Spring 2 Year 1

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Links to prior learning/ objectives:	Resources	Vocabulary:
Children will have learned to read and recognise numbers to 10 and 20. Counting with accuracy, forwards and backwards, using a range of strategies: one to one correspondence; counting out and counting all, counting on and building through ten. Number bonds to 10 and 20. Finding one more, one less. Addition and subtraction with numbers up to 10 and 20. Representing amounts up to 10 /20 and problems with concrete objects and pictorially. Basic understanding of vocabulary associated to measure. Skills of comparison- this one is larger/ more / greater than.	Base10, numicon, number lines, number tiles, counting objects, bead strings, balance scales (for number bonds to 10), tens frames, two-sided counters, measuring equipment, objects/items to measure and compare. **Mastery:** (where to find some resources) • Teaching for Mastery • White Rose New and old documents • Mastery maths stickers • Nrich (curriculum mapping)	Forwards, backwards, read, write, interpret, represent, statements, number sentence, calculation. Number bond, add, subtract, addition, subtraction, one digit, two digit, zero, Number bonds, add, subtract, addition, subtraction, read, write, interpret, represent, statements, number sentence, calculation, digit, numeral, number, pictorial representation, missing number. ***Length*** Length, width, height, depth Long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest Low, wide, narrow, deep, shallow, thick, thin Far, near, close Metre, ruler, metre stick ***Weight*** Weigh, weighs, balances Heavy, heavier, heaviest, light, lighter, lightest Scales ***Capacity/volume*** Holds Container Full, half full, empty

Objectives and Teaching

Week 1 **Barriers to ARE (misconceptions):**	Count to fifty, forwards and backwards, beginning with 0 or 1, or from any given number.
Children may not have a secure understanding of what a number is. Understanding of teens numbers/ counting past ten.	• To know how to count forwards and backwards up to and including 50. • To understand place value in numbers up to 50. • To develop the skill of identifying tens and ones in two digit numbers.

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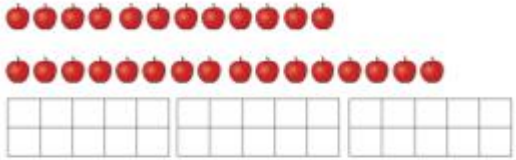
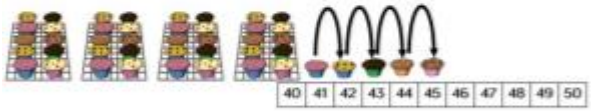
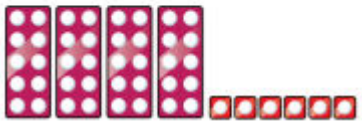
Accuracy with counting with larger numerals. Phonic knowledge- hearing and saying each numeral correctly.	• To develop the skill of representing numbers up to 50. • To know how to find one more and one less than a given number up to 50. (This may need separating into two lessons)	
Fluency Use ten frames and counters to show how many apples Joe has.  How many muffins are there?  40 41 42 43 44 45 46 47 48 49 50 Use a number track to (a) count back from 46 to 38 (b) count forwards from 35 to 49 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	**Problem Solving** How many different ways can you represent one more than and one less than this number?  Choose the correct numbers to make the sentences correct. 28 26 33 45 36 43 35 49 ☐ is one less than 27 34 is one less than ☐ ☐ is one more than 44 50 is one more than ☐	**Reasoning** Sasha is counting from 38 to 24 Will she say the number 19? Explain how you know. Mo says,  There are 25 counters.  Do you agree with Mo? Explain your answer.
Week 2 **Barriers to ARE (misconceptions):** Children may not have a secure understanding of what a number is. Understanding of teens numbers/ counting past ten. Accuracy with counting with larger numerals.	Count to fifty, forwards and backwards, beginning with 0 or 1, or from any given number. • To develop the skill of comparing objects within 50. • To develop the skill of comparing numbers within 50. • To develop the skill of ordering numbers within 50.	

