Designing a room

Name _____ Date _____

1. Draw a scale diagram of your room.
   The width is 20cm and the length is 25cm.

2. Work out the length, width and perimeter of the room in real life.

3. Work out the area of the room in real life.

4. Now you need to put furniture in your room:

FURNITURE	SIZE IN REAL LIFE
bed	1m x 2m
wardrobe	60cm x 40cm
chair	30cm x 30cm
bookcase	70cm x 15cm
dresser	85cm x 35cm
desk	90cm x 50cm

The scale is 1:20

Don't forget to leave room for the door!
It is 1m wide.
You need to make sure it can open fully, as well.

Does all the furniture fit?

Extension activities:

1. Work out the perimeter and area of the furniture items.
2. Add a window that measures 80 cm across.

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The scale is: 1cm represents 20cm

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Does all the furniture fit?

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Teaching notes and curriculum mapping

The two sheets are identical except that the scale is shown in different formats (one as 1:20, one as '1 cm to 20cm'). Students will need squared paper or graph paper.

Adult Numeracy

MSS1/L1.8 Work out the perimeter of simple shapes, e.g. rectangle, equilateral triangle

(a) know that perimeter is the boundary of a shape

(b) know that perimeter is measured in units of length

(c) understand that measurements required to calculate the length of the perimeter depend on the shape

MSS1/L1.9 Work out the area of rectangles

(a) know that area is a measure of surface

(b) know what measurements are required to calculate area, and how to obtain them

(c) know that measurements must be in the same units before calculating area

(d) know that the area of a rectangle = length x width

(e) know that area is measured in square units

MSS1/L1.11 Work with scale diagrams

(a) work out dimensions from drawings with simple shapes

(b) understand the concept of scale, e.g. larger scale for more detail

(c) understand direct proportion as applied to scale

MSS1/L2.10 Work out dimensions from scale drawings (e.g. 1 : 20)

(a) understand scale written as a ratio

(b) understand that, when expressed as a ratio, the scale is independent of units

MSS1/L2.5 Calculate with units of measure within the same system

(a) know the relationship between metric units

(b) know the relationship between common imperial units, where appropriate

http://www.excellencegateway.org.uk/page.aspx?o=sflcurriculum

Functional Maths

Ideal for underpinning the following Coverage and Range statements.

Level 1

Convert units of measure in the same system

Work out areas and perimeters in practical situations

Level 2

Understand, use and calculate ratio and proportion, including problems involving scale

Find area, perimeter and volume of common shapes

http://www.ofqual.gov.uk/qualification-and-assessment-framework/89-articles/238-functional-skills-criteria