

Prior to the moderation exercise, please complete the following information and submit it to your facilitator with assessment evidence from one learner that you judge to have successfully attained the Es' and Os'.

School Code	U
Practitioner Code	U2
Curriculum Area(s)	Numeracy and Technologies
Level	First
Stage(s)	Primary 3
Specific subject (if applicable)	

Experiences and Outcomes:

I can estimate how long or heavy an object is, or what amount it holds using everyday things as a guide, then measure or weigh it using appropriate instruments and units. MNU 1-1a

During practical activities and design challenges, I can estimate and measure using appropriate instruments and units. TCH 1-13a

Learning Intentions:

To order and estimate the volume of different containers

To estimate and measure actual volume of everyday containers

To understand and use the terms litres and millilitres when measuring liquid volume.

In a practical activity, use what I have learned to meet a design challenge.

Success Criteria:

I can correctly order the volume of different containers

I can estimate the volume of different containers

I can measure the actual volume of everyday containers

I can show my understanding that 1 litre is the same as 1000 millilitres

I can change a recipe from litres and millilitres to non-standard units using everyday items.

Briefly outline the context and range of quality learning experiences that have been provided making reference to the chosen design principles.

Lesson 1

Challenge & Enjoyment

Pupils were provided with the opportunity for challenge and enjoyment by taking part in an active learning experience. They were placed into groups with various different containers and were asked to order them according to volume starting with least to most. They enjoyed this activity and were able to explain the reasons for the choices and make comparisons with other containers e.g. "this is the same size as a can of coke".

Relevance

This learning experience provided relevance as pupils could make the link of understanding volume to their own lives e.g. "following a recipe".

Progression

Pupils recalled their previous knowledge on measure and were quickly able to determine why and how to place their containers in the way that they did.

The written follow up task provides paper evidence that pupils were able or unable to show their understanding individually.

Lesson 2

Challenge & Enjoyment

Pupils once again enjoyed the practical aspect of the lesson and worked in teams to firstly estimate the volumes of everyday items using table spoons and then measuring accurately with appropriate equipment. They were excited at working together to beat the other teams to get the closest estimates.

Progression

Pupils were using their previous knowledge to help them to estimate the volume of everyday containers.

Relevance

Pupils were provided with relevance as they made links with their own lives, determining when they may have to estimate volume e.g. "if we didn't have a measuring jug we could guess how much".

Lesson 3

Depth and Progression

Pupils moved onto to learning about the link between litres and millilitres and were able to identify the benefit of measuring in units of volume and where this would be important e.g. "when I get medicine my Mum always reads the back of the bottle to check and uses the wee spoon". They identified that litres were large containers and millilitres were small containers.

Challenge & Enjoyment

They were able to identify in the outside world items that would have these units of volume. For a homework task they were asked to list them. They were challenged to convert litres to millilitres and vice versa during mental maths warm up after this input. Many pupils grasped the concept of the place value and could record this in a written task.

Lesson 4

Personalisation & Choice, Breadth, Relevance

The final lesson centred around the technologies experiences and outcome where pupils had asked to make a healthy smoothie in class as part of their new year resolutions work to be healthy. Pupils were asked to design their own recipe and would then come to make it in class.

Challenge & Enjoyment

Pupils were faced with the challenge when coming to make their own recipe that someone had stolen all the measuring equipment in the school and that they had to use what they had previously learned to be able to estimate how much volume was needed for each liquid part of their individual recipe. The target pupil was able to identify how this could be achieved using the data they had recorded on their activity from lesson 2.

Record the range of assessment evidence that was gathered to meet the success criteria (Say, Write, Make, and Do) considering breadth, challenge and application.

Say: Target pupil was able to verbally state the links with real life problems and identify where they have observed units of volume in everyday life.

Write: Target pupil was able to accurately record observations, use the correct unit of volume and convert units of volume.

Make: Target pupil was able to design a recipe using non-standard units of measure.

Do: Target pupil was able to sequence everyday items in order of volume.

Briefly outline the oral/written feedback given to the pupil on progress and next steps, referring to the learning intention and success criteria.

Pupils were referred to LI and SC throughout the learning experiences and were able to identify their own success by use of self-assessment at the end of each lesson.

Written feedback was provided to pupils on their work and they were asked to sign it to show that they understood its meaning.

Next steps for target pupil could be to convert more complex volumes and explore different units of measurement.

Pupil Voice:

What have you learned? How did you learn? What skills have you developed?

I know that litres are big and millilitres are small.

I can see L and ML on things in the shops and in my house.

We were trying out lots of different things to measure and sitting them out by size.

I can measure out in a jug and read the numbers.

I am good at guessing how much is in a container.

Did the learner successfully attain the outcomes? **YES/NO**

I feel that given the evidence the learner has successfully attained the outcome.

