Summer Scheme of Learning

Year 2/3

#MathsEveryoneCan

2019-20
How to use the mixed-age SOL

In this document, you will find suggestions of how you may structure a progression in learning for a mixed-age class.

Firstly, we have created a yearly overview.

Each term has 12 weeks of learning. We are aware that some terms are longer and shorter than others, so teachers may adapt the overview to fit their term dates.

The overview shows how the content has been matched up over the year to support teachers in teaching similar concepts to both year groups. Where this is not possible, it is clearly indicated on the overview with 2 separate blocks.

For each block of learning, we have grouped the small steps into themes that have similar content. Within these themes, we list the corresponding small steps from one or both year groups. Teachers can then use the single-age schemes to access the guidance on each small step listed within each theme.

The themes are organised into common content (above the line) and year specific content (below the line). Moving from left to right, the arrows on the line suggest the order to teach the themes.

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How to use the mixed-age SOL

Here is an example of one of the themes from the Year 1/2 mixed-age guidance.

### Points to consider

- Use the mixed-age schemes to see where similar skills from both year groups can be taught together. Learning can then be differentiated through the questions on the single-age small steps so both year groups are focusing on their year group content.
- When there is year group specific content, consider teaching in split inputs to classes. This will depend on support in class and may need to be done through focus groups.
- On each of the block overview pages, we have described the key learning in each block and have given suggestions as to how the themes could be approached for each year group.
- We are fully aware that every class is different and the logistics of mixed-age classes can be tricky. We hope that our mixed-age SOL can help teachers to start to draw learning together.

### Subtraction

<table>
<thead>
<tr>
<th>Year 1 (Aut B2, Spr B1)</th>
<th>Year 2 (Aut B2, B3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many left? (1)</td>
<td>Subtract 1-digit from 2-digits</td>
</tr>
<tr>
<td>How many left? (2)</td>
<td>Subtract with 2-digits (1)</td>
</tr>
<tr>
<td>Counting back</td>
<td>Subtract with 2-digits (2)</td>
</tr>
<tr>
<td>Subtraction - not crossing 10</td>
<td>Find change - money</td>
</tr>
<tr>
<td>Subtraction - crossing 10 (1)</td>
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</tr>
<tr>
<td>Subtraction - crossing 10 (2)</td>
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</tbody>
</table>

In order to create a more coherent journey for mixed-age classes, we have re-ordered some of the single-age steps and combined some blocks of learning e.g. Money is covered within Addition and Subtraction.

The bullet points are the names of the small steps from the single-age SOL. We have referenced where the steps are from at the top of each theme e.g. Aut B2 means Autumn term, Block 2. Teachers will need to access both of the single-age SOLs from our website together with this mixed-age guidance in order to plan their learning.
<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
<th>Week 8</th>
<th>Week 9</th>
<th>Week 10</th>
<th>Week 11</th>
<th>Week 12</th>
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<td><strong>Autumn</strong></td>
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<tr>
<td>Number: Place Value Y2 – Numbers to 100</td>
<td>Number: Addition and Subtraction Year 2- Numbers within 100 (including money)</td>
<td>Number: Multiplication Year 3- Numbers within 1,000 (including money)</td>
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<td><strong>Spring</strong></td>
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<tr>
<td>Number: Division</td>
<td>Statistics</td>
<td>Measurement: Length and Height</td>
<td>Geometry: Year 2: Shape, Position and Direction Year 3: Shape and Perimeter</td>
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<td>Number: Year 2: Fractions &amp; Consolidation Year 3: Fractions</td>
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<td><strong>Summer</strong></td>
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<td>Problem solving</td>
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<td>Consolidation and Investigations</td>
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</tbody>
</table>
In this section, content from single-age blocks are matched together to show teachers where there are clear links across the year groups. Teachers may decide to teach the lower year’s content to the whole class before moving the higher year on to their age-related expectations. The lower year group is not expected to cover the higher year group’s content as they should focus on their own age-related expectations.

In this section, content that is discrete to one year group is outlined. Teachers may need to consider a split input with lessons or working with children in focus groups to ensure they have full coverage of their year’s curriculum. Guidance is given on each page to support the planning of each block.

