Spring 1 Year 2

L.E.A.D. Academy Trust
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Links to prior learning/ objectives	Resources	Vocabulary:
~ read and recognise and write numbers to 20 and know numbers to 100. ~ Counting in multiples of 2, 5 and 10. ~ Multiplication facts with 2s, 5s ad 10s. ~ Recognising odd and even numbers. ~Addition and subtraction skills- base ten, tens frames, number lines, physical objects. ~ Word problems linked to addition and subtraction. ~ Awareness of greater than, less than and equal to symbols. ~ Recognition of coins and understanding of their value. ~ Basic understanding of mass, length, capacity, temperature.	Base10, number lines, counting objects/ forming them into arrays, bead strings, tens frames, two-sided counters, Part-Part-Whole diagrams/ bar models. Money, measuring equipment (scales, rulers, tape measure, measuring jugs). **Mastery:** (where to find some resources) • Teaching for Mastery • White Rose **New and old documents** • Mastery maths stickers • Nrich (curriculum mapping)	Standard units, unit, measure, metres, centimetres, millimetres, litres, millilitres, kilograms, grams, degrees, Greater than, less than, equal to, more, less, fewer. Compare, order, length, mass, volume, capacity. Addition, subtraction, add, subtract, units of measure, problems, interpret, number sentence, calculate, altogether, total, more, less, difference. Pounds, pence, money, total, altogether, change, left, add, subtract, addition, subtraction, combine, equal, different.

Objectives and Teaching

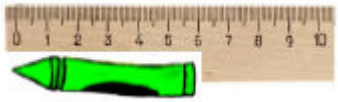
Week 1

Barriers to ARE (misconceptions)

Recognising the relationship between given units of measure.
Confusion between which unit of measure is greater/smaller.
Difficulties with reading a scale on measuring.

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

- To understand the most appropriate standard unit to estimate and measure length /height in any direction (m/cm)
- To understand the most appropriate standard unit to estimate and measure mass (k/ kg)
- To understand the most appropriate standard unit to estimate and measure temperature (degrees C)
- To understand the most appropriate standard unit to estimate and measure capacity in litres/ml

Fluency	Problem Solving	Reasoning
• How long is the car? 		

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- How tall is the teddy bear?

How much do the cubes weigh?

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Choose 5 objects from around the classroom.
Estimate how long they are.
Then measure them, choosing the most appropriate equipment and unit.
How close was your estimate?

Always, sometimes, never
The bigger the box, the heavier it is.
Get five boxes that each have a different amount of sand in them, some tall, some long, some small.
Work out which the children think is the biggest (they can measure with a ruler).
Children then can choose how they work out the answer through weighing.

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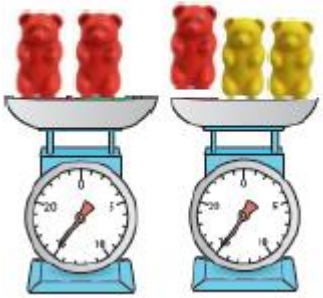
Which is heavier the red or the yellow bear? Explain your reasoning.

- Can you use the ruler below to measure an item that is longer than 10cm? Explain your answer.

- How much do the 2 red bears weigh?



Decide which item to use to measure the following items.

- The length of the hall.
- The width of the table.
- The weight of a book.

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Week 2

Barriers to ARE (misconceptions)

Children may struggle to understand the place value of each digit within a number.
Children may find it difficult to work with the numbers when they are linked to a unit of measure.
Children may use the equality symbols incorrectly.

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Compare and order lengths, mass, volume/capacity and record the results using >, < and =

- To know how to compare and order length
- To know how to compare and order mass
- To know how to compare and order capacity

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<tr>
<td>Fluency</td>
<td>Problem Solving</td>
<td>Reasoning</td>
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- Fill in the boxes using <, >

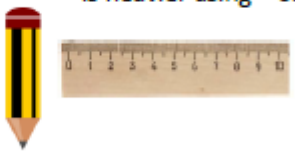
12m ☐ 17m

Table length ☐ Chair height

3kg ☐ 7kg

Order the lengths below from shortest to longest:
12cm, 25cm, 20cm, 15cm

Weigh the items below, write a number sentence showing which is heavier using < or >.



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<td>

Four students measured their heights. Lucy was taller than Katie, but not as tall as Tim. Gary was taller than Tim. Write down their names in order of their heights, from shortest to tallest.

- Hannah is weighing three bags.

The green bag is heavier than the pink bag.
The orange bag is lighter than the pink bag.
Order the bags from heaviest to lightest.
If the pink bag weighs 7kg, what could the other bags weigh?

</td>
<td>

- **True or False?**

24cm < 36cm
45cm > 46cm
31m > 30m

Explain your reasoning.

Helen says 'I think the bigger something is, the heavier it is' Do you agree? Use objects in your classroom to prove your answer.

- How long is the pen?

How much shorter is the pencil?
Show me.