Learner Evidence

Lesson 1



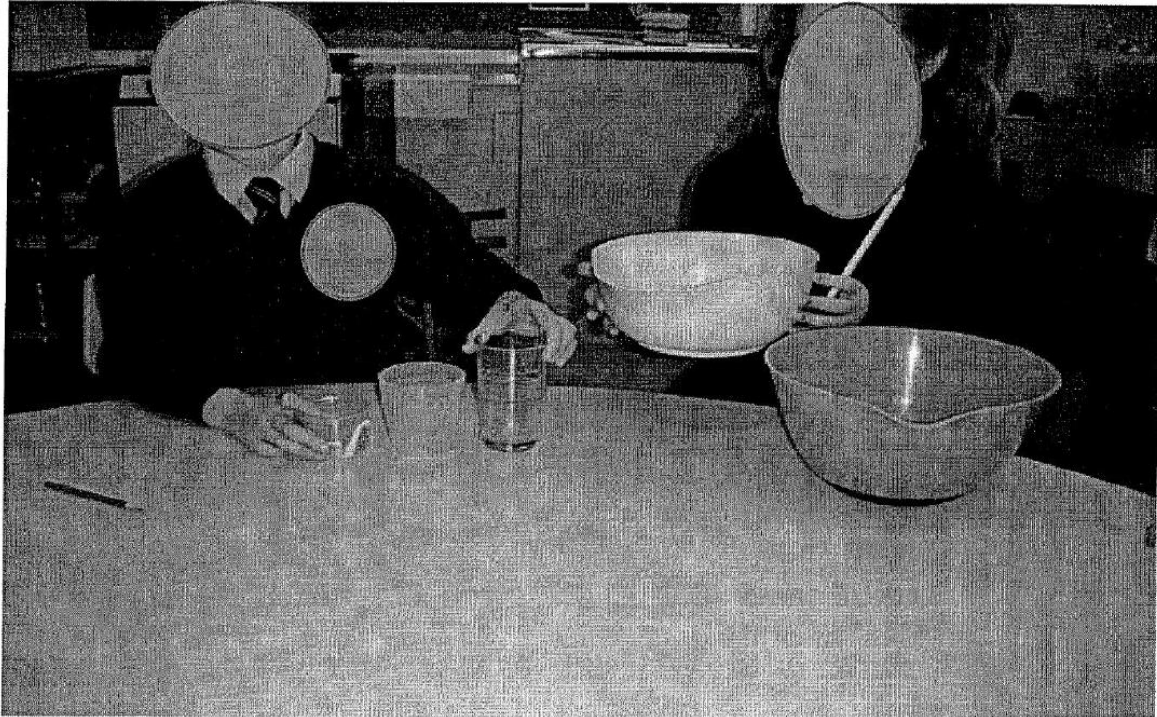
L1: To order and estimate the volume of different containers.

"we need to sort them by size"

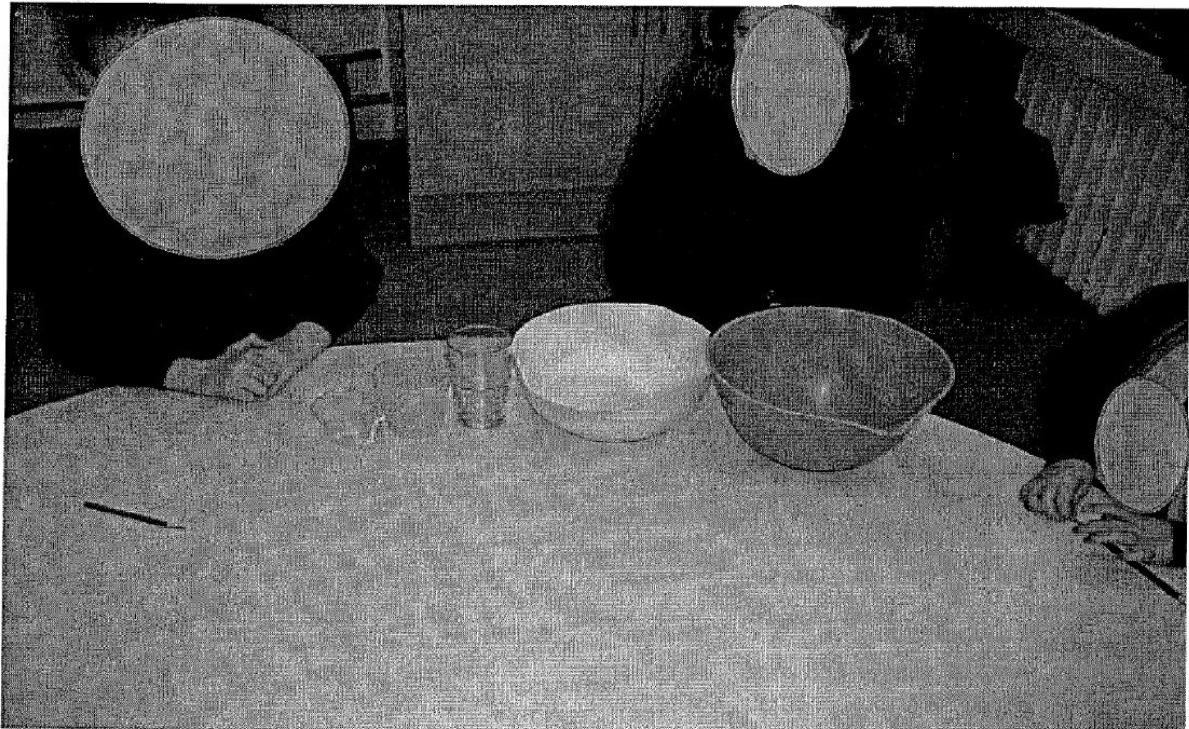
"the wee one holds a small bit"