The themes should be taught in order from left to right.
Year 2/3 | Summer Term | Week 6 to 8 – Mass, Capacity & Temperature

Mass, Capacity & Temperature

Common Content

**Measure and compare mass**
- Year 2 (Sum B4)
  - Measure mass in grams
  - Measure mass in kilograms
- Year 3 (Sum B4)
  - Measure mass (1)
  - Measure mass (2)
  - Compare mass

**Measure and compare capacity**
- Year 2 (Sum B4)
  - Millilitres
  - Litres
- Year 3 (Sum B4)
  - Measure capacity (1)
  - Measure capacity (2)
  - Compare capacity

In this block, teachers may decide to recap the Year 2 steps looking at non-standard units and temperature with all the class as this provides a good basis for learning.

Both year groups then measure and compare mass and capacity using standard units.

Year 3 build on their learning by adding and subtracting mass and capacity, recapping their calculation skills.

**Compare mass (non-standard units)**
- Year 2 (Sum B4)
  - Compare mass

**Add and Subtract mass**
- Year 3 (Sum B4)
  - Add and subtract mass

**Volume**
- Year 2 (Sum B4)
  - Compare volume

**Add and Subtract capacity**
- Year 3 (Sum B4)
  - Add and subtract capacity

**Temperature**
- Year 2 (Sum B4)
  - Temperature

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Block 3 – Mass, Capacity and Temperature

Theme 1- Compare Mass (non-standard units)
Children recap on Year 1 learning by comparing the mass of different objects. They will initially use balance scales to compare the mass of two or more objects.

Children compare mass using < and > and order objects based on their masses.

Look at the scale, which side is lower? What does this tell us about the objects?

Which object is heavier? Which object is lighter?

Can you hold the objects and predict which is heavier? Is a largest object always the heaviest?

Using the words ‘more’ and ‘less’ and the > or < symbols, describe the mass.

The lettuce weighs ______ than the pineapple.

Choose three objects. Use the balance scales to order them from heaviest to lightest?

The ______ is heavier than the ______ but lighter than the ______.
The ______ is lighter than the ______ but heavier than the ______.

Complete the sentences:

4 bananas weigh the same as ___ doughnuts.
2 bananas weigh the same as ___ doughnuts

Can you write sentences using ‘more’ or ‘less’ using the image?
### Compare Mass

#### Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>Tommy</th>
<th>Eva</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 bananas weigh the same as two apples, so Tommy is correct - an apple must weigh more than a banana. 1 banana weighs the same as 2 doughnuts so Eva is incorrect.</td>
<td>Do you agree? Explain why.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eva</th>
<th>Tommy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two doughnuts weigh the same as two bananas.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 pineapple weighs 20 cubes.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Always, sometimes or never true?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The larger the box, the heavier it is.</td>
</tr>
</tbody>
</table>

| Sometimes. Children can explore this using different sized boxes. |
Block 3 – Mass, Capacity and Temperature

Theme 2 – Measure and compare mass
In Year 2, the children use standard units of mass (grams) for the first time. They continue to use balance scales before moving on to use standard weighing scales. Children apply their counting in 2s, 5s and 10s skills to reading scales accurately. They should see a variety of scales with different intervals. Give children the opportunity to feel the mass of gram weights so they can use this for estimation.

When the balance scales are level, what does this tell us?  
What symbol could we use? (=)  
What is the mass of the _____?  
What would two ______weigh?  
How could you tell is something was lighter or heavier than 10g?  
How much heavier is the _____ than the _____? How could you work it out?

Use gram weights to measure the mass of objects using a balance scale.

The _____ weighs ______ grams.

Use scales to record the mass of objects in grams.

Order the items from heaviest to lightest.
Which is heavier, the red or the green beanbag? Explain why.

The red beanbag weighs more because it weighs the same as two green beanbags.

The tin of beans weighs 25 g and the pineapple weighs 30 g.
Children use their knowledge of measuring mass in grams to start to measure mass in kilograms. They apply counting in 2s, 5s and 10s to measure on different scales. Give children the opportunity to feel the mass of kilogram weights and real life objects that weigh 1 kg so they can use this to estimate.

