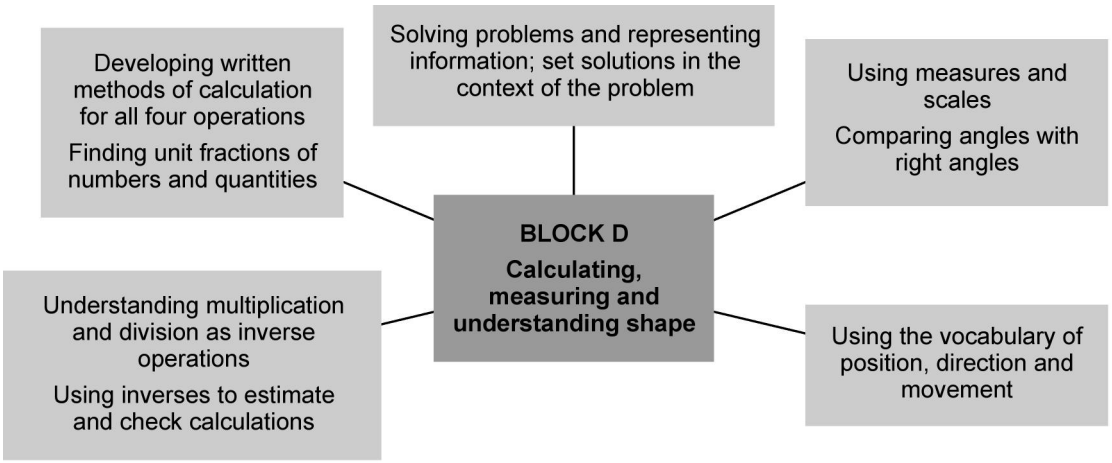
Year 3: Block D — Three 2-week units

Calculating, measuring and understanding shape



Objectives	Units		
End-of-year expectations (key objectives) are highlighted	1	2	3
• Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations	✓		✓
• Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure		✓	
• Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations			✓
• Add or subtract mentally combinations of one-digit and two-digit numbers	✓	✓	
• Develop and use written methods to record, support or explain addition and subtraction of two-digit and three-digit numbers		✓	✓
• Use practical and informal written methods to multiply and divide two-digit numbers (e.g. 13 × 3, 50 ÷ 4); round remainders up or down, depending on the context		✓	✓
• Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences			✓
• Find unit fractions of numbers and quantities (e.g. $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and $\frac{1}{6}$ of 12 litres)	✓	✓	
• Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side		✓	
• Read and record the vocabulary of position, direction and movement, using the four compass directions to describe movement about a grid	✓	✓	
• Use a set-square to draw right angles and to identify right angles in 2-D shapes; compare angles with a right angle; recognise that a straight line is equivalent to two right angles		✓	✓
• Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements	✓	✓	

Objectives End-of-year expectations (key objectives) are highlighted	Units		
	1	2	3
• Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy	✓		✓
• Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock; calculate time intervals and find start or end times for a given time interval	✓		✓

Speaking and listening objectives for the block

Objectives	Units		
	1	2	3
• Explain a process or present information, ensuring items are clearly sequenced, relevant details are included and accounts ended effectively	✓	✓	✓

Opportunities to apply mathematics in science

Activities		Units		
		1	2	3
3d	Rocks and soils: Measure the diameter of puddles on different surfaces.	✓		
3c	Characteristics of materials: Measure in ml the volume of water mopped up by different paper towels.		✓	
3e	Magnets and springs: Record measurements of length of an elastic band when weights are added. Record in a table and look for patterns.			✓

Key aspects of learning: focus for the block

Enquiry	**Problem solving**	**Reasoning**	**Creative thinking**
Information processing	Evaluation	Self-awareness	**Managing feeling**
Social skills	**Communication**	Motivation	**Empathy**