"the big one holds more water"

Lesson 1



Lesson 1



Nathan

Lesson 1
follow-up.

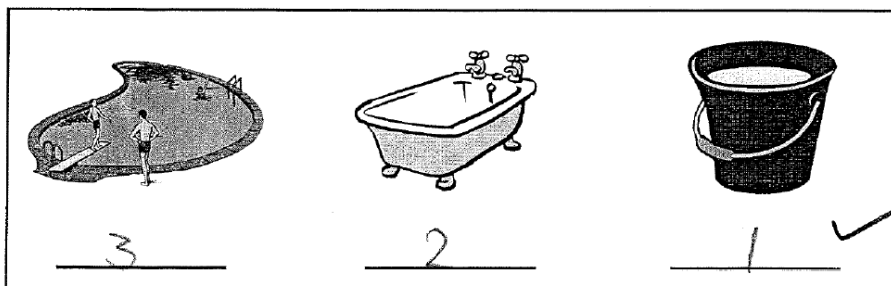
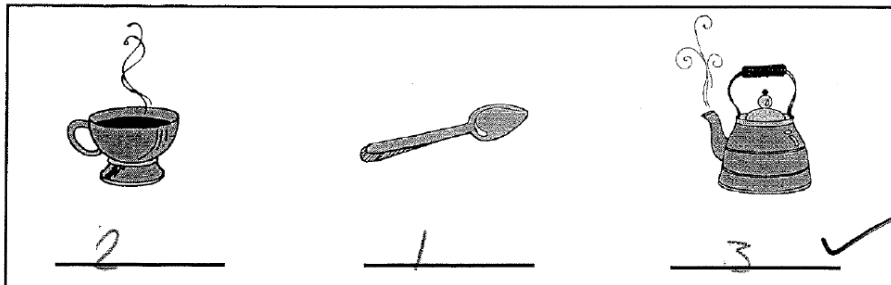
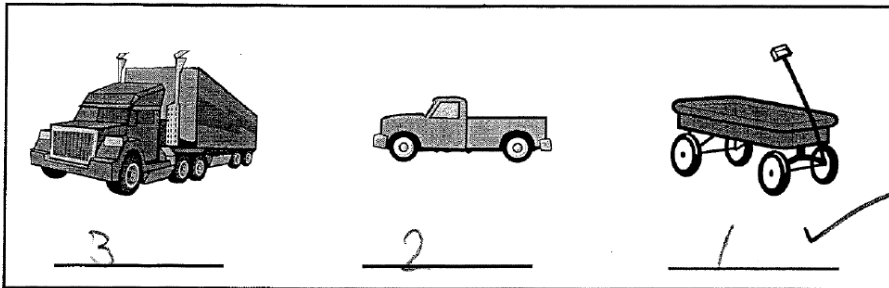
LE: To order and estimate the volume of different containers.

SC: I can correctly order the volume of different containers

SC: I can estimate the volume of different containers.

Volume

Number each set of items from 1 to 3 in order of which holds the least to which holds the most.

