Spring 1 Year 1

L.E.A.D. Academy Trust
Lead • Empower • Achieve • Drive

Links to prior learning/ objectives

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 time language- morning, afternoon, earlier, later etc.
Basic understanding of sequencing of events.
Heard regular routine times mentioned.

Resources

Base10, numicon, number lines, number tiles, counting objects, bead strings, balance scales (for number bonds to 10), tens frames, two-sided counters, clocks, visual timetable.

Mastery:

(where to find some resources)

- Teaching for Mastery
- White Rose **New and old documents**
- Mastery maths stickers
- Nrich (curriculum mapping)

Vocabulary:

Number bonds, add, subtract, addition, subtraction, read, write, interpret, represent, statements, number sentence, calculation. digit, numeral, number, pictorial representation, missing number.
Days of the week: Monday, Tuesday, etc.
Seasons: spring, summer, autumn, winter
Day, week, month, year, weekend
Birthday, holiday
Morning, afternoon, evening, night, midnight
Bedtime, dinnertime, playtime
Today, yesterday, tomorrow
Before, after
Next, last
Now, soon, early, late
Quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly
Old, older, oldest, new, newer, newest
Takes longer, takes less time
Hour, o'clock, half past, minute
Clock, watch, hands
How long ago?, how long will it be to…?, how long will it take to…?, how often?
Always, never, often, sometimes, usually
Once, twice
First, second, third, etc

Objectives and Teaching

Week 1

Barriers to ARE (misconceptions)

Children may not have a clear understanding of combining numbers to make a larger number.
Children may not have a secure understanding of what 10/20 is.
Understanding of teens numbers/ counting past ten.
Children may not have a strong understanding of number bonds to 10/20.
Children may struggle to see the relationship between the two.
Children may mistake the symbols and use them inaccurately when writing mathematical statements.

Represent and use number bonds and related subtraction facts within 20.

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 represent number bonds and related subtraction facts within 20
- To know to use number bonds and related subtraction facts within 20
- To develop the skill of adding one digit and two digit numbers to 20
- To develop the skill of subtracting one and two digit numbers to 20.
- To know how to read, write and interpret number sentences.

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Children may make inaccuracies when counting each part or the whole.
Know the meaning of add or subtract.

Fluency

Fill in the missing numbers:

□ + 11 = 20

18 + □ = 20

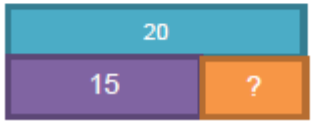
20 - □ = 12

- Fill in the missing bonds:

Can you make a diagram linking 17 and 20? What would the missing bond be?

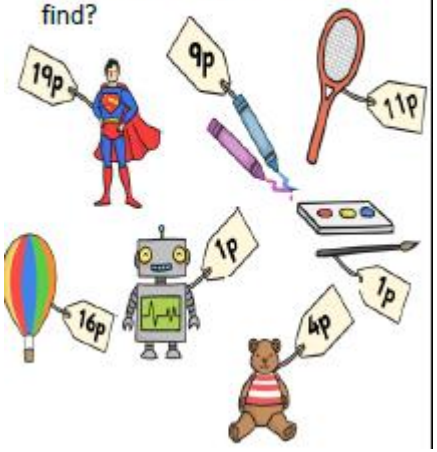
Can you make a diagram linking 17 and 20? What would the missing bond be?

- Use the bar model to write 4 number sentences. 2 additions and 2 subtractions.



Problem Solving

- I have 20p to spend, choose 2 toys that you can buy for exactly 20p. How many pairs can you find?



Find the number bonds to 20 in the word search. They must have a + sign in between the numbers.

1	+	19	6	+	6	2	14
2	16	+	4	0	5	+	1
+	10	+	10	+	6	3	+
3	13	+	7	20	2	+	18
15	+	18	3	+	17	6	8
+	5	+	3	2	+	20	12
5	+	2	8	+	3	+	+
5	+	19	+	1	4	0	8

Reasoning

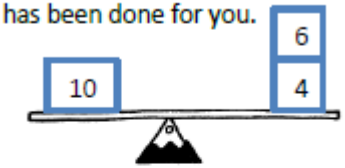
- Fill in the missing numbers.
  11 + □ = 20
  20 - □ = 11

Can you make two more number sentences using the same three numbers?

