Year 1 Autumn Term	
Block 1 Place Value	
Step 1 Sort Objects	In this small step, children learn that collections of objects can be sorted into sets based on attributes such as colour, size or shape. Sorting enables children to consider what is the same about all the objects in one set and how they differ from the objects in other sets. Children need to understand that the same collection of objects can be sorted in different ways and should be encouraged to come up with their own criteria for sorting objects into sets. Practical activities should be used to support the learning in this step and ideas are suggested in Key learning. The concept of sorting can also be reinforced during daily activities such as lining up. Children could be asked to line up based on certain criteria, for example whether they have a sister.
Step 2 Count Objects	The aim of this small step is for children to be able to fluently count to 10 when counting objects. Focus on the five counting principles when assessing children's ability to count accurately. The one-to-one principle: Children assign one number name to each object that is being counted. The stable-order principle: When counting, the numbers have to be said in a certain order. The cardinal principle: The final object in a group is the total number of objects in that group. The abstraction principle: Anything can be counted, including things that cannot be touched, such as sounds and movements, for example jumps. The order-irrelevance principle: The order in which they count a group of objects is irrelevant. There will still be the same number
Step 3 Count objects from larger group	In this small step, children continue to count objects, but this time they are asked to count a specific number of objects from a larger group. This requires children to be more organised and careful when counting. From a larger group, children select a given number of objects and count them out. When asked "How many?", they should be able to recall the final number they said. Children who have not grasped the cardinal counting principle will recount the whole group again. To support children, it may be useful to ask them to count the objects onto a mat or into a container before moving on to pictorial representations.
Step 4 Represent objects	In this small step, children learn to represent real-life objects such as apples, leaves and sweets using manipulatives such as counters and cubes. They also match numerals to a set of objects, but do not yet use the written words. The purpose is to ensure that children realise that they can represent anything with mathematical equipment or pictures and it can still be counted in the same way. Children also have the opportunity to practise writing numerals to match a set of objects. Ten frames are particularly useful for this small step, as they allow children to organise their manipulatives in a structured way.
Step 5 Recognise numbers as words	Children should now be confident representing and counting numbers to 10. They can say the numbers to 10 verbally, represent objects and images using counters and cubes, and write the numeral to match. In this small step, children learn to recognise each numeral as a word. At this point, children are not expected to write the words independently. Instead, they use matching activities to help build recognition and confidence.
Step 6 Count on from any number	In this small step, children count on from any number while staying within 10. For example, they may be given a starting number of 4 and asked to continue "5, 6, 7, 8, 9, 10". Ten frames and number tracks are useful tools to support children with this concept. When used side by side, they help children to continue to link a representation to the numeral and/or the word. Note that children have not yet been formally introduced to the number line, so using this representation at this stage could be confusing. Being able to count on is an important skill to develop in preparation for addition, where children can start with an amount and count on to get the total.
Step 7 1 more	Once children are confident placing numbers on a track, the language of "1 more" can be introduced. Children need to know that 1 more is the number after, and they should use their counting skills or a number track to help them. Cubes are a useful manipulative to show the concept of "1 more", as children can link this to the everyday activity of climbing the stairs.
Step 8 Count backwards within 10	In this small step, children learn to count backwards within 10 Children can find counting backwards tricky. The use of songs and rhymes can be particularly useful to help develop this skill. As in the previous steps, it is also useful to use cubes and number tracks to support children. Countdowns are a fun way to reinforce counting backwards, such as a countdown to a rocket launch or a countdown to the start of a race. Being able to count backwards will help children when they begin to learn about subtraction, where one method that they may use is counting back.
Step 9 1 less	Once children are confident counting backwards and placing numbers on a track, the language of "1 less" can be introduced. In this small step, children need to know that 1 less is the number before and they should use their counting skills or a number track to help them. It is important to make references back to previous learning on finding 1 more, so that children understand that finding 1 less is the opposite of finding 1 more. Cubes are a useful manipulative to show the concept of "1 less", as children can link this to the everyday activity of walking down the stairs
Step 10 Compare groups by matching	In this small step, children match one object with another to compare groups. This is sometimes referred to as one-to-one correspondence, where children check if, for example, there are enough presents for everyone to have one each. Children should be exposed to situations where there are too many, not enough or just the

	right amount. Children should be encouraged to move physical objects or draw lines between pictorial representations to support them in matching. At this stage, children do not need to know the exact difference between the groups if there is a difference
Step 11 Fewer, more, same	In this small step, children compare numbers of objects. It is important to ensure that children have clear understanding of new vocabulary such as "fewer", "more" and "same". They need to practise using the words in a variety of contexts in the same way that they need to practise working with numbers in a variety of contexts. In particular, the word "fewer" can be tricky, as many adults tend to incorrectly use the word "less" instead. "Fewer" is used when talking about a number of things or objects, whereas "less" is used when talking about values. For example, "There are fewer blue cars than red cars" is correct, not "There are less blue cars than red cars."
Step 12 Less than, greater than, equal to	In this small step, children move on from describing whether there are "fewer", "more" or the "same" number of objects to comparing numerical values using the vocabulary "less than", "greater than" or "equal to" alongside the symbols and =. Number tracks are particularly useful in this step and children will begin to see that smaller numbers are to the left of greater numbers. Concrete resources can also be used, but make sure that children do not get confused with the previous step, where they were using words to describe sets of objects. It needs to be clear that they are now comparing the numbers not the objects.