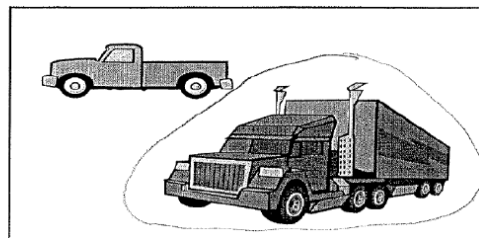
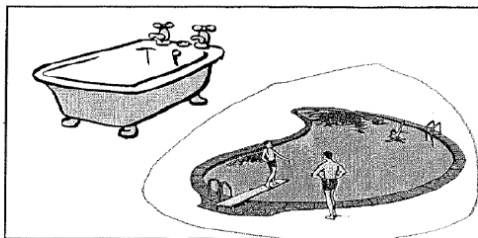
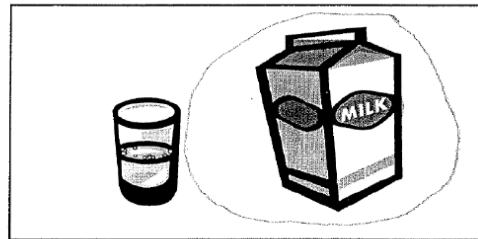
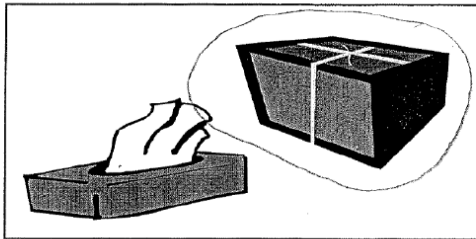
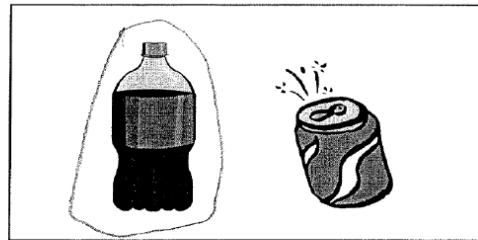
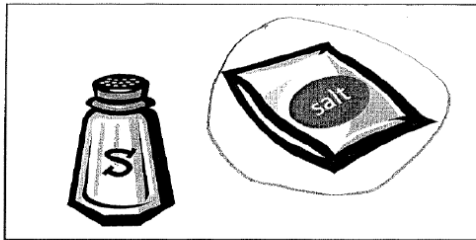


Super work! ★
You have ordered the containers correctly

LESSON 2 *Nathan* LI: To estimate and measure actual volume of everyday containers.
SC: I can estimate the volume of everyday containers.
SC: I can measure the actual volume of everyday containers.

Estimating Volume

Circle the object that holds more than the other in each pair.



Fab! You have estimated correctly! ★

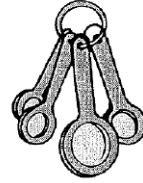
Nathan

LI: To estimate and measure actual volume of everyday container







SC: I can estimate the volume of everyday containers.

SC: I can measure the actual volume of everyday containers.

Measuring Volume

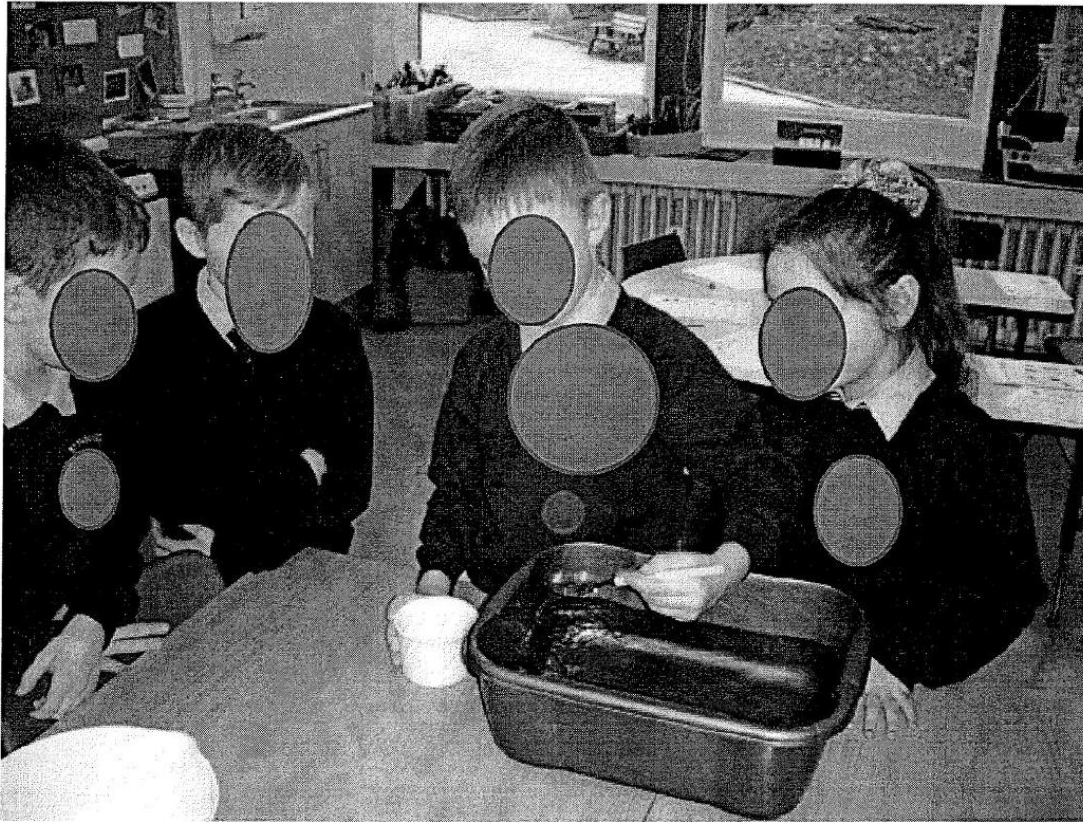


Estimate the volume each object can hold. Then find the actual amount that each container or one similar can hold.

