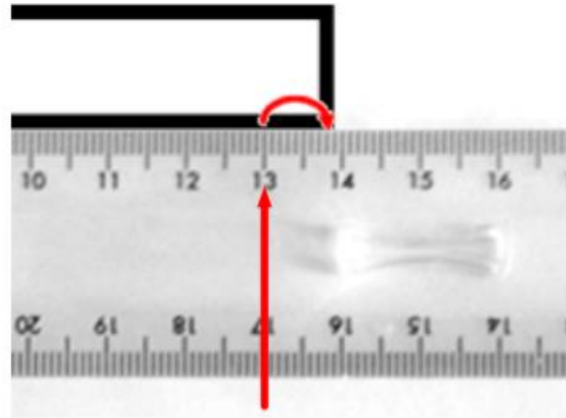


Year 3 Unit 5: Length and perimeter (2 weeks)

Before you start...

- What experience have pupils had when estimating measures?
- Are pupils secure in the properties of 2-D shapes, including regular shapes?
- Do pupils have a range of strategies to use for addition?
- Are pupils secure with doubling numbers?



Working with centimetres and millimetres

- L1 Measure using cm or mm
- L2 Measure and draw using mixed cm and mm
- L3 Estimate length by comparing; measure to compare

Pupils are introduced to millimetres and their relationship with centimetres. They learn skills to measure accurately, first in centimetres or millimetres, then using mixed units in the following lesson. In Lesson 3, pupils develop a sense of 1 cm through use of Dienes equipment, using this to estimate length before checking using a ruler. Pupils should estimate and measure a range of objects including strips of paper and classroom items.

? How will you effectively model the use of a ruler for pupils? Could a visualiser or interactive support this? What steps do pupils need to know to measure accurately?

Estimating and converting

This unit provides opportunities to convert between units of measure. This knowledge should be regularly revisited in Maths Meetings or other curriculum areas to ensure quick recall. Estimation of objects of different sizes could also become a regular part of Maths Meetings.

Accurate measuring

A handy teacher success criteria for measuring is available in the Additional resources folder for the unit.

You may wish to include a consolidation lesson here to secure or deepen understanding of calculating the perimeter of 2-D shapes in different units of measure.

Solving problems involving length

L9 Solve problems using different units of measure
Pupils work collaboratively in groups to solve a series of clues and problems, using units of measure encountered in the unit.

- ? How will you manage group work to ensure all pupils are involved?
- ? What adaptations may you need to make to the task so all can achieve?

Working with centimetres and metres

- L7 Measure and compare length in cm and m
- L8 Calculate perimeter in m and cm

Re-introduce a metre, making connections with centimetres and millimetres, developing pupils' understanding of the relationship between these. Pupils should be encouraged to apply strategies from working with cm and mm to working with metres and centimetres. Pupils first use measuring equipment to estimate, measure and compare lengths greater than one metre. They then apply skills developed in an earlier lesson to calculating the perimeter of shapes using metres and centimetres.

- ? How will you support pupils to accurately measure lengths greater than one metre when modelling?
- ? What might you do to encourage pupils to get a 'sense of' one metre, to apply when estimating length?

The language of approximation

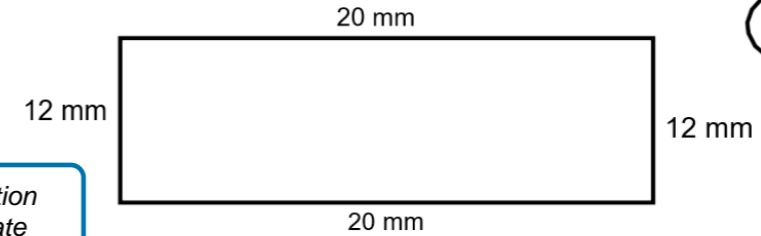
Pupils have opportunities to estimate length throughout the unit and a range of structures for this should be modelled and encouraged.

The length is approximately / roughly / about ...

I think the length is between ___ and ___

I estimate the length is longer than ___ but shorter than ___

Lesson 4 is a suggested consolidation lesson. You may wish to consolidate accurate use of centimetres and millimetres, or revise calculation strategies ahead of calculating perimeter.



Video: Strategies for calculating perimeter with mixed units

How could we find the perimeter of this rectangle?



Calculating perimeter in centimetres and millimetres

- L5 Calculate the perimeter of 2-D shapes in cm or mm
- L6 Calculate the perimeter of 2-D shapes in cm and mm

Pupils are introduced to the concept of perimeter as the distance around the exterior of a 2-D shape. Pupils explore different strategies for calculating perimeter, first in one unit and then in mixed units, drawing on known additive and multiplicative strategies. Pupils recognise that different rectangles can have the same perimeter through constructing a variety of rectangles with a set perimeter, making conjectures and working systematically.

? What strategies for addition and multiplication might pupils use when calculating perimeter, and how might you encourage them to be efficient?

4 m and 50 cm



How could we find out the perimeter of this rectangle?

Are there any tricky parts to this question?