Vocabulary

problem, solution, puzzle, pattern, methods, sign, operation, symbol, number sentence, equation, mental calculation, written calculation, informal method, jottings, diagrams, pictures, images

add, plus, sum, total, subtract, take away, minus, difference, double, halve, inverse, multiply, times, multiplied by, product, multiple, share, share equally, divide, divided by, divided into, left, left over, remainder

fraction, part, equal parts, one whole, one half, one third, one quarter, one fifth, one sixth, one tenth

grid, row, column, horizontal, vertical, diagonal, higher, lower

map, plan, compass point, north (N), south (S), east (E), west (W), turn, whole turn, half turn, quarter turn, clockwise, anticlockwise, right, left, up, down, ascend, descend, forwards, backwards, sideways, across

measuring scale, interval, division, unit, standard unit, approximately, close, about the same as, ten times, hundred times

measure, estimate, unit, length, distance, weight, capacity, ruler, tape measure, balance, scales, measuring cylinder/jug, angle, right angle, set-square, units of measurement and abbreviations: metre (m), centimetre (cm), millimetre (mm), kilogram (kg), gram (g), litre (l), millilitre (ml)

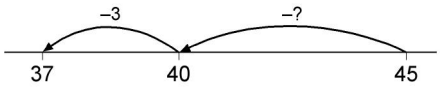
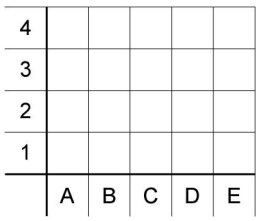
time, clock, watch, hour (h), minute (min), second (s)

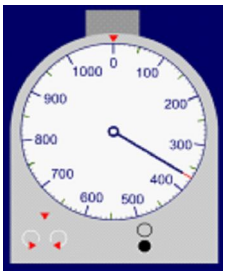
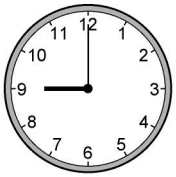
Building on previous learning

Check that children can already:

- identify the operations needed in simple one-step word problems
- recognise and use the value of coins and measures of length, weight and capacity
- read numbered and unnumbered divisions on simple scales
- add and subtract mentally a one-digit number to or from a two-digit number
- record informally the addition and subtraction of two-digit numbers
- recognise simple fractions and find halves and quarters of numbers and quantities
- understand multiplication as repeated addition and division as repeated subtraction
- use symbols to record simple number sentences
- follow instructions using vocabulary related to position, direction and movement
- recognise and use right angles to describe turns and corners of shapes

Unit 3D1 2 weeks

Objectives *Children's learning outcomes in italic*	Assessment for learning
• Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations *I can work out what calculations to do to solve a word problem that involves measurements*	What is the first calculation you will do to solve this problem? What does this answer tell you? What will you do next? Look at this problem. Ella buys a 6p lolly. She pays with a 50p piece. How much change does she get? Which calculation will you do to solve this problem? 50 + 6 50 – 6 50 × 6 50 ÷ 6 How did you choose the correct calculation? What unit is the answer in?
• Add or subtract mentally combinations of one-digit and two-digit numbers *I can add or subtract a one-digit number to or from a two-digit number* *I can add or subtract a multiple of 10 to or from a two-digit number*	Look at this problem. Explain how to work it out. Wilf has 68p in his money bank. He adds another 5p. How much is in his money bank now? What is the missing number? What calculation is represented on the number line?  Sam adds a 50 g weight to scales containing 45 g. What is the weight on the scales now?
• Find unit fractions of numbers and quantities (e.g. ½, ⅓, ¼ and ⅙ of 12 litres) *I can find ½ or ¼ of a measurement*	What calculation would you do to find ¼ of 12 litres? One half of 32p is 16p. What is one quarter of 32p? This line is 6 cm long. Use a ruler to divide it into quarters. Find ¼ of 6 cm.
• Read and record the vocabulary of position, direction and movement, using the four compass directions to describe movement about a grid *I can describe the position of a square on a grid* *I can use the compass points (north, south, east and west) to describe a direction*	Which square lies halfway between squares A3 and E3?  Move a counter from square B4 to E2. Describe each move you make using the words *north*, *south*, *east* or *west.*
• Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements *I know how many grams are the same as 1 kg* *I can estimate whether an object is lighter than a 100 g weight*	A sack of rice weighs 5 kg. How many grams is this? Compare the weight of this book with this bag of sugar and with this 100 g weight. Suggest an estimate for the weight of the book. Which is a newborn baby more likely to weigh? A 30 g B 3 kg C 30 kg