Item	Estimate	Actual Volume
	21	33
	17	40
	1	1
	20	167
	184	501
	201	417

Now! What a lot of spoonfuls!
 Ne can work on estimating again.
 Marvellous measuring! 😊 ★

Lesson 2

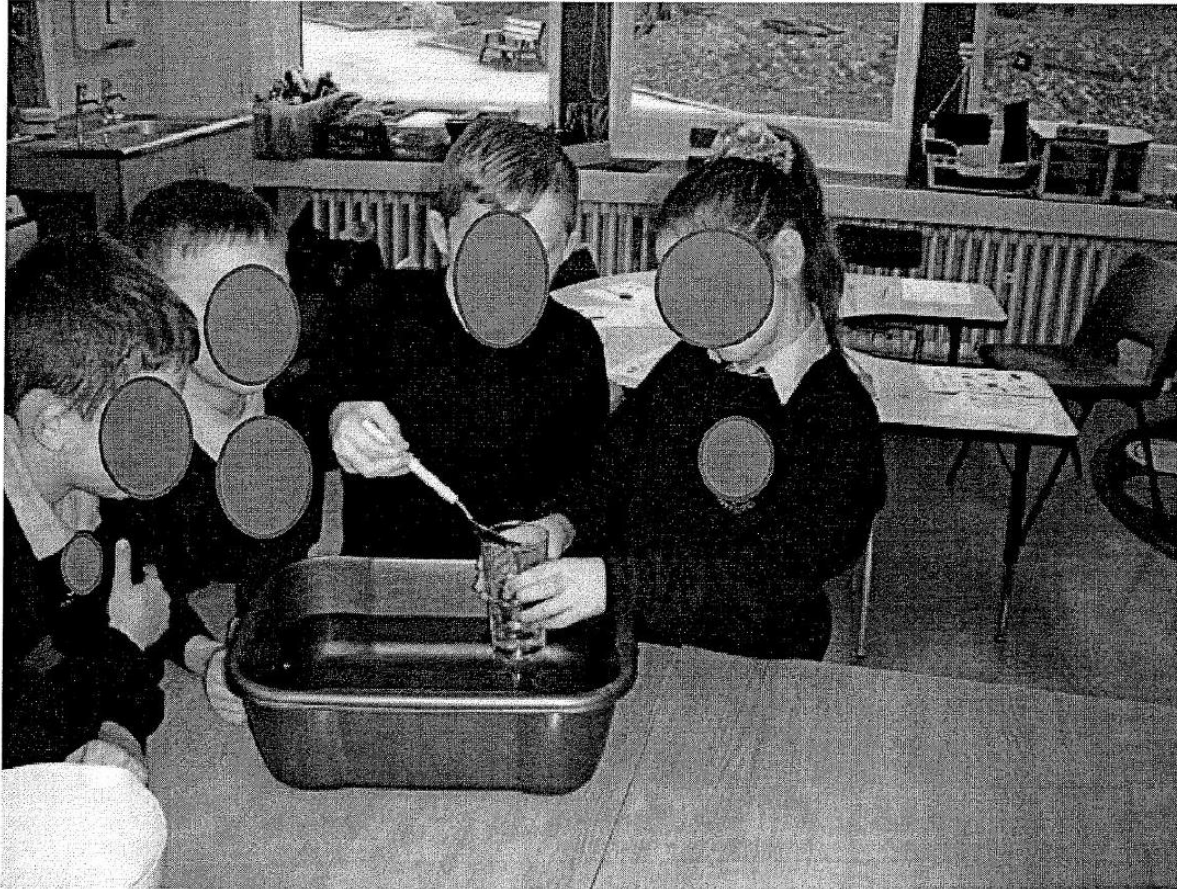


L1: To estimate and measure actual volume of everyday containers.

(This was all based around using non-standard units of measure)

On reflection, for the larger containers I should have let them estimate with a larger n-s unit of measurement in mind as we ended up measuring out hundreds of tablespoons! They did enjoy taking turns and counting them all.

LESSON 2



LESSON 2




Lesson 2



Lesson 5
Powerpoint
Written task
Follow up task

During discussions pupils were able to show their understanding and gave very good examples of where they have seen the terms and why they are important

LI: To understand and use the term litres and millilitres when measuring liquid volume.



I am really thirsty after such a long trip, but I want to know how much to ask for. I would like to get a drink that is not too big or not too small. Do you think you can help?

Key words
volume
litres
millilitres

Back on my planet my teacher told me that if I understand 10, 100 and 1000 then I will be able to learn how you measure liquid volume here on planet Earth. Do you understand 10, 100 and 1000?



