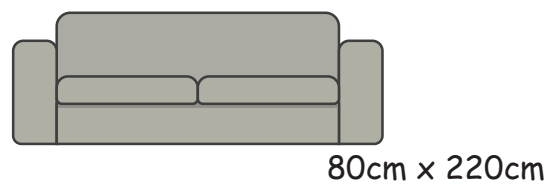
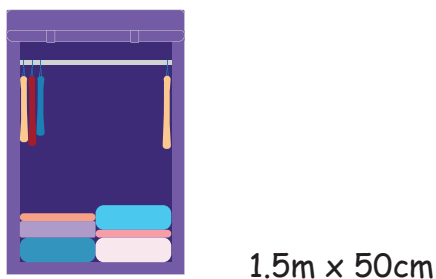
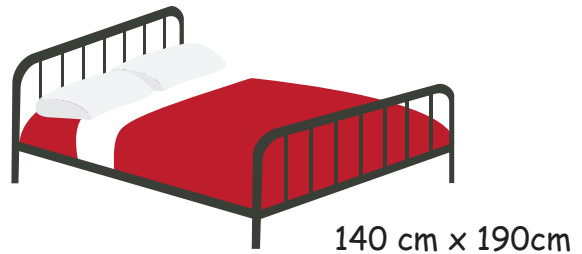
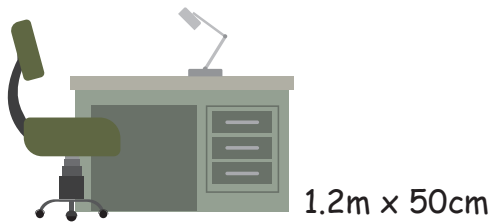
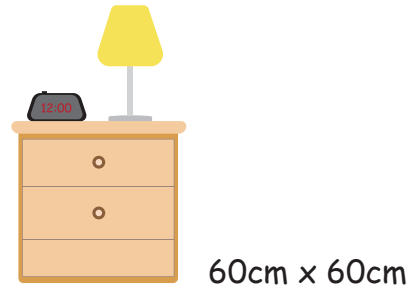


All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

Name: _____

Knowledge

Calculate the floor area required for each item shown below. Remember to convert to the same dimensions before finding the area.



Let's Try This Again



Progress To Comprehension

AR 5 KN

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation

Area - Level 5 - Students will estimate, measure, compare and record surface areas in cm^2 and m^2 .



Name: _____

Application

Using the floor areas for the items you chose in Comprehension place these items into the room below so you have the maximum floor space remaining. Items must be placed sensibly though so the bed cannot block the doorway and a wardrobe would not go in front of a window. Also note that this room is $3\text{m} \times 3.5\text{m}$ not $2\text{m} \times 2\text{m}$ like before.

The diagram shows a large grid representing a room floor. At the top, a red-outlined rectangle is labeled 'WINDOW'. On the left side, a red-outlined rectangle is labeled 'WINDOW'. At the bottom left, a blue semi-circle is labeled 'DOORWAY'.

Area - Level 5 - Students will estimate, measure, compare and record surface areas in cm^2 and m^2 .

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation



Let's Try This Again



Progress To Analysis

Name: _____

Analysis

If the 3m x 3.5m bedroom used in the Application activity had walls 2.5m tall how much surface area do the walls cover?

$3.5\text{m} \times 2.5\text{m}$	$3.5\text{m} \times 2.5\text{m}$
$3\text{m} \times 2.5\text{m}$	$3\text{m} \times 2.5\text{m}$

If the windows are 2.2m x 1m and 1.1m x 1m and the door is 2m x 85cm. How much wall area does this leave?

If each Litre of paint needed to repaint is room covers 14m^2 how many litres of paint will be needed for 1 coat of paint?

How much would it cost at \$10 per litre to apply 2 coats of paint to this room?

Area - Level 5 - Students will estimate, measure, compare and record surface areas in cm^2 and m^2 .

Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation



Let's Try This Again



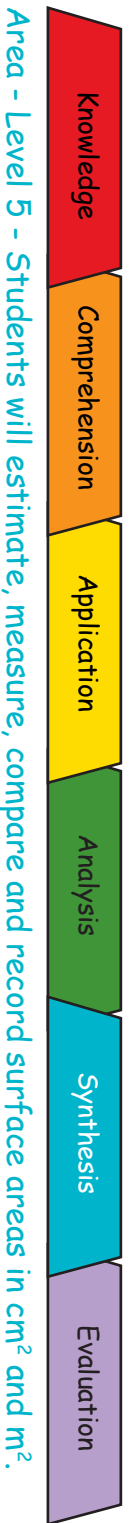
Progress To Synthesis

Name: _____

Synthesis

To further decorate the room you decide to add wall paper to the wall which is 3.5m wide x 2.5m tall opposite the smaller window. If rolls of wallpaper are 52cm wide by 10m long how many rolls of wallpaper will you require?

If wallpaper costs \$50 per roll how much extra will it cost to wallpaper this wall? Remember that you do not have to paint this wall so you save 2 coats of a 3.5 x 2m wall.



Let's Try This Again



Progress To Evaluation

Evaluation

The following questions and activities are provided as a starting point for fun discussions related to Area. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Area activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.



Did students choose single or double beds and why did they choose these options?



Which bed leaves the most floor space?



Once the room had been painted and wall papered students could calculate the cost of recarpeting.



As a class you could use the maximum floor space remaining to find an appropriate rug for the floor.



These activities are very practical and students may wish to bring in real dimensions for their bedrooms and calculate the costs of repainting or wallpapering their rooms.



Students could calculate the cost of repainting, wallpapering and carpeting the classroom.