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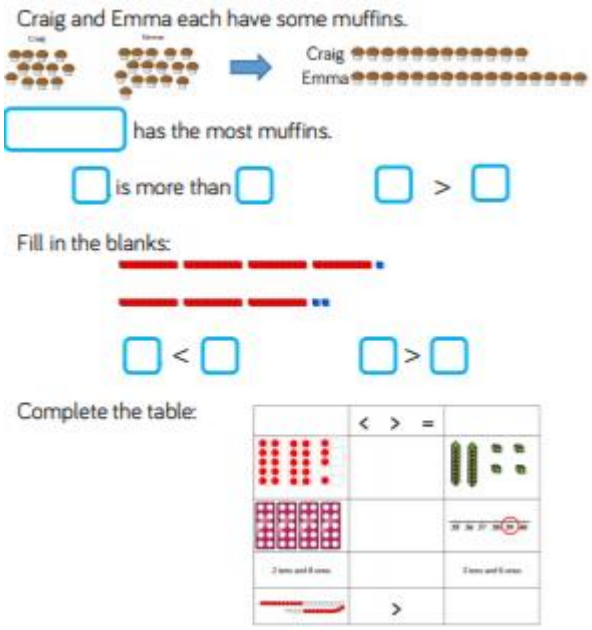
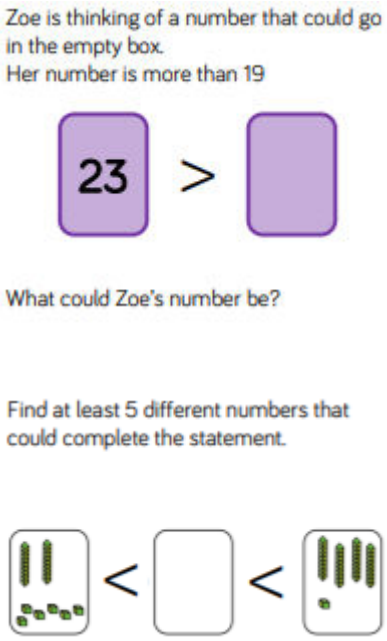
Phonic knowledge- hearing and saying each numeral correctly.	(Counting in 2s, 5s and 10s to 50) Count, read and write numbers to 20 in numerals and words. • To develop the skill of writing numbers (to 20) in numerals and words.

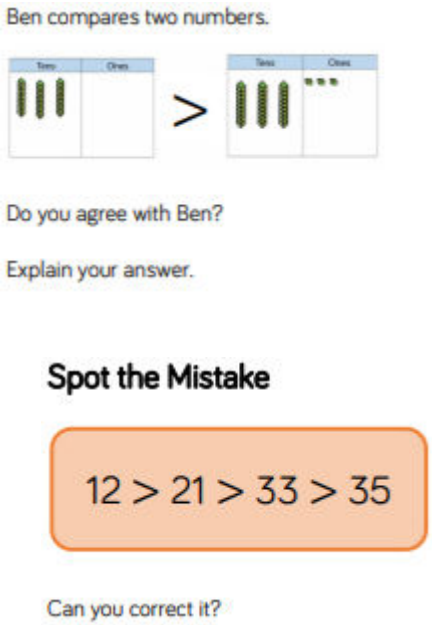
Fluency



Problem Solving



Reasoning



Week 3 **Barriers to ARE (misconceptions):** Children may not have a clear understanding of combining numbers to make a larger number. Children may not have a strong understanding of number bonds to 10/20.	Represent and use number bonds and related subtraction facts within 20. • To know how to find and make number bonds to 20. • To develop the skill of making number bonds to 20. • To know how to create and use fact families for number bonds to 20. Add and subtract one digit and two digit numbers to 20, including zero.

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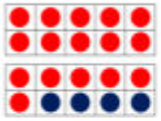
Children may struggle to see the relationship between the two. Children may mistake the symbols and use them inaccurately when writing mathematical statements. Children may make inaccuracies when counting each part or the whole. Know the meaning of add or subtract. Understanding of the relationship between addition and subtraction. Children may presume that = refers to an answer as opposed to an equal amount on both sides.	• To develop the skill of adding by counting on. • To know how to add by making 10.

Fluency

What number bond is represented in the picture?

There are ___ red counters.
There are ___ blue counters.
Altogether there are ___ counters.
___ + ___ = ___ ___ + ___ = ___



There are ___ red counters.
There are ___ blue counters.
Altogether there are ___ counters.
___ + ___ = ___
___ + ___ = ___

Describe the number bond shown.