Mathematical Talk

Which is heavier, one gram or one kilogram? What else do you think we might measure in kilograms?

How much do you think that you weigh? Would you measure this in grams or kilograms? Shall we estimate and then weigh ourselves?

Can you make up some different questions about the suitcases? What words can you use to compare?

Find the mass of the sweets and the beans.

The sweets weigh ____kg

The beans weigh ____g.

Read the scales to find the mass of each.

The bag weighs ____ kg.

The person weighs ____ kg.

Sophie’s family are going on holiday. Compare the mass of their suitcases.

Sophie’s suitcase is ______ than Dad’s suitcase
Mum’s suitcase weighs ____ kg more than Dad’s suitcase.
What is the mass of each barrel?

Barrel A weighs 8 kg
Barrel B weighs 16 kg
Barrel C weighs 4 kg

B is 12 kg heavier than C

Double the mass of A

Half the mass of A

What is the difference between the mass of B and C?

The brown parcel weighs twice as much as the blue parcel.
The green parcel weighs 2 kg more than 30 kg
The blue parcel weighs 12 kg less than the green parcel.

Draw an arrow to show where each parcel would be on the scale.

The green parcel weighs 32 kg
The blue parcel weighs 20 kg
The brown parcel weighs 40 kg
Use balance scales to measure the mass of a range of objects. Decide whether to use gram or kilogram weights to balance the scales. Can you estimate the mass of each object before you weigh them?

Find the mass of each item.

Draw each scale as a straight number line. Can you identify the missing intervals?
### Measure Mass (1)

#### Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>Who do you agree with? Explain why.</th>
<th>Amir is wrong – he has counted on 3 from 10 kg when he should have counted back 3 kg.</th>
<th>The chocolate bar weighs 100 g. How much does one muffin weigh?</th>
<th>Children could use a bar model to work this out. They would see the chocolate bar must weigh the same as two muffins so one muffin must weigh 50 g. Each side weighs 150 g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amir</td>
<td>Jack is wrong because we can work out the scale by using the 10 kg and counting back. They weigh 7 kg.</td>
<td>How much does each side weigh?</td>
<td>Using only 3 objects and a weighing scale, try to get as close to 2 kg as possible. Explain why you chose those objects. Work out how much more or how much less is needed to make it 2 kg.</td>
</tr>
<tr>
<td>Rosie</td>
<td>Rosie is correct because half of 10 is 5 and the arrow is past where 5 kg would be.</td>
<td>The weight of the potatoes is 7 kg</td>
<td></td>
</tr>
</tbody>
</table>
Measure Mass (2)

Notes and Guidance

Children measure the mass of objects and record them as a mixed measurement in kilograms and grams. When given a mixed measurement, children can record the mass on scales by calculating the intervals and identifying where the arrow will go.

Recap counting in different multiples to support children’s reading of scales with different intervals.

Mathematical Talk

Which is heavier, 7 kilograms or 8 grams?

How is a scale like a number line?

Does drawing a number line help you to find the intervals?

Where do we use measuring mass on a daily basis?

Varied Fluency

What weight is on the scales?

How do the scales show this?

Complete the missing information.

The toy car weighs 4 kg and ____ g

The potatoes weigh 2 kg and ____ g

Use your own scales to measure how much objects weigh and record the mass in kg and g.

Draw an arrow on the scales to show the mass of each object.

= 1 kg and 700 g

= 2 kg and 100 g
Tommy is weighing a toy car. Use this to work out what the other children’s cars weigh.

Tommy’s car weighs 4 kg and 500 g.
Alex’s car weighs 5 kg and 300 g.
Mo’s car weighs 4 kg and 300 g.
Dexter’s car weighs 4 kg.

Here is a balance.

Here is another.

Work out the value of

Can you create your own version for a partner?

One circle weighs 3 kg.
The square weighs 100 g.
Compare Mass

Notes and Guidance

Children build on Year 2 knowledge and use ‘lighter’ and ‘heavier’ to compare mass. They use their understanding that kilograms are used for heavier objects and will use this to help them compare mass. For example 500 g is less than 500 kg. Children compare mixed measurements using the inequality symbols. For example, 1 kg and 500 g < 2 kg.

