

## Diving into Mastery



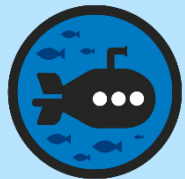
# Add and Subtract Capacities

# Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



**Diving**



**Deeper**



**Deepest**

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

# Aim

- Measure, compare, add and subtract capacity (ml/l).

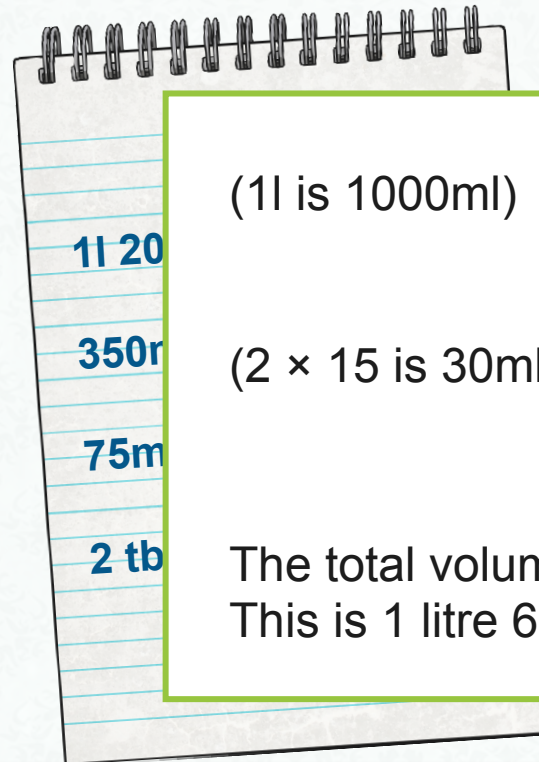


## What's the Total?

Jenna is mixing fruit juice.

What is the total volume of liquid?

$$1 \text{tbsp} = 15 \text{ml}$$



(1l is 1000ml)

1200ml

1l 20

350ml

350r

75ml

75m

(2 × 15 is 30ml)

+ 30ml

2 tb

1655ml

The total volume is 1655ml.

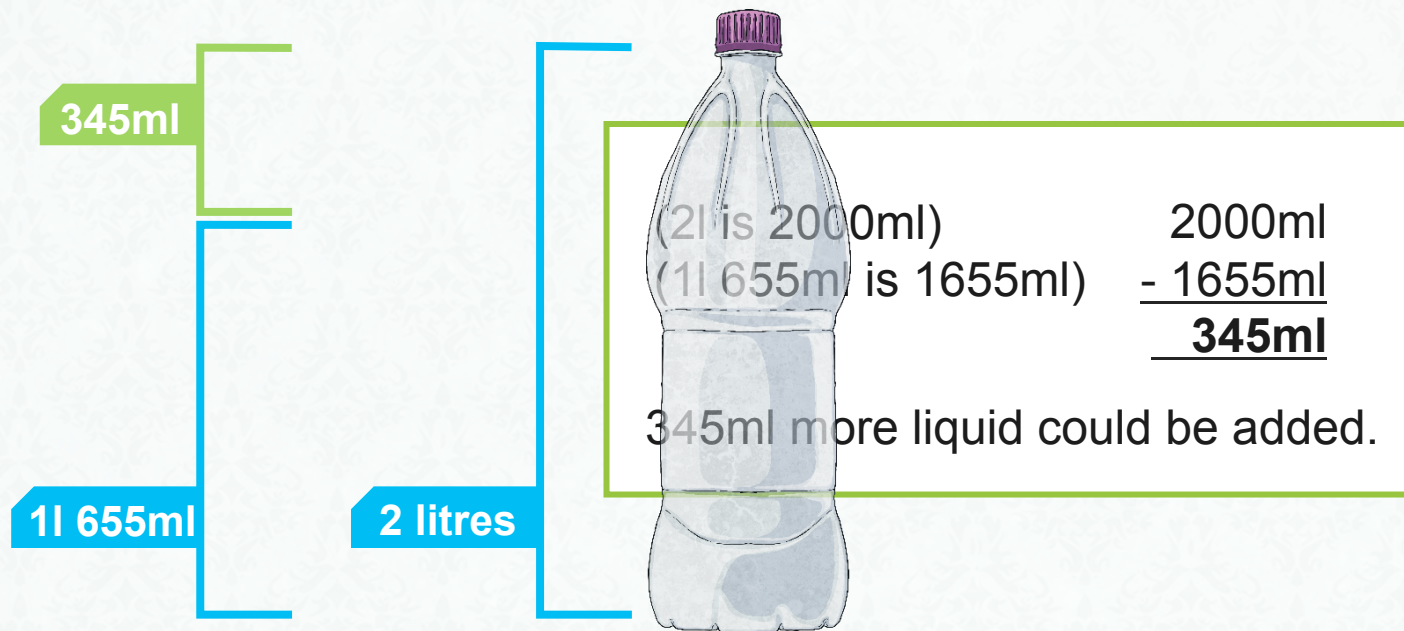
This is 1 litre 655ml.