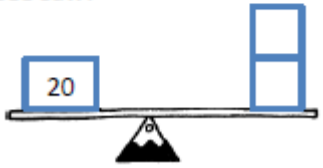
- Continue the pattern
  10 + 5=15
  9 + 6 =15

Can you make a similar pattern for 20?

- The see-saw must balance. One has been done for you.

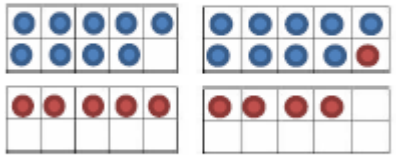


How many ways can you complete the see-saw?



- Use two ten frames to add numbers crossing 10.

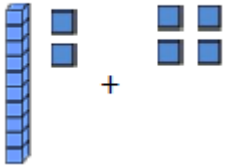
9 + 5 = 14



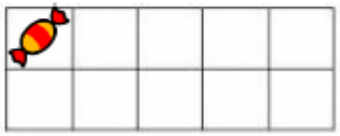
Repeat for other numbers.

6 + 5 = 6 + 7 =

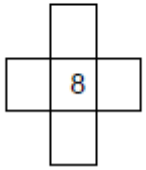
Complete the addition



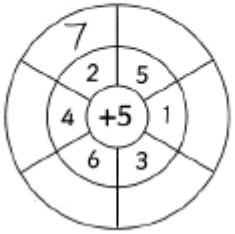
Together, Sam and Matt have 15 sweets.
Sam has 8 sweets.
How many does Matt have? Write a number sentence to show your working.
Use a ten frame to help you.



Fill in the blanks so each row and column adds up to 15. Can you use 4 different numbers? How many ways can you do it?



Add the centre number to all the numbers surrounding it to complete the outer ring.



Write a number story to describe the number sentence

6 + 8 = 14

Here is an example.

Jane has 6 balloons. Tom has 8 balloons.
Jane and Tom put their balloons together and have 14 balloons altogether.

Can you draw a picture for your number story?

- Complete the diagram. Can you extend it?

- What do you notice?

20 – 12 = 8
20 – 8 = 12

Can you make up some other number sentences like this using three numbers?

- 13 + 5 = 18

Can you make three other number sentences using the same three numbers?

Write the missing symbols in the following number sentences.

17 □ 3 □ 20

20 □ 5 □ 15

16 □ 20 □ 4

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Week 2

Barriers to ARE (misconceptions)

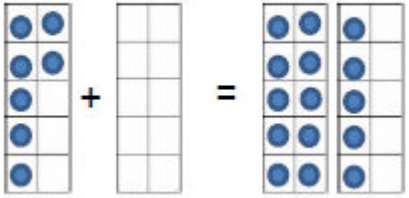
Understanding of the relationship between addition and subtraction.
Children may presume that = refers to an answer as opposed to an equal amount on both sides.
Children may make calculation errors.
May struggle to interpret the word problems.
May struggle to represent the problem with concrete objects or their own pictorial representations.
Understanding of the parts and whole in relation to an addition and subtraction number sentence.

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 one step addition problems
- To know how to solve one step subtraction problems
- To know how to select the correct method to solve a problem
- To know how to solve missing number problems

Fluency

- Complete the missing number.



- Dan has 12 cubes.
  He gives 6 to Amy.
  How many cubes does he have left?

Lila has 8 stickers.
Jack has 6 stickers.

How many stickers do they have altogether?

Problem Solving

Sam has some biscuits. He gives 3 to his dad. Now Sam has 13 biscuits.
How many did he have to start with?

Draw a picture to explain how you know.

- Complete the number sentence. Use cubes to help you solve the problem.

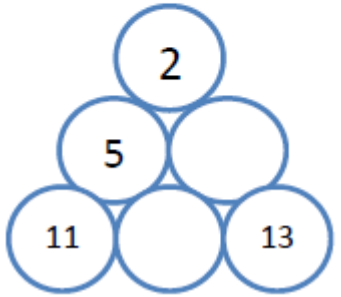
5	+	8	=	9	+	

- How many different ways can you complete the empty boxes?

5	+		=	12	-	

Reasoning

In the triangle, the number above two numbers is the difference between the numbers.
Eg 3 above 7 and 4
Find the missing numbers. Can you do it in more than one way?