Mathematical Talk

Which item is heavier or lighter? How do you know?
Using the symbols <, > or =, what can you tell me about each of the scales?
If I added an extra item, what would happen?
Can I work out how much one item weighs? Would this be more or less than the other item?

Varied Fluency

Complete the sentences.
1 pineapple is equal to [ ] apples.
[ ] pineapples are equal to [ ] apples.

Can you write sentences using ‘heavier’ or ‘lighter’ about the image?

Use <, > or = to compare the mass of each pair of objects.

A pack of tarts weighs 220 g.
Two cartons of orange juice weigh 140 g.
Draw an arrow to show the weight of the 3 items.
Three children are weighing potatoes and flour.

Whitney is wrong because the scales are different. Mo is wrong because he hasn’t noticed the flour is weighed in kg and the potatoes are weighed in g. Alex is correct because 2 kg is the same as 2,000 g which is more than 700 g.

The potatoes weigh more because the arrow is further than the arrow on the flour scale.

The flour weighs less because 2 is less than 700.

Who do you agree with? Explain your answer.

Here are three masses.

Match each mass to the correct child.

Dora: My mass weighs more than \( \frac{1}{2} \) of 40 kg.

Mo: My mass is more than Eva’s mass.

Eva: My mass weighs more than 18 kg but less than 20 kg.

Eva: 18 kg and 500 g
Mo: 20 kg
Dora: 20 kg and 600 g
Block 3 – Mass, Capacity and Temperature

Theme 3- Add and subtract mass
Children add and subtract mass. They use a range of mental and written methods, choosing the most efficient one for each question.

Children may use concrete resources to represent kilograms and grams. Children could also use bar models to support them to represent calculations.

How many grams are in a kilogram? How could I represent this using concrete resources?

What do you know about kilograms or grams that can help you solve this question?

How can you represent this problem with a bar model?

Amir uses a part-whole model to add 2 kg and 300 g to 3 kg and 250 g. He partitions each mass into kilograms and grams and calculates them separately.

Use Amir’s method to calculate:

3 kg and 450 g + 4 kg and 200 g
4 kg and 105 g + 2 kg and 300 g
4 kg and 400 g − 2 kg and 100 g
8 kg and 600 g − 1 kg and 550 g

The jar of cookies has a mass of 800 g. The empty jar has a mass of 350 g. How much do the cookies weigh?

Choose an appropriate approach to solve:

- 7 kg − = 5 \(\frac{1}{2}\) kg
- 3 kg and 200 g + = 4 \(\frac{1}{2}\) kg
- 4 kg + − 1 \(\frac{1}{2}\) kg = 3 kg
The green parcel weighs 5 kg. Can you work out what the blue and brown parcel weigh?

Blue parcel = 4 kg and 400 g
Brown parcel = 2 kg and 850 g

Green and brown parcel = 7 kg and 850 g

Dora buys two peaches and three pears.

One peach weighs 75 g.

Three pears weigh the same as two peaches.

How much does one pear weigh?
Block 3 – Mass, Capacity and Temperature

Theme 4 – Volume
Children compare the volume of containers using <, >, and =. They build on their understanding of the difference between capacity and volume from Year 1. Capacity is the amount a container can hold. Volume is the amount it is actually holding.

Children use the language ‘quarter’, ‘half’ and ‘three-quarters full’ to describe and compare volume. Make sure children have the opportunity to practically investigate volume and capacity.

**Mathematical Talk**

Which container has the largest/smallest capacity? How do you know? Can we order them from largest to smallest?

Which container has the most or least liquid in?

How many mugs does it take to fill the bottle? Is this more or less than the pot? Can we find the difference? Does the tallest container always hold the most?

**Notes and Guidance**

**Varied Fluency**

- Show three different containers. Which container has the largest capacity? Using water or rice, make each container: one quarter full, half full, three-quarters full.

- Complete the sentences using the words ‘less’, ‘more’ or equal'.