## What's Left?

Felix has a bottle with a capacity of 2 litres to store the juice Jenna has made. Jenna made 1l 655ml of her fruit juice.

How much more liquid could be used to fill the bottle?





## Is There Too Much?

A jug has a capacity of 1l 250ml. Carter says that all of the recipes can be made in a jug of this size. **Do you agree?**

1tsp = 5ml  
1tbsp = 15ml

**Are there any recipes which total exactly 1l 250ml?**

800ml lemonade  
1/2 litre apple juice  
25ml peppermint oil

This is too much for the jug to hold.

1 litre orange juice  
800ml apple juice  
1325ml lemonade

1/2 litre = 500ml  
3tbsp = 3 × 15 = 45ml  
1tsp = 5ml  
600ml + 500ml + 100ml = 1100ml  
45ml + 5ml = 1250ml  
1250ml = 1 litre 250 ml

This is the exact capacity of the jug.

600ml fizzy water  
1 litre orange juice  
150ml apple juice

1/4 litre = 250ml  
700ml + 250ml + 150ml = 1100ml  
1100ml = 1 litre 100ml

This is the exact capacity of the jug.



## Work It Out!

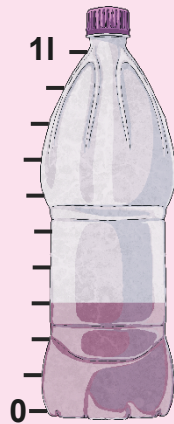
Choose four different ingredients to make a juice.

What is the smallest volume you can make?

What is the largest volume?



water



pomegranate  
juice



orange juice



peppermint  
oil

To make the smallest volume,

To make the largest volume,  
choose the four ingredients with  
the largest volume.

water (**1250ml**) +  
pomegranate juice (**300ml**)  
orange juice (**1000ml**) + apple  
juice (**500ml**) = **3050ml**

The largest volume is  
**3 litres 50ml.**



## Work It Out!

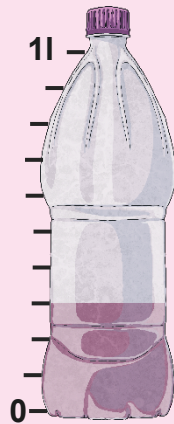
If one of the four ingredients must be **cherry juice**:

What is the smallest volume that could be made?

What would be the largest volume?