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Week 3 Awareness of vocabulary associated with time. Understanding of the relationship between the different periods of time. Understanding of the vocabulary and accuracy when ordering events.	Recognise and use the language relating to dates, including days of the week, weeks, months and years. Sequence events in chronological order using language such as before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • To know the language relating to the days of the week • To know the language relating to months of the year • To know how to sequence events in chronological order using the correct language. • To develop the skill of reasoning with time language.

Fluency

Sort the activities into **before** and **after** school.

Can you think of one more activity for each group?
Can you sort the activities into three groups labelled **morning**, **afternoon** and **evening**?

Tim is drinking a bottle of orange juice.
Match the bottles to the words to order them.

finally | first | next

Describe a special day to a friend. Use the words; before, after, first, next, morning, afternoon and evening.

Reasoning

Mia is describing her day.

Mia

First, I went to the park.
After lunch, I went to the cinema.
Before the cinema, I went to a café for lunch.

Can you draw a picture and write key words, to order Mia's day?

First | Next | Then

Problem Solving

Draw pictures to show what could have happened before and after.

Before

After

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<table>
<tr>
<td>
Fill in the missing days of the week and complete the sentences.
Sunday

Tuesday
Wednesday

Saturday
• Today is Wednesday, yesterday was _____.
• Yesterday was Monday, today is _____.
• Today is Saturday, tomorrow is _____.
• Tomorrow is _____, today is Wednesday.

Use a calendar to look at the names of the months.
Discuss special dates in different children's lives e.g. birthdays, celebrations, holidays.
Complete the sentences.
My birthday is in _____
In _____, I went to _____
</td>
<td>
True or False?
• All the days of the week end with the letter y
• All the months of the year end with the letter y
Explain your answer.
</td>
<td>
The 7th of March 2018 is a Wednesday.
What day is the 10th of March 2018?

Sort the days of the week into school days or non-school days.
Sunday Monday Tuesday
Wednesday Thursday Friday
Saturday
At School
Not at School
</td>
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<td>Week 4
Understanding the concept of time in relation to the vocabulary.
Mixing up the vocabulary.
Memory of the order of events.</td>
<td colspan="2">Compare, describe and solve practical problems for time- quicker, slower, earlier, later- and measure and begin to record time- hours, minutes, seconds.
• To know how to compare and describe time
• To develop the skill of solving time problems
• To develop the skill of measuring and recording time in hours, minutes and seconds.</td>
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<tr>
<td>Fluency</td>
<td>Reasoning</td>
<td>Problem Solving</td>
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Using a stopwatch, record how many times you can do the following activities in 20 seconds.

- Star jumps
- Write your name
- Build a tower of cubes (how many cubes high?

Can you think of other activities you could complete in 20 seconds?

Would you measure the duration of the activities in seconds, minutes or hours? Sort the activities into three groups: seconds, minutes and hours

Brushing teeth	Reading a book	Saying the alphabet
Aeroplane flight	Playing outside	Sleeping at night

Complete the sentences using seconds, minutes or hours.

- Playtime is about 20 _____ long.
- The school day is about 7 _____ long.

Jack, Tariq and Ellie are running a race. Here are their times.

 Jack 52 seconds  Tariq 58 seconds  Ellie 48 seconds

Use **faster** and **slower** to complete the sentences.

Jack is _____ than Tariq.
Jack is _____ than Ellie.
Ellie is _____ than Tariq.

Can you write any more sentences to describe the race using the vocabulary slower and faster?

Three aeroplanes are flying to Paris in the morning.
Here are the times they arrive.

A  B  C 

Use **earlier** and **later** to complete the sentences.

Plane A is _____ than Plane B.
Plane B is _____ than Plane C.
Plane C is _____ than Plane A.

Complete the sentences using <, > or =

1 minute ◯ 1 hour 30 seconds ◯ 3 hours
23 minutes ◯ 42 minutes

Are the units of time chosen sensible?

- A football match measured in seconds.
- A lap around the school playground measured in minutes.
- A car journey from Edinburgh to London measured in hours.

Explain your answers.

Work in small groups.
Complete the following activities and record how long it takes each group member.

- Build a tower of ten bricks.
- Run a lap of the playground..
- Write your name five times.

Write three sentences about each activity using the words **slower** and **faster.**

Kyra has a clock without an hour hand.

She says;

I can measure how long it takes someone to run around the playground 10 times using my clock.

Do you agree with Kyra?
Explain your answer.

Jemima is having a party.
Five of her friends are coming to the party.
Use the clues to work out when her friends arrived.