Objectives *Children's learning outcomes in italic*	Assessment for learning
• Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy *I can read scales to the nearest division or half-division*	 What measurement is shown on these scales? Explain how you worked this out. What is each division on this scale worth? How did you work this out? How could you check that you are right?
• Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock; calculate time intervals and find start or end times for a given time interval *I can tell the time to the nearest 5 minutes* *I can find how long an activity takes if I know when it starts and when it ends*	Ben's clock says 7:50 when he gets up. Place the hands on this clock to show this time. How long is it between the times shown on these two clocks? Show me how you worked this out.  
• Explain a process or present information, ensuring items are clearly sequenced, relevant details are included and accounts ended effectively *I can understand instructions to follow a route*	Work in pairs to agree instructions for walking from our classroom to the hall. Write down your instructions then swap them with another pair. Try out their instructions. Give them feedback on how clear their instructions were. Which words were helpful? Were any of the instructions difficult to follow?

Learning overview

Children **use the range of calculation strategies** that they know to answer problems in the context of measures. They use their knowledge of number bonds to **add or subtract a one-digit number to or from a two-digit number**, bridging over a multiple of 10 where appropriate. They add and subtract multiples of 10 and 100. They find one half and one quarter of amounts. They use these strategies to solve problems involving money and measures, such as:

Ella buys a 6p lolly. She pays with a 50p piece. How much change does she get?

A sunflower is 67 cm tall at the start of the week. It grows 8 cm over the week. How tall is it at the end of the week?

How much orange juice is left in a 500 ml bottle after 200 ml is poured out?

Carla has used one quarter of her crayon. It was 20 cm long. How long is it now?

Children **check** that the answer to a problem sounds reasonable in the context of the problem.

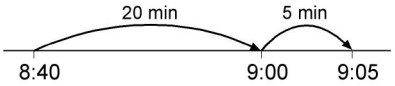
Children **recognise patterns of similar calculations**, such as 25 + 20 = 45, 45 + 20 = 65, 65 + 20 = 85. They continue the sequence and suggest other sequences of calculations that follow similar patterns. They apply these skills, for example when counting 20 g weights onto a balance scale in order to find the mass of an object.

Children **know the relationships between standard units of measure**; for example, they know that 1 kg is the same as 1000 g. Children increase their experience of measures through **practical activities** such as finding objects that weigh about 1 kg or weighing and comparing 100 g of various materials.

Children **suggest suitable units and measuring equipment** to estimate or measure length, mass or capacity. They explain why they think an estimate is reasonable, for example by comparing an estimated weight with a known one such as a 1 kg bag of sugar. Children relate their experience of

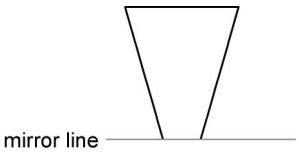
number lines to reading scales. They use a numbered interval to calculate the value of each division on a scale and check that they are right by counting along the divisions. They use these skills to **read a scale to the nearest marked division or half-division** when they are measuring, for example weighing ingredients for a recipe or ordering three objects by weighing them.

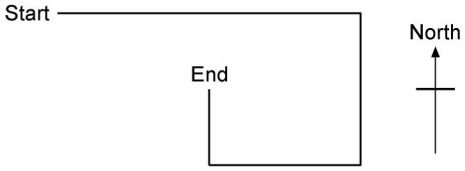
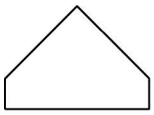
Children know the relationships between seconds, minutes, hours and days. They **read the time** on a 12-hour digital clock and on an analogue clock to the **nearest 5 minutes**. They use counting strategies to **work out simple time differences**. For example, to find the length of Joy's journey to school if she leaves home at 8:40 and arrives at school at 9:05, children count on in 5-minute intervals using a clock face. Alternatively, they may use the fact that there are 60 minutes in an hour to bridge over the hour, recording their working using informal recording such as a time line.