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<td>Week 3
Barriers to ARE (misconceptions)
Children might not understand the relationship between addition and subtraction.
Children might not know an efficient strategy (both metal and written) for addition and subtraction.
Children might not understand the importance of place value whilst adding and subtracting multi-digit numbers.
Children might not know the vocabulary associated with addition and subtraction.</td>
<td colspan="2">Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures
• To know how to solve problems using addition using concrete resources
• To know how to solve problems using subtraction using concrete resources
• To know how to solve problems using addition using pictorial representations
• To know how to solve problems using subtraction using pictorial representations.</td>
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<tr>
<td>Fluency</td>
<td>Problem Solving</td>
<td>Reasoning</td>
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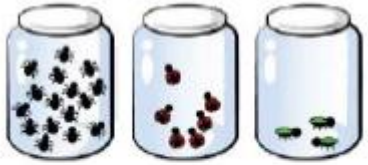
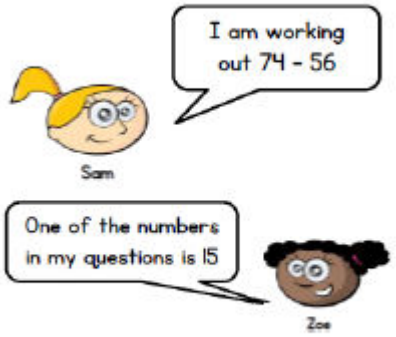
The length of the school hall is 21 metres. Tilly runs from one end to the other and then back again. How far has she run? There are 32 children in Class 2. 17 are girls. How many are boys?	• Yasmin has 3 jars of bugs.  There are 7 more bugs in the first jar than the second. There are 3 less bugs in the third jar than the second. There are 40 bugs in total. How many bugs are in the first jar? Aron has some balloons. Fiona has 12 more balloons than Aron. In total they have 40 balloons. How many balloons has Fiona got? 	• Sam and Zoe are working out some subtractions.  Sam's answer is double Zoe's answer. What could Zoe's question be? • Always, sometimes, never. odd number + odd number + odd number = even number Use number cards to make numbers to test out if this statement is true.
Week 4 Barriers to ARE (misconceptions) Children may not know the value of a coin. Children may make mistakes when calculating. Children may struggle to calculate when money is associated to the numbers. Children may struggle to use their knowledge of counting in 2s,5s and 10s. Children may struggle to apply their knowledge of counting in 2s,5s and 10s to combine when asked to find the total of given coins e.g 3 2p coins, 5 10p coins and 2 5p coins. 3x2=6, 5 x 10 = 50 and 2 x 5 = 10 so 6 + 50 + 10 = 66p.	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value To know how to count money in pence To know how to count money in pounds To know how to count money in pence and pounds To develop the skill of counting totals To develop the skill of combining amounts to make a total	

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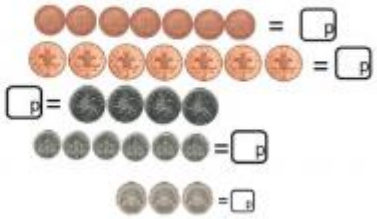
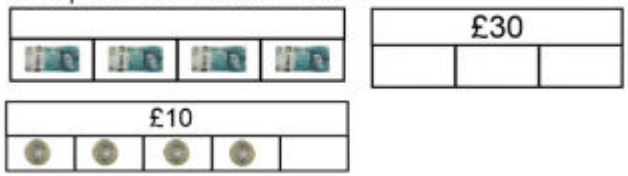
Fluency

Count the money.



Use <, > or = to compare the coins.

Complete the bar models.



Problem Solving

Jamie selects four of these coins.

He can use the coins more than once.

What total could he make?

What is the lowest total?

What is the greatest total?

Reasoning

Dan thinks he has £13.

Is he correct?

Explain why.

Mo has the following coins.

He thinks he has 51p.

Explain his mistake.

How much money is there altogether?

There is £____ and ____p.

Complete the missing boxes

- £10 + £5 + 50p = £____ and ____p
- £20 + £2 + 10p + 10p + 2p = £____ and ____p
- £5 + £___ + 50p + 20p + 20p + 1p = £10 and ____p

Which does **not** show 50p?

a) 

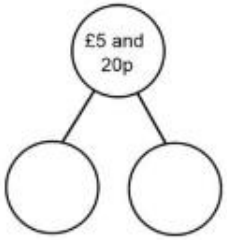
b) 

c) 

d) 

Circle 56p

How many ways can you complete the part whole model by drawing money?



Use the money to fill the purses.

You can only use each coin or note once

Cross them out once you have used the

Here are some coins.

Ali says, "There is 10p"

Joe says, "There is £10"

Are either of them correct?

Explain why.

Farrah says,

Do you agree?

Explain why.

Circle the odd one out.

23p = 20p, 2p, 1p
25p = 20p, 5p
28p = 20p, 8p

Explain your answer.

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Week 5

Barriers to ARE (misconceptions)

Children may not know the value of a coin.

Children may make mistakes when calculating.

Children may struggle to calculate when money is associated to the numbers.

Children may struggle to use their knowledge of counting in 2s,5s and 10s.