Sam arrived later than Ben and Lily.
Kit arrived later than Sam but earlier than Pippa.
Lily arrived the earliest.

1st
2nd
3rd
4th
5th

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Week 5 Understand what a clock represents. Recognition of what each hand represents. Understanding half and whole. Understanding of the links between units of time. Recognising when the time is showing past the hour and to the next hour.	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. • To know how to tell the time to the hour • To know how to tell the time to half past the hour • To know how to draw o'clock and half past times • To develop the skill of solving problems with telling the time • To develop the skill of reasoning with time

Fluency

Match the times to the clocks.

9 o'clock

Two o'clock

5 o'clock

Complete the times.

The time is ___ o'clock

The time is ___ o'clock

Draw the hour hand and minute hand on clock faces to show the times:

Eight o'clock 1 o'clock Twelve o'clock

Problem Solving

It is 11 o'clock so both hands should be pointing at 11

Holly

Is Holly correct?
Explain your reasoning.

The time is 6 past 1

Amy

Can you spot Amy's mistake?

Reasoning

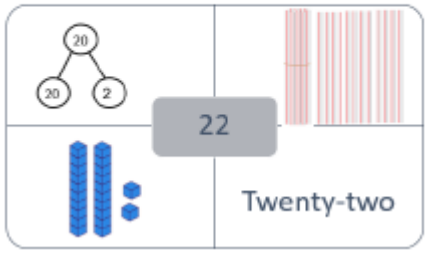
The time is 3 o'clock.

Jay

Can you spot Jay's mistake?

Match the times to the clocks.  Half past nine  Half past 2  Half past three Complete the times.  The time is half past __  The time is half past __ Draw the hour hand and minute hand on clock faces to show the times: Half past 1 Half past four Half past 6		Read the instructions and draw the hands on the clock. • The minute hand is pointing at the six. • The hour hand is half way between 10 and 11  What time is it?
Week 6 Children not being able to read and recognise numbers to 20. Children being able to read the digit but not understand the meaning of each. Number reversal- especially 5,3, 7,9. Children's handwriting limiting the legibility of writing words. Children's phonics ability. Children being secure enough with the number names to count backwards. Children may not have used a number line before and will require it to be represented in concrete and pictorial forms. Children may not know the language of more, less and equal.	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least. Given a number, identify one more and one less Recognise the place value of each digit in a two-digit number. • To know how to identify and represent numbers using objects and pictures • To know how to represent numbers on a number line • To develop the skill of using language of equal to, more than, less than (fewer), most, least	
Fluency	**Problem Solving**	**Reasoning**

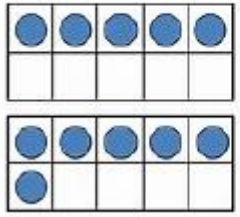
How many ways can you represent 22 using drawings and different resources?
e.g.



Using Base 10, show me:

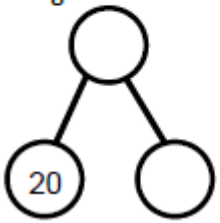
a) 38
b) a number smaller than 25
c) a number with 1 ten and 6 ones in it

- What's the same and what's different about the ten frame below?



- Complete the more and less boxes below:

Look at the part-whole model. Make all the part-whole models you can from these facts you have been given.



- Stars are worth 1. Triangles are worth 10.
  How many ways can you represent 20? Will there be more ways for 40? How do you know?

Using the same information, as above, can you work out what the circle is worth?

Sarah has £1 more than Katie. Brian has £1 less than Katie. Sarah has £22. How much money do Katie and Brian have?

Can you create a story, including drawings, for the number sentence below?
17 + 9 =

Jamie had some teddy bears. He said if I had another equal set of teddy bears I would have 20. Is he right? Explain why.

- Tim says that he can make the number 32. Explain if he is correct. How many more counters does he need?
  Which numbers can he make using four counters?

Tens	Ones

	A bag is full of digit cards from 1 - 40. Michelle pulls out a card and says "The difference between the digits is 1." What card could she have pulled out? Is this the only option?	Calvin is finding 1 more and 1 less of a number. Here are some numbers he has found: 21,22,23 34,35,36 17,18,19 Calvin says, "No matter what number I pick the tens will stay the same. It is only the ones that change." Is he right? Explain why. True or false? 1 more than 10 is the same as 1 less than 30.