Children use, read and record the vocabulary associated with **position, direction and movement**. They describe and find the position of a square on a grid with the rows and columns labelled; for example, they play 'Battleships'. They secretly create a simple picture by colouring squares on the grid then describe to their partner how to create an identical picture. They use compass points and other directional language to follow and describe a route, for example around a maze or grid marked out on the playground. They interpret and describe both the direction of travel and the distance for each section of the route.

Unit 3D2 2 weeks

Objectives *Children's learning outcomes in italic*	Assessment for learning
• Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure *I can draw a picture, make jottings or write calculations to help me answer a problem*	What did you write down to help you answer this problem? Look at this problem. Two snakes are 56 cm and 83 cm long. What is the difference in their lengths? Draw a picture that will help you to solve the problem. What part of your picture shows the *difference*? Becky has three £1 coins and four 1p coins in her purse. Write down the amount of money she has altogether.
• Add or subtract mentally combinations of one-digit and two-digit numbers *I can add or subtract two 2-digit numbers* *I know how to find the difference between two 2-digit numbers*	A 95 g orange is placed in some balance scales. There is 35 g in the other pan. How much needs to be added to the 35 g so that the scales balance? How did you work this out? The difference between the heights of two children is 37 cm. What could their heights be? Are your suggestions reasonable? Roughly how old do you think the children would be? Find the different totals you can make by adding pairs of these numbers: 47 50 8 29 Choose two calculations where you used a different strategy to find the total. Explain why you chose different strategies.
• Develop and use written methods to record, support or explain addition and subtraction of two-digit and three-digit numbers *I can record how I work out an addition or subtraction calculation showing each step*	Find the total cost of a book costing £2.50 and a comic costing 99p. Jot down your method showing each step. Bill records these steps to work out a calculation: 263 – 40 = 223 223 – 5 = 218 What calculation did he work out?
• Use practical and informal written methods to multiply and divide two-digit numbers (e.g. 13 × 3, 50 ÷ 4); round remainders up or down, depending on the context *I can multiply a 'teen' number by a one-digit number* *I can divide a two-digit number by a one-digit number*	A square pool has sides 12 m long. If you walked around the edge of it, how far would you walk? What calculation did you do? How did you work it out? Altogether the four sides of a square picture frame are 60 cm long. How long is each side? What calculation did you do? How did you work it out? What two multiplication facts could you use to work out 13 × 3?
• Find unit fractions of numbers and quantities (e.g. ½, ⅓, ¼ and ⅙ of 12 litres) *I can use division to find ½, ⅓, ¼, ⅕ and ⅙ of a measurement*	Milly has a 100 ml bottle of medicine. She takes one fifth of the medicine each day. How many days does she take the medicine for? How much medicine does she take each day? What calculation did you do to work this out? John has a 120 g bar of chocolate. He cuts it into six equal pieces. How much does each piece weigh? What fraction of the bar is this?
• Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side *I can reflect a shape in one of its sides*	Draw the reflection of this shape in the mirror line.  A letter d is reflected in its straight side. Its reflection is a different letter. Which one?