Hello! My name is Maggie. I just flew in from the planet Micron! What a long flight! I am so happy to see you all!

There are 10 groups of 10 in 100.
(10 times 10 equals 100)
There are 10 groups of 100 in 1000
(10 times 100 equals 1000)

LESSON 3


My teacher said that on planet Earth you measure liquid in millilitres and litres.

Have you heard these words before? Where have you seen them?

Lets find out what they mean!

A litre is just lots of millilitres put together. In fact, 1000 millilitres makes up 1 litre.


1 litre = 1,000 millilitres

This jug has exactly 1 litre of water in 

Litres are often written as L for short. So 3 L means 3 Litres.

Pupils used whiteboards and were converting L-ML & ML-L. Most were able to do this. Target pupil was able to with ease.

A millilitre is a very small amount of liquid. milli and litre


Here is a millilitre of milk in a teaspoon. 

You can hardly see it!

What items from the shops can you think of that are sold in Litres?



Pupils did think, pair, share and feedback to the class. These images were not on display until after their feedback.

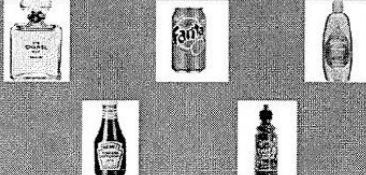
liquid. 

Millilitres are written as ml for short. So 5 ml means 5 millilitres.

But a millilitre is definitely not enough for someone who is thirsty!

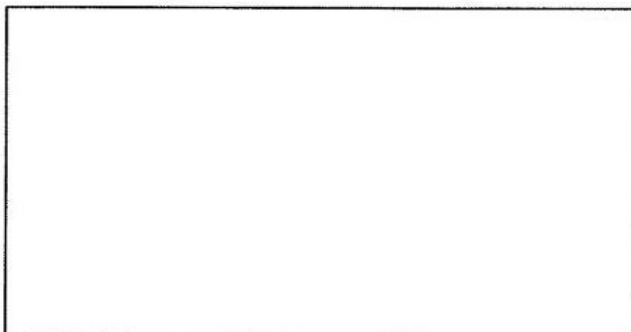
So my teacher told me about litres.

What items from the shops can you think of that are sold in millilitres?







Lesson 5

Now we know that a millilitre is very small, and a litre is like a jug in size, I think I will ask for half a litre of juice!



In your jotters complete the following questions using the heading "Litres and millilitres" and the learning intention:
LI: To understand and use the term litres and millilitres.

1. What unit of volume, litres or millilitres, should these be measured in -

a. bath	b. teaspoon 	c. basin
d. can of juice 	e. glass of wine	f. oil drum
g. washing machine	h. cough bottle	i. tin of paint 
j. carton of milk	k. cup of tea	l. watering can? 

Litres and millilitres 2 4.1 1.1 5

L.I: To understand and use the term
litres and millilitres.

1. a. bath = litres ✓



b. tea spoon = millilitres ✓

c. basin = litres ✓

d. can of juice = millilitres ✓

e. glass of wine = millilitres ✓

f. oil drum = litres ✓

g. washing machine = litres ✓

h. cough bottle = millilitres ✓


i. tin of paint = litres ✓



j. carton of milk = litres ✓

k. cup of tea = millilitres ✓

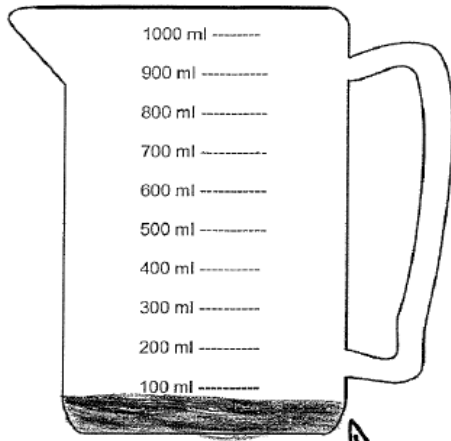
l. watering can = litres ✓

Amazing work! So neat! 

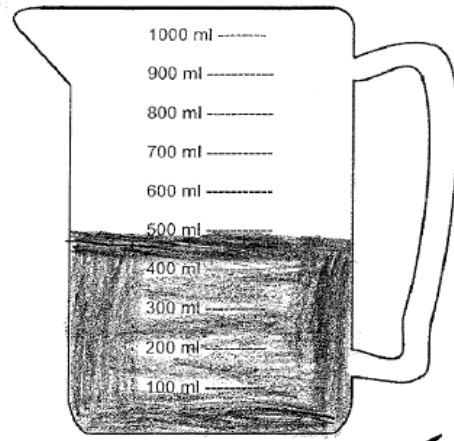
You have correctly used Litres
and Millilitres! Well done.