___ and ___ make ___
___ is made of ___ and ___
___ + ___ = ___ ___ + ___ = ___
___ − ___ = ___ ___ − ___ = ___

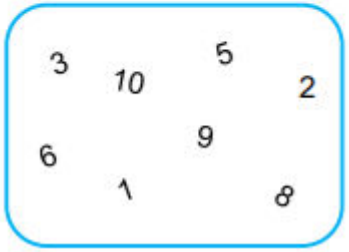
Use this to describe this number bond.
___ and ___ make ___
___ is made of ___ and ___
___ + ___ = ___ ___ + ___ = ___
___ − ___ = ___ ___ − ___ = ___

Problem Solving

Ralph is thinking of the number 11

Which number does he choose out of the box to make:

- 14
- 19
- 12



Reasoning

Sam represents a number bond to 20 in the part whole model.

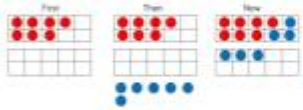
Can you spot his mistake?

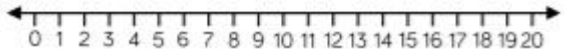
True or false?

There are double the amount of numbers bonds to 20 than there are number bonds to 10

Prove it!

<table>
<tr>
<td>Complete the sentences.
 
First there were ___ turtles.
Then ___ more joined the group.
Now there are ___ turtles.

Use ten frames to help you fill in the missing numbers.
 
First there were ___.
Then ___ more were added.
Now there is ___.

Jo has 13 prize tokens.
She wins 5 more.
How many prize tokens does Jo have now?
Show your calculation on the number line.
 
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><u>Week 4</u>
<u>Barriers to ARE (misconceptions):</u>
Children may presume that = refers to an answer as opposed to an equal amount on both sides.
Children may mistake the symbols and use them inaccurately when writing mathematical statements.
Children may make inaccuracies when counting each part or the whole.
Know the meaning of add or subtract.
Understanding of the relationship between addition and subtraction.
Children may presume that = refers to an answer as opposed to an equal amount on both sides.</td>
<td>Add and subtract one digit and two digit numbers to 20, including zero.
Read, write and interpret mathematical statements involving addition (+), subtractions (-) and equals (=) signs.

• To know how to subtract.
• To know how to subtract when crossing 10.
• To know how to create and use fact families for numbers within 20.
To know how to compare number sentences within 20.

Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9
• To know how to solve problems involving addition and subtraction.</td>
<td></td>
</tr>
</table>

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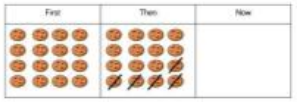
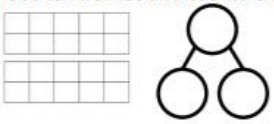
Children may make calculation errors.
May struggle to interpret the word problems.
May struggle to represent the problem with concrete objects or their own pictorial representations.
Understanding of the parts and whole in relation to an addition and subtraction number sentence.

Fluency

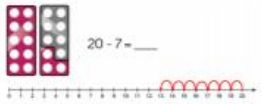
There were 16 biscuits on a plate and Finn ate 5 of them.
Complete the sentences.
First there were ___ biscuits.
Then ___ were eaten.
Now there are ___ biscuits.
16 – 5 = ___



First there were 18 sheep. Four of them ran away.
How many sheep are left?
Use ten frames and counters to represent the sheep.



Use the number pieces and the number line to complete the number sentences.

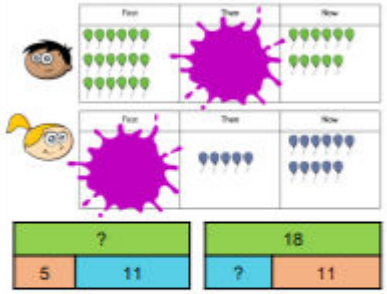


Use this method to calculate:

- 20 – 8
- 18 – 6
- 19 – 4

Problem Solving

Kate and Stephen have some balloons.
Some of their balloons fly away.



Who had more balloons at the start?
Who lost more balloons?
Explain why.

Use the images and the bar model to help you.