Objectives *Children's learning outcomes in italic*	Assessment for learning
• Read and record the vocabulary of position, direction and movement, using the four compass directions to describe movement about a grid *I can follow and give instructions to make turns*	If you stand facing north, then make a half turn, what direction would you be facing? Give instructions to draw the route below. Use the direction words: *north*, *south*, *east* and *west.* Give the exact length of each line. 
• Use a set-square to draw right angles and to identify right angles in 2-D shapes; compare angles with a right angle; recognise that a straight line is equivalent to two right angles *I can identify right angles in shapes and use a set-square to check*	Use a set-square and a ruler to draw a square with sides of 12 cm. How many right angles are there in this pentagon? How could you check? 
• Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements *I know how many cm make 1 metre and how many metres make 1 km* *I can decide whether a length would be measured in centimetres, metres or kilometres*	A bench is 2 metres and 40 centimetres long. How many centimetres is this? Explain how you worked this out. How many 100 m runs would you need to do to run a total of 1 km? What calculation did you to work this out? Suggest an object whose length would be measured in metres. What about centimetres? And millimetres? Match the measurement to the appropriate unit: the amount of water in a cup — kg the length of a road — ml the weight of a dog — km
• Explain a process or present information, ensuring items are clearly sequenced, relevant details are included and accounts ended effectively *I can give and follow instructions to make turns*	Make a compass with a card arrow and a split pin. Label it *north, south, east* and *west.* Write instructions such as: *Start with the arrow facing north. Turn it three right angles clockwise.* Decide which direction the arrow will end up facing. Swap instructions with someone else. Compare your results. Did you agree where the arrow would end up? If not, what error did you make?

Learning overview

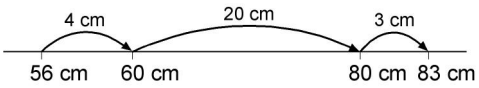
Children consolidate their calculation strategies in all four operations through **solving one- and two-step problems** involving measures. They represent the information in a problem using diagrams or calculations. They explain their method and record their working clearly, showing the steps involved. They use their understanding of operations and their inverses to check answers.

Children develop greater understanding of the term ***difference*** through problems such as:

Amy weighs 35 kg and Carl weighs 52 kg. What is the difference in their weights?

Two snakes are 56 cm and 83 cm long. What is the difference in their lengths?

Children understand that finding the difference between two measurements is the same as asking 'How much bigger is one than the other?' They recognise that one way to find this is to count up from the smaller to the larger amount. They record their working using informal methods such as number lines.



Children **add or subtract multiples of 10 or 100 and near-multiples** to solve word problems such as:

Malik uses 40 ml of paint from a tube that contains 95 ml. How much is left?

Rosie buys a comic for £1.50 and a book for £2.99. How much does this cost altogether?

Children **use practical and informal written methods to solve problems involving multiplication and division**, such as:

I walk around the edge of a square pool with sides of 12 m. How far do I walk?

I record two TV programs lasting 45 minutes each on a 2-hour video tape. How much time is left on the tape?

Altogether the four sides of a square picture frame are 60 cm long. How long is each side?

Kim uses $\frac{1}{5}$ of a 500 g bag of flour. How much flour is this?

They recognise that **finding fractions of amounts involves division** and find $\frac{1}{5}$ of a quantity, for example, by dividing it by 5.

Children **understand £.p notation**, writing £1.29 as 129p and vice versa. They appreciate that £1.05 is 1 pound and 5 pence. They solve problems involving money, such as using a table of prices from a leisure centre to work out how much it would cost for their family to go swimming. They create their own word stories involving money and solve puzzles such as:

Two packets of sweets together cost 90p. One costs double the other. How much does the more expensive packet cost?

In my purse I have £1 coins, 10p coins and 1p coins. Find all the possible amounts I can make by choosing three of these coins.

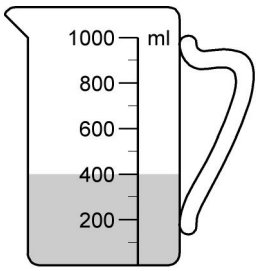
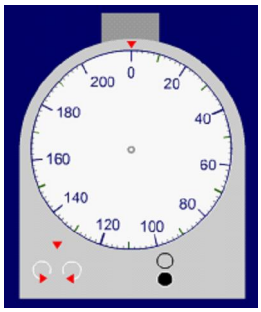
Children **know the relationship between standard units of length, mass and capacity**. They know, for example, that 1 km is 1000 m and that 1 m is 100 cm. They use the relationship 1 m = 100 cm to work out that 2 m = 200 cm and 3 m = 300 cm. They recognise that the number of centimetres is the number of metres multiplied by 100. Children **suggest suitable units and measuring equipment** to estimate or measure length, mass or capacity. For example, they suggest lengths that would be measured in centimetres, metres or kilometres. They use a ruler to measure or draw lines accurately to the nearest half-centimetre; for example, they use a ruler and set-square to draw a square with sides of 12 cm and then discuss how long the lines are altogether.

