Measure Prior Assessment Question 1:

Objective: I can accurately read a scale and use this to measure and calculate.

NC: M 2: use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Teacher Input Ideas:

Provide the children with lots of different measuring equipment such as jugs, weighing scales, tape measures etc. Encourage the children to explore the equipment and talk in partners about what they know. You may want to place some question prompts for discussion:

- What can you measure with this equipment?
- What unit of measures can you see? What do you know about these? Which units are metric? Are there units of measure you have not seen before?
- Estimate how heavy a bag of potatoes will be. Estimate how much liquid is in a carton of juice. How long do you think a table is?
- What marked and unmarked intervals are on the scale? What do you know about scales? How can you use the unmarked intervals and marked intervals when measuring?

Display the images of different weighing scales or measuring jugs with marked and unmarked intervals on. Ask children to model how they would show 350 g, 225 ml, etc. What information are they using? How do the scales work? Mark an amount on one of the scales, how much is this showing? How do you know? What are you counting in? Why? Which marked intervals help you? I have 350ml of water, I need 75 ml more. How will I add this amount? How do you know?

Practice Activities

Purple Practice: Most suited for children who made errors in question 1 of the prior learning assessment and will benefit from exploring a variety of scales for capacity and mass practically.

Practical: Create a practical area in the class room with rice, pasta, water and fruit to measure. Provide children with 3 sets of weighing scales that have different intervals marked out. For example some scales have 20g intervals, some have 50g intervals and some have 25g intervals. Repeat this with a variety of measuring jugs and cylinders so that the children can explore capacity.

Provide the children with the cards on the purple activity (these can be cut up so that the children can chose from a selection). Encourage the children to read the amount and decide which equipment they will use to measure out this amount of water, fruit or pasta. Encourage the children to weigh and measure the different amounts out exploring how the intervals on the scale can be used to help them.

As an extension you may want to have a few containers of water and pasta weighed and measured out already. Ask the children to measure these and record the weight or capacity, reading the measurements on the scale.

Green Practice: Most suited for children who made errors in Question 1 of the Prior Learning Assessment and will benefit from exploring marked and unmarked intervals on images of scales.

For the green activity the children are provided with images of measuring jugs for capacity. The children are required to look at each measuring jug and look at the marked and unmarked intervals on the scale. Some of the scales have intervals of 25ml, 50ml or 20ml so the children will need to look carefully and work out what each marked and unmarked interval is showing.

For the first set of questions the children are to record the amount in ml using digits. For the last few questions the children are to draw a line the correct amount asked for in each question.

Yellow Practice Most suited for children who show some accuracy in Question 1b of the prior learning and are reading to work out the difference between amounts.
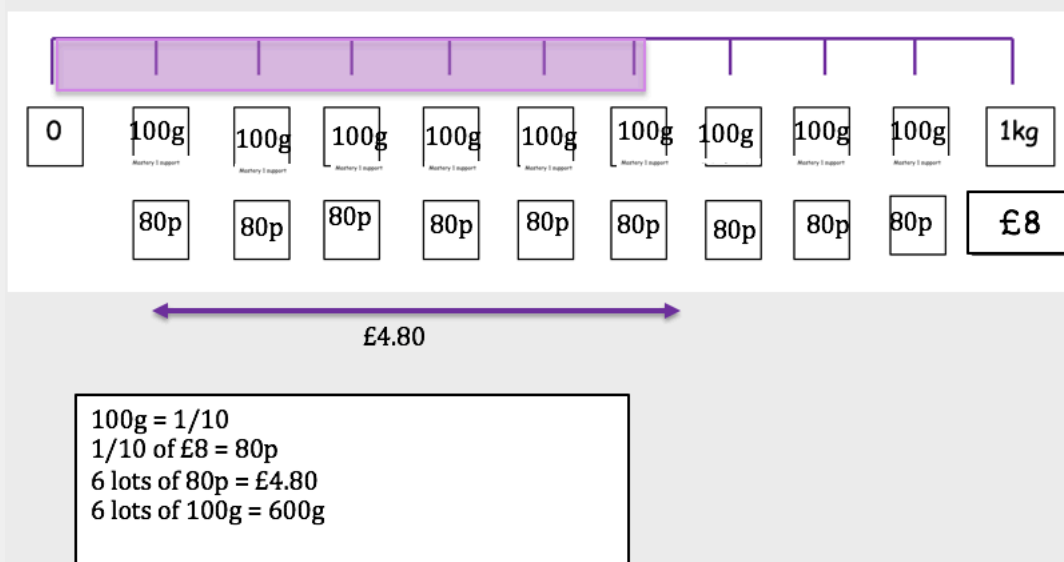
This activity provides the children with the opportunity to read each scale to work out how much water is in each jug. The children are then to add the amount asked in the question and mark this on the jug. They can also record the new amount in the purple boxes.