Colour in the amount of juice for each jug

Lesson 3 follow up

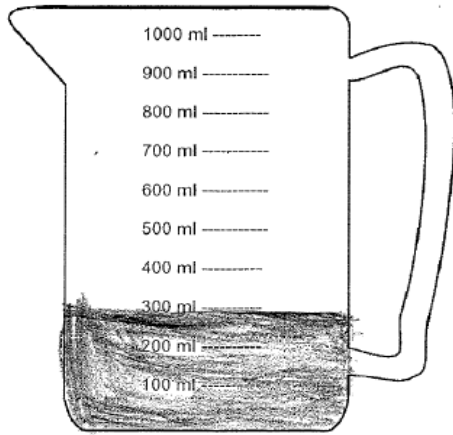


100ml

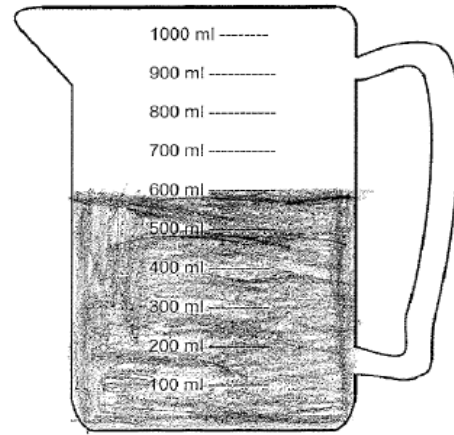


500 ml

take it right onto the line next time.



300 ml



600ml

Well done! You have shown the liquid volume correctly. ★

LI: To read and record liquid volume.

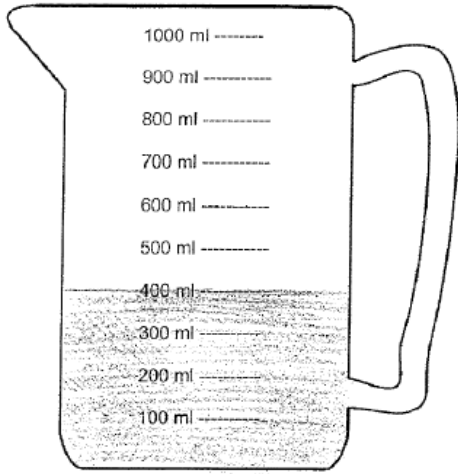
SC: I can read and accurately record liquid volume

Name ANTHON

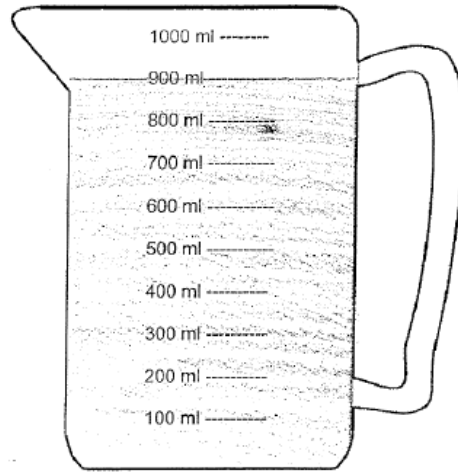
Date _____

Write in the amount of juice in each jug

Lesson 5 follow up

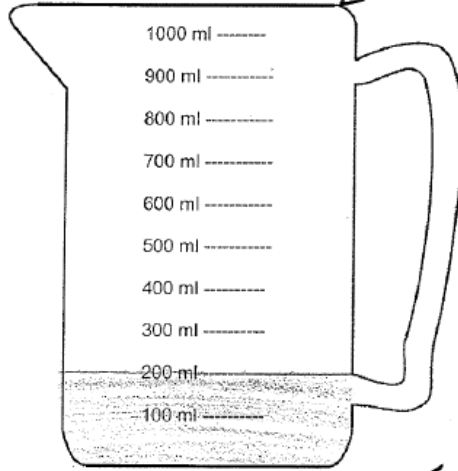


400 ml ✓

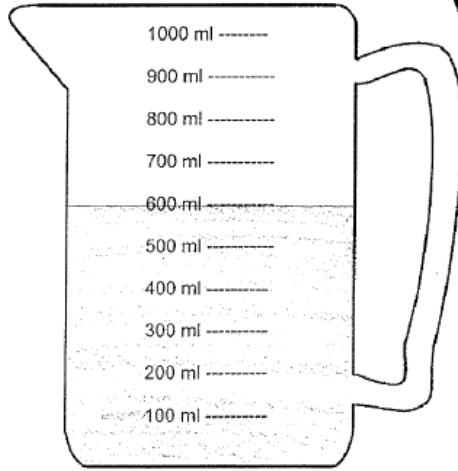


900 ml ✓

Super! You can read and record liquid volume!



200 ml ✓



600 ml ✓

LI: To read and record liquid volume.