- Complete the sentences:
  - Container A has _______ than container B.
  - Container C has _______ than container B.
  - Container A has _______ than container C but _______ than container B.

- Complete the sentences:
  - The bottle can fill ____ mugs.
  - The pot can fill ____ mugs.

Use other containers to investigate how many mugs of rice they take to fill.
### Compare Volume

#### Reasoning and Problem Solving

Whitney had two full bottles of juice. She poured some juice into two glasses.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottle A</td>
<td>Bottle B</td>
<td></td>
</tr>
</tbody>
</table>

Which glass has the most juice in? Which has the least juice in? Explain how you know.

Glass A has the least juice in and Glass B has more juice in. Bottle A has more juice left over which means it has less juice poured out.

Choose a selection of different sized containers. Decide how you will measure how much liquid each container can hold. Order your containers from smallest to largest. Compare the containers using <, > or =.

![Container Diagram]

The pot holds 40 cups of water.

How many does the hold?
Block 3 – Mass, Capacity and Temperature

Theme 5- Measure and compare capacity
Children are introduced to standard units of millilitres (ml) for the first time.

They should be provided with a selection of different measuring cylinders and jugs in order to practice measuring in millilitres. They should be encouraged to estimate how many ml unlabeled containers will hold and then use measuring cylinders or jugs to check.

Which container has the largest/smallest capacity? Can we order them from largest to smallest?

Look at the scale on my cylinder, what do you notice? Is this the same for this cylinder?

If we pour the liquid from this jar/glass into the cylinder, how much does each container hold?

Use a variety of different containers with ml clearly labelled e.g. measuring spoon, water bottle, liquid soap, vinegar etc. Introduce that liquid can be measured in millilitres. Discuss whether 5 ml is a large or small amount. Show 5 ml using a medicine spoon. Look at the containers estimate then identify how many ml each container holds.

Draw the level on the scale to show the capacity of each container.

Use different containers e.g. mug, bowl, pan, tea cup. Fill them with water or rice. Pour them into a measuring cylinder and measure the amount of liquid or rice in the measuring cylinder.
A holds 5 ml of liquid.

How many liquid are there in each container?

Container A holds 12 teaspoons.

Container B holds 16 teaspoons.

Estimate the amount of water in the container.

The water is between 40 ml and 50 ml. It is approximately 45 ml.

Explain why you have given your answer.
Children are introduced to litres (l) as a standard unit for the first time.

Children recognise the difference between measuring in millilitres and litres and when it is more efficient to use litres to measure liquid rather than millilitres. They should be encouraged to estimate volumes and then check by measuring.

Which is larger, 1 millilitre or 1 litre? How do you know?

Would you measure ______ in litres or millilitres? Why?

How many litres of water do you drink a day?

Show the children a litre container. How many litres of water do you think it would take to fill ________?

Provide a variety of different containers with litres clearly labelled e.g. cola bottle, paint bottle, milk etc.

Introduce litres and discuss how these are the same but different to millilitres. Identify how many litres fill each container.

Show how much liquid is in each cylinder after you:

- Pour 3 litres of water into the cylinder.
- Leave 1 litre of cola in the bottle.
- Pour half of the juice into the cylinder.

Use different containers e.g. bucket, large pan etc. Estimate and then measure the capacity of each one.
Mo puts 4 litres of water in bucket A. He then pours 3 litres from bucket A into bucket B.

Which sentence is correct?
- There is more in bucket A.
- There is less in bucket A.
- There are equal amounts in each bucket.

Explain why.

There is less in bucket A because there will be 1 litre in A and 3 litres in B.

3 bowls each have more than 20 l of water in but less than 50 l

The green bowl has 5 l more than the red bowl.

The blue bowl has 10 l more than the green bowl.

How much could each bowl have in?

The red bowl could have between 20 l and 35 l

The green bowl could have between 25 l and 40 l

The blue bowl could have between 35 l and 50 l

Eva wants to measure 2 litres of water into a tub. She only has a 5 litre and a 3 litre container.

How can she use both containers to measure 2 litres?

Eva could fill her 5 litre container and then empty 3 litres into the 3 l container. She will be left with 2 litres.