 For the last part of the activity the children are provided with a grey and an additional purple line to work out how much more liquid has been added to the mearing jug. The children are to read the scales and then work out the difference between the two amounts.

Mastery For this activity the children are provided with a formula for the price of strawberries in a fruit shop. The children are given the price for a kilogram of strawberries: 1 kg of strawberries = £8.00.

For the first part of the task the children need to read the scale and demonstrate the knowledge that 1250g of strawberries have been weighed out. They should use the formula to work out what 1 and 1/4 kg of strawberries will cost . The children are required to read the scale and also apply their knowledge that 1kg = 1000g to help them to calculate the answer to the question. The children need to realise that 250 is a ¼ of kg, therefore a ¼ of £8 will be £2. So when they combine 1 kg with ¼ of kg of strawberries this will cost £10.

For the second part of the task the children are to apply knowledge that 1000g = 1kg, therefore 100g of strawberries will cost 80p as 100g is 1/10 of a 1kg and 1/10 of £8 is 80p. If they have £4.80 of strawberries, how many lots of 80p is this? Encourage the children to calculate this as 6 lots so therefore this is 600g. The children are to draw this on the scale. For children finding this hard to understand you may want to use the scale in the support sheet where the children could split 1kg into tenths and the £8 in to tenths as shown below:

0	100g	100g	100g	100g	100g	100g	100g	100g	100g	1kg
	80p	80p	80p	80p	80p	80p	80p	80p	80p	£8

£4.80

100g = 1/10
1/10 of £8 = 80p
6 lots of 80p = £4.80
6 lots of 100g = 600g

You may want to use this mastery task after the lesson on converting kg to g if you feel children lack a good understanding of gram to kilogram conversions.
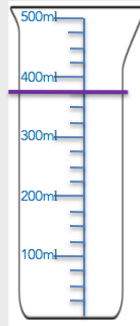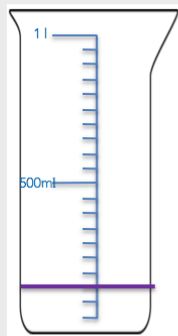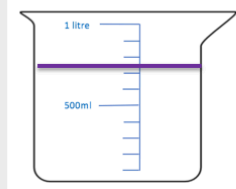
Answers:

Green:

a)
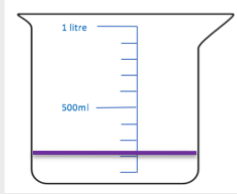
200ml

b)

500ml
400ml
300ml
200ml
100ml

375ml

c)

1 l
500ml

150ml

d) ¾ of a litre

1 litre
500ml

e) 125ml

500ml
400ml
300ml
200ml
100ml

f) 875 ml

1 l
500ml

Yellow

a) Add **250** ml

1 litre
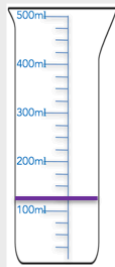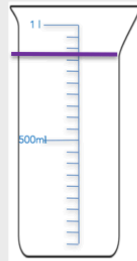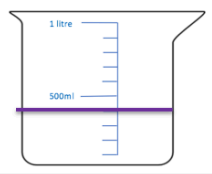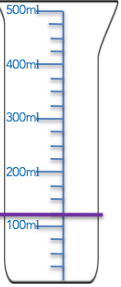
500ml

650 ml

b) Add 125 ml
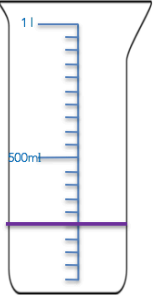
500ml
400ml
300ml
200ml
100ml

250 ml

c) Add 400ml

1 l

500ml

650 ml

d) 1 litre
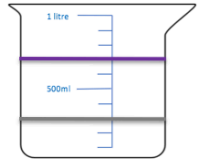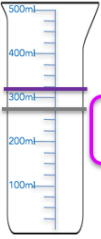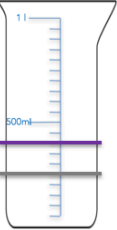
500ml

400 ml has been added

e) 125ml

500ml
400ml
300ml
200ml
100ml

50 ml has been added

f) 1 l

500ml

150 ml has been added

Mastery:

1) £10.00
2) 600g

500 g	250g	120g
375 g	760g	425g
500ml	300ml	125ml
275ml	420ml	580ml

Green Activity

Lo: I can read a scale when measuring
and work out the unmarked intervals.