Children **understand that shapes can be reflected** by considering, for example, the reflections of objects in water or by using the reflection tool in an **ICT program**. They predict where the image of a shape will be when it is reflected in a mirror line along one of its sides and check by placing a mirror on the line of symmetry or by using ICT.

Children **understand that angle is a measure of turn**. They follow and give directions, for example in PE, including instructions to turn right or left through quarter and half turns. They appreciate that two quarter turns are equivalent to a half turn. They recognise that when you turn through a half turn you end up facing the opposite direction. They learn that a quarter turn is equal to a turn of 90 degrees when, for example, programming a floor robot to follow a marked route. Through looking at the route, they appreciate that **a quarter turn is also equivalent to a right angle**. Children use compass points to explore, for example, how many right angles are needed to turn clockwise from east to west.

Unit 3D3 2 weeks

Objectives *Children's learning outcomes in italic*	**Assessment for learning**
• Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations *I can explain how I found the answer to a word problem that involves measurements*	Look at this problem. Ella buys one toy costing 35p and another costing 48p. She pays with a £5 note. How much change does she get? What two calculations do you need to do to answer this problem? What does the answer to the first calculation tell you? Make up a word problem that would lead to the calculation 8 × 4. How do you recognise that this problem involves multiplication?
• Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations *I can check whether the answer to a calculation is correct*	Tracey works out that 92 cm – 48 cm = 56 cm. How could you check whether her answer is right? I think of a number, double it and then take away 2. I get the answer 6. What was my number? How did you find it? Will the answer to £6.78 + £2.84 be closer to £8, £9 or £10?
• Develop and use written methods to record, support or explain addition and subtraction of two-digit and three-digit numbers *I write down my method to add or subtract two-digit or three-digit numbers*	I spend £6.78 and £2.84 on shopping. Work out how much I have spent altogether. Explain each step of your calculation. Work out 91 – 37. Decide how to record your working.
• Use practical and informal written methods to multiply and divide two-digit numbers (e.g. 13 × 3, 50 ÷ 4); round remainders up or down, depending on the context *I can multiply and divide a two-digit number by a one-digit number*	An egg weighs about 50 grams. Roughly, how much do 6 eggs weigh? Jot down how you worked this out. What is 20 × 4? What is 6 × 4? What is 26 × 4? What is the remainder when 35 is divided by 3? 35 crayons are shared fairly into three pots. How many crayons are in each pot? How did you decide on your answer?
• Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences *I can say what multiplication fact I would use for a division calculation*	How many 5-minute cartoons can I watch in 20 minutes? What division calculation matches this problem? What multiplication fact can help you to find the answer? Charlie starts with the number 20. He multiplies it by 6 then divides the answer by 6. What number does he get? How do you know?
• Use a set-square to draw right angles and to identify right angles in 2-D shapes; compare angles with a right angle; recognise that a straight line is equivalent to two right angles *I can test whether an angle is equal to, bigger than or smaller than a right angle*	Paula says that angle A is smaller than angle B. Is she right? Explain your answer.  Place a set of shapes in the correct place in this table. all right angles | some right angles | no right angles | | |

Objectives *Children's learning outcomes in italic*	Assessment for learning
• Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy *I can say what one division on a scale is worth* *I can read a scale to the nearest division or half-division*	 What is each division on this measuring jug worth? How did you work this out? How much water is in the jug?  Draw where the dial would go for a weight of 45 g. How do you know?
• Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock; calculate time intervals and find start or end times for a given time interval *I can tell the time to the nearest 5 minutes* *I can work out the start or end time for an activity*	How would a digital clock show the time *twenty minutes to six*? The car journey to work takes Rob 20 minutes. He needs to be at work at 9 o'clock. Move the hands on this clock face to show the time that he should leave.
• Explain a process or present information, ensuring items are clearly sequenced, relevant details are included and accounts ended effectively *I can explain the steps involved in answering a problem. I make sure that the answer I give makes sense*	You have to explain how you solved this problem to your group. Record your method on a whiteboard. Practise what you will say. Make sure that you explain every step in order. What is the answer to the problem? Can you say this in a sentence?