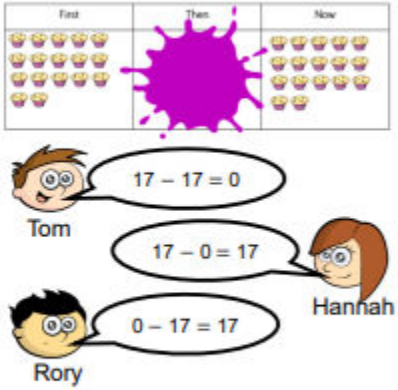
Use <, > or = to make the statements correct.

17 – 5 ◯ 12 – 5
14 – 4 ◯ 18 – 8
11 – 7 ◯ 11 – 4

Explain how you know.

Reasoning

Tom, Hannah and Rory are working out which calculation is represented below.



Can you work out who is correct?
Explain why.

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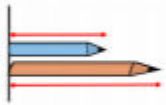
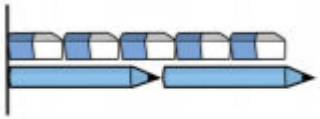
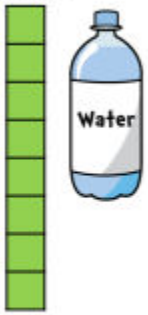
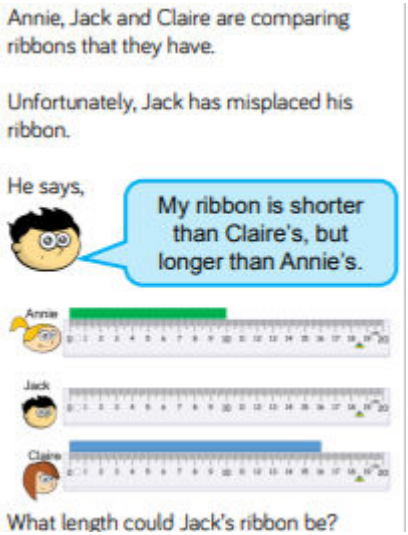
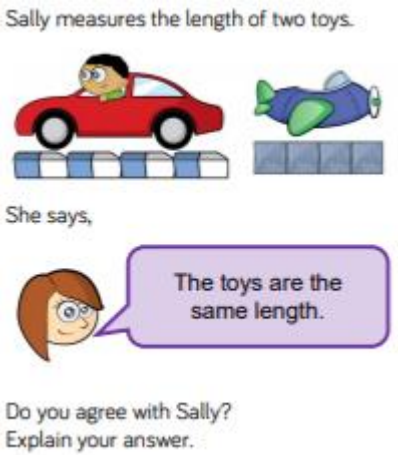
Week 5 **Barriers to ARE (misconceptions):** Children may not understand the language associated with measure. They may not recognise that different objects/things can be measured in different ways and using different language. Children may struggle with the concept of half/ quarter/ full and confuse them. Children may struggle compare items at a glance.	Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than] lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] Measure and begin to record the following: lengths and height; mass/weight; capacity and volume. • To know how to compare lengths. • To know how to compare heights. • To know how to measure length using non-standard units. • To know how to measure length using standard units.	
Fluency Use the words **taller** and **shorter** in the sentence stems to compare the height of the man and the boy.  The man is _____ than the boy. The boy is _____ than the man. Use the words **longer** and **smaller** in the sentence stems to compare the length of the blue pencil and the orange pencil.  The blue pencil is _____ than the orange pencil. The orange pencil is _____ than the blue pencil. Choose the correct work from the word bank to create your own sentence to compare the height of the two houses.  longer taller higher long equal smaller shorter small same	**Problem Solving** How many sentences can you write to compare the erasers and the pencils?  Using classroom equipment, can you find an object which is longer than your rubber but shorter than your pencil? Can you find a friend who is shorter than you but taller than your other friend?	**Reasoning** **True or false?**  The water bottle is 8 cubes tall. Explain your answer.

		
Week 6 **Barriers to ARE (misconceptions):** Children may not understand the language associated with measure. They may not recognise that different objects/things can be measured in different ways and using different language. Children may struggle with the concept of half/ quarter/ full and confuse them. Children may struggle compare items at a glance.	Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than] lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] Measure and begin to record the following: lengths and height; mass/weight; capacity and volume. • To understand that an object can be measured by its mass. • To know how to measure mass using non-standard units. • To know how to compare mass.	

Fluency

Using balance scales, compare and model how objects around school can be heavier or lighter than others.

