

Year 4 Unit 10: Solving measure and money problems (3 weeks)

Before you start...

- How familiar are your pupils with units of measure for capacity, mass and length?
- Are pupils familiar with basic equivalents for measure e.g. 100 cm = 1 m?
- What practical experiences might you plan for pupils during this unit to bring the maths to life?



Using the Big Picture can provide opportunities for pupils to place their learning in context asking such questions as;

What could I measure?
How could I measure it?
Which units of measure might I use?

Metres and Centimetres	Metres	Centimetres
2 m 65 cm	2.65 m	265 cm
		311 cm
	0.15 m	
1 m 5 cm		
	7.9m	

Order the following measurements from the smallest to the largest:

100 g < < <
 Half of 1 kg
 0.4 kg
 Double 150 g

Exploring units of measure

L1 Choose and use appropriate units of measure

Pupils review the units of measure used for capacity, mass and length, before moving on to make informed estimations, then measuring using a range of different units.

- ? What equipment will you need to prepare for this lesson?
- ? How will lesson 1 inform adaptations to the rest of the unit?

Converting between units of measure

L2 Convert between *mm* and *cm*

L3 Convert between *cm* and *m*

L4 Convert between units of measure (*km* and *m*, *kg* and *g* and *l* and *ml*)

Pupils begin by converting units of length, including converting mixed units into one unit, e.g. 3 cm 4 mm = 3.4 cm. Encourage pupils to refer to their rulers in order to develop their conceptual understanding of the relative size of millimetres and centimetres, rather than just using a procedure of multiplying or dividing by ten. In lesson 4 pupils convert between various units of measure across capacity, mass and length.

- ? How will you ensure pupils develop a conceptual understanding of converting units of measure rather than just learning a procedure?

Lessons 5, 10 and 15 are suggested consolidation lessons. These should be used flexibly throughout the unit; you may need to spend an extra lesson on converting units of measure before moving onto problem solving. You may wish to teach some of the problems in lessons 6-14 over two days.

Do the maths

Regardless of which problems you choose to focus on, we recommend 'doing the maths' beforehand to explore possible strategies and difficulty points that pupils may experience.

The second and third week of this unit are designed to give pupils opportunity to apply knowledge of measures and money to a variety of problems. Each lesson contains a new problem.

For the purpose of this unit narrative these have been separated into 'measure problems' and 'money problems' and are therefore arranged in a different order than in the suggested lesson guides.

You may wish to adapt or reorder the suggested problems or use other measure problems from our Task Bank or elsewhere.

Solving money problems

L7, L9, L12, L13 Apply knowledge of money to plan and solve the following problems:

- L7 'Stamps'
- L9 'Money bags'
- L12 'Fruit'
- L13 'Souvenirs'

As with the measure problems, each of these lessons progress through a similar format:
Understanding the problem, planning a solution and finding the answer.

- ? How will you support pupils to work systematically?

Solving measure problems

L6, L8, L11, L14 Apply knowledge of units of measure to plan and solve the following problems:

- L6 'Marathon Training' (time)
- L8 'Ribbons' (length in cm and m)
- L11 'Two Point Seven' (mass)
- L14: 'Flagpole' (length in fractions of a metre)

Each of these lessons progress through a similar format:
Understanding the problem, planning a solution and finding the answer.

- ? What practical experiences will you plan to bring the problem to life?