Learning overview

Children use a range of calculation strategies to solve problems involving money and measures. They respond to oral or written questions, **identifying appropriate calculations** to solve the problem. They use a range of **mental, mental-with-jottings and paper-and-pencil methods** to record their working. They explain their method, ensuring that all stages are included, and state the answer in the context of the original problem. Children check the results of calculations by repeating addition in a different order, using an inverse operation or using an equivalent calculation.

Children use their knowledge of pairs of numbers that total 100 to **find change in money problems**. For example, to find the change from £5 when buying two items that together cost 83p, children recognise that 83p add 17p makes 100p or £1 and that another £4 is needed to reach £5, giving £4.17 change. They use such methods to solve problem such as:

Ella buys one toy costing 35p and another costing 48p. She pays with a £5 note. How much change does she get?

Children use **doubling and halving**. For example, they can work out a recipe for eight people or two people by doubling or halving the quantities for four people. They check their calculations using the inverse operation.

Children **recognise when a problem involves multiplication or division**. They understand that multiplication and division are inverses and use this to check answers. Children recognise that where a problem involves division the answer may involve a remainder and that they need to

consider the context to decide whether to round the answer up or down. They use practical and informal written methods to solve problems involving two-digit numbers such as:

Will balances a pear with three 50 g and three 20 g weights. How much does the pear weigh?

Jake has £2. He wants to buy seven packets of crisps. They cost 31p each. Does he have enough money?

A song book is 3 cm wide. How many copies of the song book can be placed on a 65 cm shelf?

Children round measures in appropriate contexts to answer problems such as:

Roughly how many chairs will fit across the back wall of the classroom if each chair is 45 cm wide and the back wall of the classroom is 8 ½ metres wide?

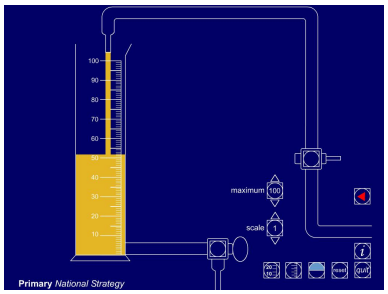
They use **rounding** to give approximate answers to problems where they choose to use a written method. For example, when finding the total of £6.78 and £2.84, children recognise that £6.78 is less than £7 and £2.84 is less than £3, so they expect the answer to be a little less than £10.

Children **appreciate the importance of the units** when they solve measures problems. For example, to solve the problem:

Wesley is 86 cm tall and Rob is 1 m 14 cm tall. How much taller is Rob than Wesley?

they realise that they need to convert 1 m 14 cm into 114 cm. Children **remember that 1 hour is 60 minutes** when they solve time problems, such as finding a start or end time for a given interval. For example, to find what time the school play will end if it starts at half past 7 and runs for 50 minutes, children first count on 30 minutes from half past 7 to bridge to 8 o'clock; this leaves 20 minutes, so the play will end at 20 minutes past 8. They choose to draw a time line to record this. Children explain their choice of method to others and discuss alternative strategies.

Children read numbered and partially numbered **scales** to the nearest division and half-division, for example using the ITP 'Measuring cylinder'.



They apply their skills when they solve practical measuring problems. For example, they pour 100 ml of water into three differently shaped bottles, using this to estimate the capacities when the bottles are full, and then checking how close their estimates were by measuring.

Children continue to develop their understanding of **angle**. For example, they use geostrips or strips of card joined by a split pin to create an 'angle-maker' and use it to show angles that are **less than, more than or approximately equal to a right angle**. They use a set-square to compare given angles (for example, the angles in a 2-D shape) with a right angle. They place two right angles together and realise that they form a straight line.