water



pomegranate  
juice



orange juice



peppermint  
oil



cherry  
juice

To make the smallest volume,

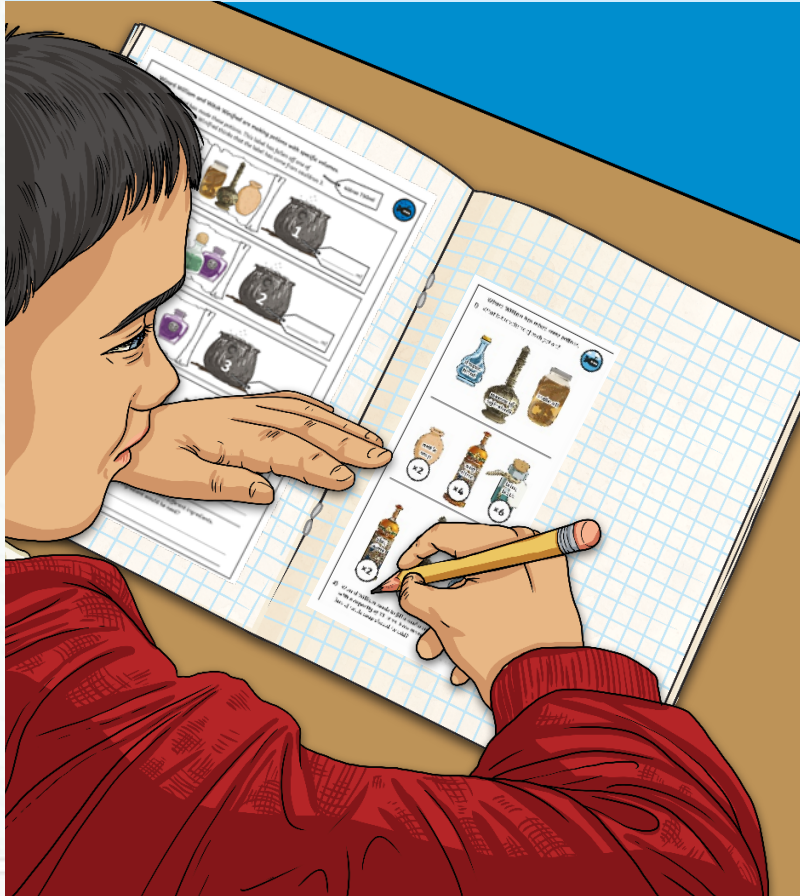
To make the largest volume, use the cherry juice and three ingredients with the largest volume.

water (1250ml) + orange juice (1000ml) + cherry juice (150ml) + apple juice (500ml) = 2900ml

The largest volume is 2 litres 900ml.

# Add and Subtract Capacities

Dive in by completing your own activity!



Wizard William and Witch Winifred are making potions with specific volumes. Winifred has made these potions. This label has fallen off one of the cauldrons.

Which Winifred thinks that the label on cauldron 3. Why is Winifred incorrect?

snake oil	x1	
essence of nightshade	x4	
nettle soup	x1	

briny broth	x5	
dawn dew	x10	
teachers' tears	x1	

dragon blood	x1	
teachers' tears	x2	

dawn dew	x3	
snake oil	x1	
slug slime	x2	

2) Wizard William is making potions with a capacity of 2 litres. He can only use two different ingredients. How could he make up his potions? How many jars of each ingredient would he need?

Wizard William has mixed some potions.

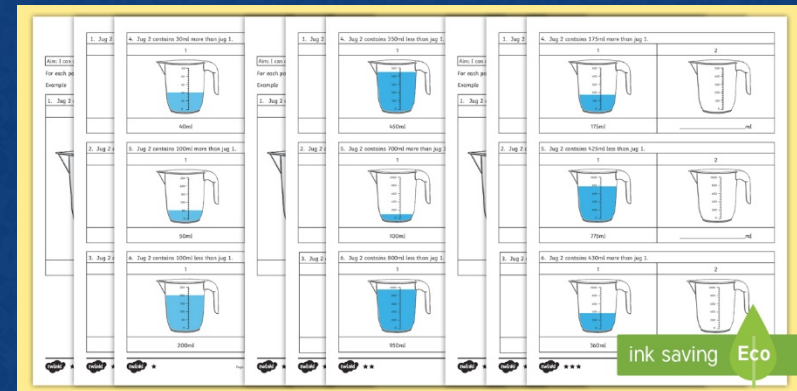
1) What is the volume of each potion?

2) Wizard William needs to fill a cauldron with a capacity of 10 litres. How many jars of nettle soup should he add?

# Need Planning to Complement this National Curriculum Aim

Measure, compare, add and subtract capacity (ml/l).

For more planning resources to support this aim, [click here](#).



Twinkl PlanIt is our award-winning scheme of work with over 4000 resources.