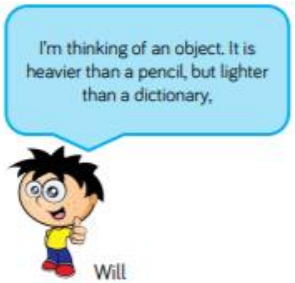
Which object is heavier? Which object is lighter?
The ☐ is heavier/lighter than the ☐.

Fill in the missing gaps to make the sentences correct.

The ☐ is heavier than the ☐.
The ☐ is lighter than the ☐.
The ☐ is equal to the ☐.

Collect different objects from around your classroom. Use a balance scale to find the heaviest object.
Can you find 2 objects that are equal in mass?

Problem Solving



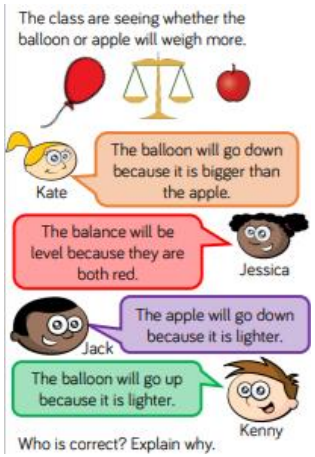
What object could Will be thinking of?
Prove it.
How many objects can you think of?

How many sentences can you write about the banana and the apple?

Can you match the clue to the images?
- My object weighs more than the car.
- My object is less than 5 cubes.
- My object is not the heaviest or the lightest.

Reason ing

The class are seeing whether the balloon or apple will weigh more.



Who is correct? Explain why.

Look at the balance scales below.

Which statements are true?
- The toy car is heavier than the van.
- The van is heavier than the car.
- The car is lighter than the van.
- The van is lighter than the car.
- The car and van weigh the same amount.

Can you make your own version for your partner?

Week 7

Barriers to ARE (misconceptions):
Children may not understand the language associated with measure.

Compare, describe and solve practical problems for:
mass/weight [for example, heavy/light, heavier than, lighter than] lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
Measure and begin to record the following: lengths and height; mass/weight; capacity and volume.

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They may not recognise that different objects/things can be measured in different ways and using different language.
Children may struggle with the concept of half/ quarter/ full and confuse them.
Children may struggle compare items at a glance.

- To understand capacity.
- To know how to measure capacity using non-standard units.
- To know how to compare capacity.

Fluency

Use different containers filled with liquid or rice. Use the words and sentence stems to describe the volume and capacity.

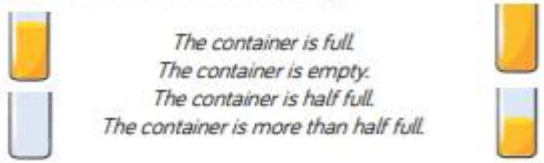
full | empty | greater | less

The container is _____.
The amount of liquid in container 1 is _____ than the amount of liquid in container 2

Using a container and rice, show me:

- A full container
- An empty container
- A half full container
- A nearly full container
- A nearly empty container
- More than half full container

Match the sentence to the correct image.



The container is full.
The container is empty.
The container is half full.
The container is more than half full.

Problem Solving

Match the statement to the correct bottle.

- The volume of orange is 0 cups.
- The volume of orange is the same as the capacity of the bottle.
- The volume of orange is about 2 cups.
- The volume of orange is more than 2 cups.

Reasoning

Always, Sometimes. Never

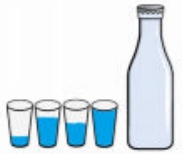
The tallest container holds the most liquid.

Identical containers can have a different capacity.

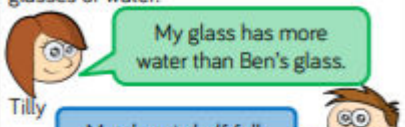
Mary has a full bottle of orange. She fills another container with the orange.

Which has a larger capacity - the bottle or the container? Explain how you know?

Milly measures the capacity of the bottle. She says the bottle has a capacity of four cups. Do you agree?



Tilly, Ben and Mo are describing their glasses of water.



Can you fill in how much water could be in each of the children's glasses?

Label each glass using 'full', 'empty', 'nearly', 'half full' or 'quarter full'