5l – 3l = 2l
Measure Capacity (1)

Notes and Guidance

Children use litres, millilitres and standard scales to explore capacity. In this step, children focus on the capacity in either litres or millilitres and not as a mixed measurement, for example 5 l and 500 ml.

Children continue to use place value skills to explore scales. Children build on their knowledge from KS1, recognising the capacity is the amount of liquid a container can hold and the volume is how much liquid is in the container.

Mathematical Talk

What’s the same and what’s different about capacity and volume?

What does capacity mean? What does volume mean?

What do we measure capacity and volume in?

What unit of measure (ml or l) would we use to measure ____?

How much liquid is in the container?

What is the scale going up in?

Varied Fluency

Use a variety of scales, discuss what’s the same, what’s different about the scales. Using different containers explore which measurement (litres or millilitres) would be used to measure the liquid inside. Discuss what things would be measured in litres and in millilitres.

Use the sentence stem to describe the capacity and volume of each container.

The volume of liquid is ___.
The capacity of the container is ______.

Identify what the scale is going up in to find out the volume in each container. Use the stem sentence.

The increments are in ___.
The volume is ___.

Year 3 | Summer Term | Week 6 to 8 – Measurement: Mass, Capacity & Temperature
Measure Capacity (1)

Reasoning and Problem Solving

Use a variety of containers. Can you estimate how much liquid they hold? Check your estimates using measuring jugs and cylinders to see how accurate you were.

Children will use a variety of containers and gather a range of measurements. Encourage children to record their results in a table.

Use the clues to work out who has which container.

- **Annie** has container B
- **Ron** has container A
- **Eva** has container C

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Year 3 | Summer Term | Week 6 to 8 – Measurement: Mass, Capacity & Temperature
Measure Capacity (2)

Notes and Guidance

Children use litres and millilitres and standard scales to explore capacity.
Children measure capacity with litres and millilitres together and record measurements as __ l and __ ml, for example 5 l and 500 ml.
Children continue to use place value skills to read and interpret scales.

Mathematical Talk

How many millilitres are in 1 litre? If we know this, what else do we know?
Look at the scale, show me where ____ would be.
What is the capacity of the _____? How can we record this as l and ml?
How would I show how much water is left on the scale?

Varied Fluency

Use equipment and liquid to count in increments of 100 ml. Discuss what happens when you reach 1,000 ml. Explore other connections linked to this. For example, 2 l = 2,000 ml.

Complete the missing information.

The pot’s capacity is ____ l and ____ ml

The barrel’s capacity is ____ l and ____ ml

The capacity of the full fish bowl is 8 l and 750 ml.
Hannah pours 5 l of water out of the bowl.
Show how much water is left in the measuring jugs.
Amir and Alex work out the capacity of the pot by filling it with water, then pouring the water into the measuring cylinders.

Alex is correct because there are 2 full litres and 300 millilitres in the third cylinder.

Who do you agree with? Explain why.

True or False?

The tallest container has the largest capacity.

Use containers to decide whether the statement is true or false.

Record the capacity of the different containers in a table.

Children will collect different measurements of capacities from different containers. Children will hopefully find that as well as height, the capacity of the container also depends on its width.
Complete the sentences.

☐ cans of pop are equal to ☐ jug of orange juice.

1 can of pop is equal to ☐ jug of orange juice.

Use <, > or = to compare the volume of liquid in each pair of containers.

Which container is the most full?
Which container is the least full?

Which has the most liquid in it?
What does the liquid measure?

Which has the least liquid in it?
What does the liquid measure?

Whitney has 3 bottles of water with 500 ml in each. Sophie has one bottle of water with 1 and a half litres in it. Who has the most water? Can you prove it?
Rosie has a litre bottle of water.

She pours a drink for herself and two friends. Their glasses can hold up to 250 ml.

Teddy has more than Amir. Rosie has the most.

How much could each child have in their glass?

How much would be left in the bottle?

There are a range of possible answers the children could find. Rosie should have the most and Amir should have the least. The total should not exceed 750 ml.

Possible answer:

Rosie: 250 ml
Teddy: 200 ml
Amir: 150 ml

There is 400 ml left in the bottle.