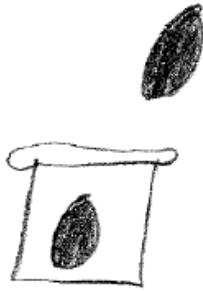


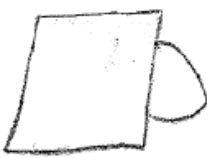


SC: I can read and accurately record liquid volume

Nathan

My Healthy Smoothie

Choose your favourite fruit flavours to create your very own healthy smoothie.

Can you give it a cool name? Multi mix

		
rasberry yoghurt	orange juice	apple juice
		
banana water	Strawberry milk	

MMM! Sounds very tasty! 😊

LESSON 4

Name Nathan

LI: In a practical activity, use what I have learned to meet a design challenge.

SC: I can change a recipe from litres and millilitres to non-standard units of measure using everyday items.

Your smoothie recipe is going back the Planet Micron with Maggie!
All of her friends can't wait to make it and taste it.

However, there is a problem on Planet Micron. They don't have any measuring jugs and your recipe is written using litres and millilitres.

Think about everything you have learned so far.

What can you do to the recipe to help them?

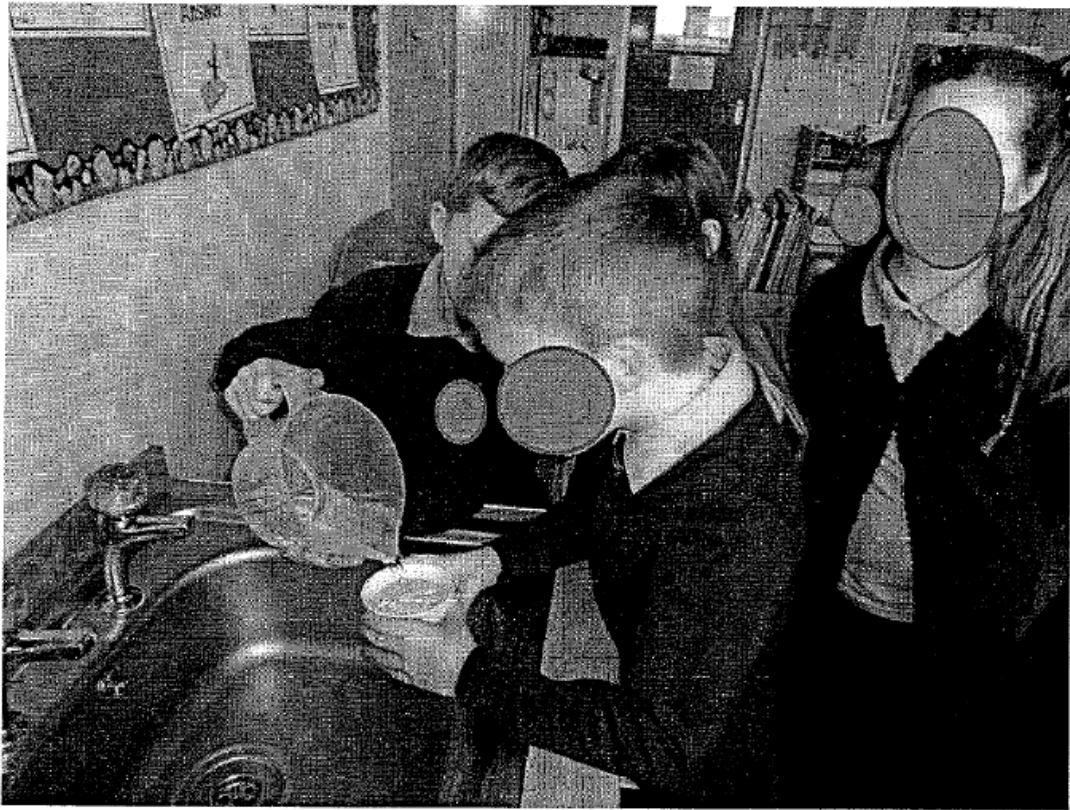
Planet Earth	Planet Micron
<u>Raspberry</u> yoghurt - 20 mls	<u>Raspberry yoghurt</u> - <u>3 spoons</u>
<u>orange</u> juice - 250 mls	<u>orange</u> juice - <u>1 1/4 cups</u>
<u>apple</u> juice - 125 mls	<u>apple</u> juice - <u>1 cup</u>
<u>banana</u> water - 750 mls	<u>banana</u> water - <u>4 1/4 cups</u>
<u>strawberry</u> milk - 500mls	<u>strawberry</u> milk - <u>3 cups</u>

What have you learned today?

That I can use everyday items to measure instead of using L and ml.

Well done Nathan! You have changed the recipe into non-standard units. 😊

Lesson 4



Pupils were given the problem of how to change the recipe for the Planet Micron. There were no measuring jugs there. They recalled their previous learning where they estimated and measured using everyday items.

Lesson 4



Target pupil was able to identify that they could measure out the recipe using L & ML and then pour into cups to count how many was needed for each part of the recipe.