Children may struggle to apply their knowledge of counting in 2s,5s and 10s to combine when asked to find the total of given coins e.g 3 2p coins, 5 10p coins and 2 5p coins. 3x2=6, 5 x 10 = 50 and 2 x 5 = 10 so 6 + 50 + 10 = 66p.

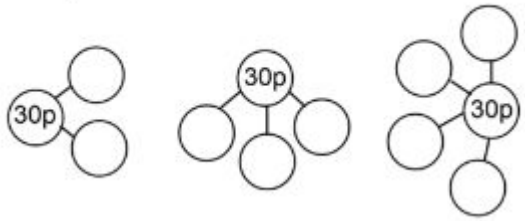
Find different combinations of coins that equal the same amounts of money.

- To know how to find different combinations of coins to make a total.

Fluency

Match the amounts.

Complete the part whole models.



Problem Solving

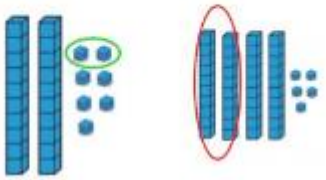
Make 50p three ways using the coins below.

You can use the coins more than once.

Reasoning

How many ways can you make 10p usin only bronze coins?

Did you use a strategy?

<table>
<tr><td>The base 10 represents money. What coin is represented by each circle?
  </td><td></td><td></td></tr>
<tr><td>Week 6
Barriers to ARE (misconceptions)
Children may not know the value of a coin.
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Children may struggle to use their knowledge of counting in 2s,5s and 10s.
Children may struggle to apply their knowledge of counting in 2s,5s and 10s to combine when asked to find the total of given coins e.g 3 2p coins, 5 10p coins and 2 5p coins. 3x2=6, 5 x 10 = 50 and 2 x 5 = 10 so 6 + 50 + 10 = 66p.</td><td colspan="2">Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
• To know how to compare totals
• To develop the skill of finding the total
• To develop the skill of finding the difference
• To develop the skill of finding change
• To understand how to solve 2 step problems</td></tr>
<tr><td>Fluency

Circle the box with the greatest amount.
  </td><td>Problem Solving</td><td>Reasoning</td></tr>
</table>

Who has the least?

Use <, > or = to compare the amounts.

Complete the table.

Pounds	Pence	Total
£4	25 pence	£ ___ and ___ p
£2		£2 and 40p
	65p	£20 and 65 pence
		£15 and 20p
	55 pence	

Find the total of the bar models.

.....		
7p	5p	9p

.....		
£6	£4	£2

Dan has these coins and notes.

He makes an amount greater than £20 but less than £30.

Draw the money he could have used.
You can use each coin or note more than once.

How many different ways can you find?

Here is a shopping list.

Items	Price
Rubber	20p
Ruler	18p
Pencil	32p
Crayon	27p
Pen	45p
Glue	36p

- I spend exactly 50p. Which two items did I buy?
- I bought two of the same item and it cost me 90p. What was the item?
- Choose two items. How many different amounts can you make?
- What is the closest you can get to 65p.

Anna has three coins in her hand.

Larry says,

Is he correct?

Explain why.

True or False?

5 copper coins can be worth more than 1 silver coin.

Four 5 pence coins are worth more than two 10 pence coins.

Do you agree? Explain why.

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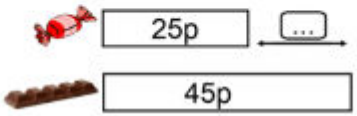
Jackson buys bread and milk.

How much does he spend?

Work out the difference between a bag of sweets and a bar of chocolate.



How many pounds less does Amee have?

Paul has £2 and 15p.
Tony has £2 and 40p.
How much more does Tony have than Paul?

Lola has

She spends 53p.
What money will she have left?

What could Oscar have?

Work out the difference between the amounts.

How many different answers can you find?

Jake has 2p.

Jenny has 10p.

Both of them have a 2p coin.

What other coins could Jenny have?

I have 20p.

My change is more than 5p but less than 10p.

What could I have bought?

Ghost Train: 90p

Emily finds a 20p coin.

She puts it with her other three 20p coins.

Does Emily have enough to ride the ghost train?

Explain why.

Alex has 90 pence.
He bought a rubber for 30 pence and wants to buy a pencil.

The shopkeeper will not sell him the pencil.
Explain why.

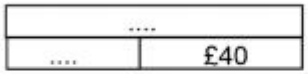
Write the calculation to find the change.

□ ○ □ = □

Benji spends 65p in the shop.
He pays with a £1 coin.

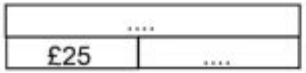
How much change will he receive?

Rachel has £33 in her money bank, and gets £40 more.
Fill in the bar model to show her total.



□ ○ □ = □

She then buys a top for £25. Complete the bar model to show how much she has left.



□ ○ □ = □

I paid for my shopping with one coin.

Here is my change.

What could I have paid with and how much would the item have been?

Bilal has these coins.

He spends 54p, how much does he have left?

A scarf is £12 and a bag is £25.
Emily buys one of each and pays with a £50 note.

How much change will she receive?