Eva is not correct. The measurements show that container 1 has 700 ml in it whereas container 2 has 750 ml in.

Container 1

Container 2

Is Eva correct? Explain your answer.

I know container 1 has more than container 2 in it because the water goes further up the side.

Container 2 is wider than container 1 which is why it looks like it has less in it.
Block 3 – Mass, Capacity and Temperature

Theme 6 - Add and subtract capacity
Add & Subtract Capacity

Notes and Guidance

Children add and subtract volumes and capacities. They can apply their understanding of different methods such as column addition/subtraction, finding the difference etc. Children should choose the correct method depending on the context of the problem. They continue to use mixed measures. Children may use concrete resources to represent litres and millilitres. Children could also use bar models to represent calculations.

Mathematical Talk

How many millitres are in one litre? How could I show this using concrete resources?

How many litres are there in total?
How many millilitres are there in total?

What methods can we use to add volumes or capacities?
What methods can we use to subtract volumes or capacities?

Varied Fluency

Teddy uses Base Ten and a place value chart to add 3 l and 500 ml and 3 l and 300 ml
Use the same approach to calculate:
• 4 l and 600 ml + 2 l and 100 ml
• 7 l and 320 ml + 1 l and 125 ml
• 3 l and 950 ml − 3 l and 50 ml
• 800 ml − 375 ml

To make Summer Punch for 2 people:
• 300 ml of pineapple juice
• 250 ml of orange juice
• 500 ml of lemonade

• How much liquid is used in total to make Summer Punch for 2 people?
• How much orange juice would be need to make enough for 4 people?
• Would a 1 l bottle of lemonade be enough to make drinks for 6 people?

Rosie keeps a record of how much milk she has in her café. Work out how much milk is used for each order.

<table>
<thead>
<tr>
<th>Amount of milk to start</th>
<th>Amount of milk used</th>
<th>Amount of milk left</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 l and 430 ml</td>
<td></td>
<td>1 l and 100 ml</td>
</tr>
<tr>
<td>1 l and 100 ml</td>
<td></td>
<td>890 ml</td>
</tr>
<tr>
<td>890 ml</td>
<td></td>
<td>545 ml</td>
</tr>
</tbody>
</table>
Tommy is pouring drinks using these jugs. A drink is 125 ml.

Is Tommy correct? If not, how much juice will be left in jug 2?

Tommy is not correct. If Tommy makes three more drinks he will use a further 375 ml of juice. 1 l – 375 ml = 625 ml

Here are some measuring cylinders. The total liquid in all three cylinders is 400 ml.

Cylinder A has half of the total amount in it.

Cylinder B has 67 ml less than Cylinder A.

Cylinder B has 67 ml.

How much liquid does each cylinder contain?

A: 200 ml
B: 133 ml
C: 67 ml
Theme 7 - Temperature
Children are introduced to temperature, thermometers and the units ‘degrees Centigrade’, written °C for the first time. They learn that the temperature is higher when it is warmer.

They apply their counting in 2s, 5s and 10s skills when reading different scales on thermometers.

What unit can we use to measure temperature?
What is the scale going up in? How do you know?
If the temperature increases what happens to the number on the scale?
If the temperature decreases what happens to the number on the scale?
Can we compare temperatures using vocabulary such as increased, decreased, warmer, colder and difference?

Take temperatures around the school and complete the following stem sentences:
The temperature in the classroom is _______.
The classroom is _______ than the playground.
The difference in temperature between the _______ and the _______ is ___ degrees Celsius.

Complete the thermometers to show the temperatures.

Compare the temperatures using <, > or =
Mollie took the temperature at 12 p.m. and again at 5 p.m. 
There was a difference of 7°C 
What could the temperatures be?

Children may give any temperatures that have a difference of 7

Some children may realise that it is usually cooler in the evening and therefore make sure the 12pm temperature is always warmer than the 5pm temperature.

What is the same and what is different about the thermometers/temperatures?

Both thermometers are showing 30°C

The scale on the first thermometer counts up in 5°C. The scale on the second thermometer counts up in 10°C

The second thermometer will be able to record higher temperatures.