1) Look at the measuring jugs below. Write down the measurement of the purple line for a, b and c. For questions d, e, and f, draw a line on the measuring jug to show the correct amount.
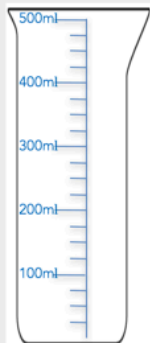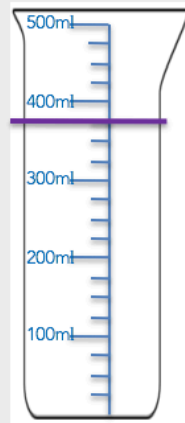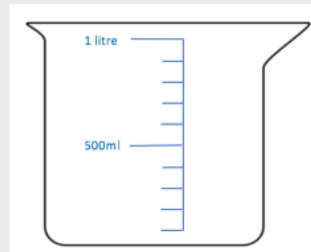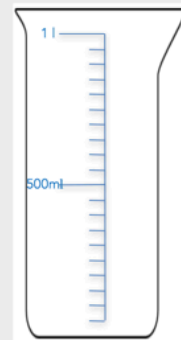
a)

1 litre

500ml

b)

500ml
400ml
300ml
200ml
100ml

c)

1 l

500ml

d) ¾ of a litre

1 litre

500ml

e) 125ml

500ml
400ml
300ml
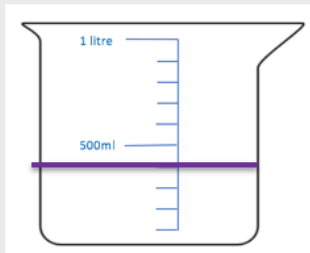200ml
100ml

f) 875 ml

1 l
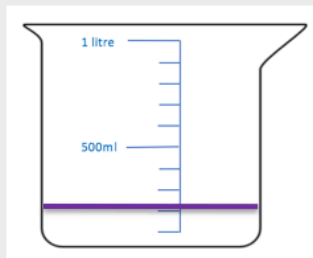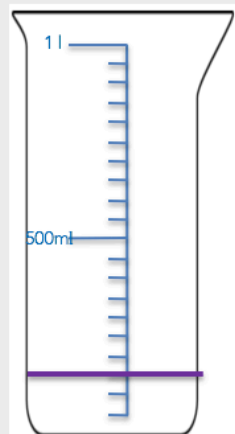
500ml

Yellow Activity

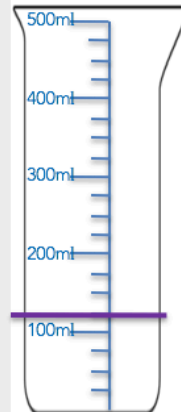Lo: I can read a scale to add amounts and calculate how much has been added.

1) Look at the measuring jugs below. Add the amounts for each question and write down the new amounts in each jug. For questions d, e, and f calculate how much has been added from the grey line to the purple line for each jug.
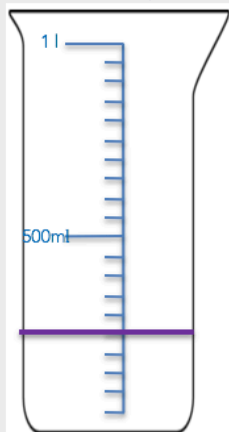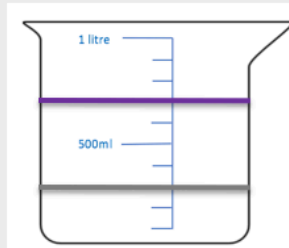
a) **Add 250 ml**

_____ ml
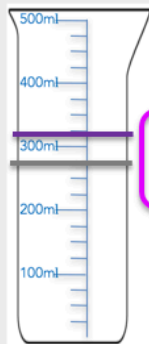
b) **Add 125 ml**

_____ ml

c) **Add 400ml**

_____ ml

d)

_____ ml has been added

e)

_____ ml has been added

f)

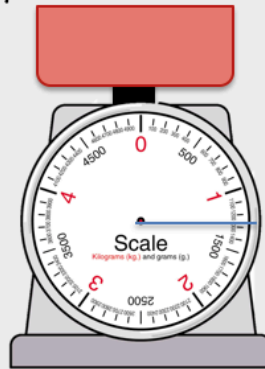_____ ml has been added

BRICKWORK Mathematics
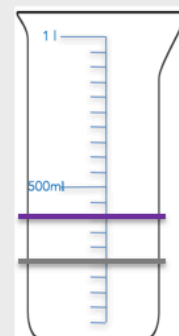
Nikhil and Jayden visit the fruit shop to buy some strawberries. They see this sign with the strawberries.

£8.00 per kilogram

1) Nikhil places some strawberries on to the weighing scale. How much does he need to pay?

£ _____

2) Jayden spends £4.80 on strawberries. Show on the scales how many grams he has bought.

BRICKWORK
Mathematics

Mastery 1 support

0										1kg
										1000g

0		$\frac{1}{4}$		$\frac{1}{2}$		$\frac{3}{4}$			1kg
									1000g

Mastery 2 support

0										1kg
									£8