Step 13 Compare numbers	In this small step, children build on their learning from earlier in the block to compare pairs of numbers within 10 Children can use their knowledge of counting to support them, for example because they would say 6 after 5, they know that 6 is greater than 5. Children can also use their knowledge of representing numbers using objects to help them identify which of a pair of numbers is greater or less than the other. In the previous steps, children were introduced to the language of "greater than", "less than" and "equal to" alongside the corresponding inequality symbols >, < and =. They use these throughout this step when comparing numbers. It is important that children use all the symbols, in order to reinforce their meaning. In order to bring in other learning from this block, children could also compare numbers written as words
Step 14 Order objects and numbers	Now that children are confident counting and comparing numbers to 10, in this small step they move on to ordering three groups of objects. Expose children to different methods for ordering, such as comparing two groups initially, and lining groups up. Children should use the language they learnt in the previous steps and be introduced to the vocabulary "most" and "fewest" and begin to use it. Alongside the objects, introduce numbers so that children can begin to order a set of three numbers. They will need introducing to the language of "greatest" and "smallest" and should begin to use it. At this stage, it is not necessary for children to order more than three numbers, although children who are confident with three numbers can be challenged to do this.
Step 15 The number line	In this small step, children are introduced to a number line for the first time. So far, children have only used number tracks, so they may be tempted to label the numbers in between the divisions on the number line. Careful explanation will be needed to avoid this. All number lines will count in 1s. The number line can be used to practise and consolidate the skills learnt so far in this block. Children recap counting from zero to 10 forwards when labelling a number line and can also practise counting backwards if they read from right to left. They can clearly see that 1 more is the next number to the right on the number line, while 1 less is the previous number. The number line can also be used to consolidate comparison of numbers using both words and inequality symbols, as well as being used to order numbers. A number line is a good opportunity to count from zero, as children do not do this when counting objects.
Block 2 Addition and Subtraction	
Step 1 Introducing parts and wholes	In this small step, children begin to think about parts and wholes. While this reinforces and reminds children of what they have learned in Reception, they are unlikely to have been formally introduced to the language of "parts" and "whole". Ensure time is spent identifying the parts and the whole during activities. Allow children to explore and notice different compositions; for example, 5 can be composed of 2 and 3 or 1 and 4 or 1 and 1 and 3. Encourage children to recognise that numbers can be composed of two or more parts. At this stage, children should be given the opportunity to explore this concept through play and physical activities. The part-whole model is introduced in the next step.
Step 2 Part-whole model	Now that children have explored parts and wholes, in this small step they are introduced to the part-whole model. This is sometimes referred to as a "cherry model". The main teaching point is for children to see that a whole group of objects can be composed of two or more parts and that they can represent this using a part-whole model. The group can be split in a variety of different ways. Draw children's attention to the fact that the parts cannot be bigger than the whole group. Provide children with laminated part-whole models, so that they can experiment with physical objects – either drawing or placing pictures on the part-whole model. Encourage them to describe what they do by saying full sentences aloud. Children should be comfortable describing the parts and wholes in a variety of ways, sometimes starting with the whole and at other times with a part
Step 3 Fact families-addition facts	In this small step, children learn that the addition symbol (+) can be used to represent combining two or more parts and the equals symbol (=) can be used to show the equivalence between the whole and the sum of the parts. At this stage, children consider a specific order to the number sentence (a + b = c). They focus on the language associated with this number sentence, for example 7 apples plus 3 apples is equal to 10 apples. Once understanding is established, children explore

	number sentences written in a different order, such as 4 = 1 + 3 “First, then, now” stories are a great way to link real-life situations to the number sentences and part-whole models.
Step 4 Number bonds within 10	In this small step, children build on their learning about writing number sentences by looking at addition fact families. Children recognise that the order of an addition sentence can be varied, and they begin to discover that addition is commutative. For example, 3 + 2 = 5 2 + 3 = 5 5 = 3 + 2 5 = 2 + 3 Continue to use concrete resources and pictures to support children’s understanding – ten frames and counters and cubes are particularly useful. Using different colours can help children to form addition sentences and see that the order they say the numbers in is irrelevant. They can physically move counters on a ten frame to show this.
Step 5 Addition- add together	In this small step, children combine their knowledge of the part-whole model and addition facts to explore number bonds within 10 Starting with the whole, children break numbers into parts and explore how many different ways a number can be partitioned. Double-sided counters and ten frames are useful concrete resources, together with dot patterns. Children will see numbers made from dot patterns differently, for example some may see 6 as being made up of 5 and 1, while others may see it as being made up of two 3s. Exploring patterns is a good way to encourage discussion and expose children to different ways of thinking. Throughout this step, continue to look at number sentences written with the symbols in different places and talk about the commutative nature of the calculations, for example 3 + 1 = 4 is the same as 1 + 3 = 4
Step 6 Systematic number bonds within 10	Now that children have explored number bonds within 10, in this small step they start to work systematically to identify all the number bonds. Some children may have started to do this naturally, whereas others will need to be exposed to this way of thinking. It is important that children learn to work systematically to ensure that they organise their thinking and consider all the possibilities in a problem. Double-sided counters are extremely useful in this step, as children can clearly see the pattern formed when they work systematically to find number bonds. If they start, for example, with 5 counters all showing the same colour, they can turn 1 over to show that 1 + 4 = 5, turn another over for 2 + 3 = 5 and so on to find all the number bonds in a systematic way.
Step 7 Number bonds to 10	In this small step, children move on from number bonds within 10 to number bonds to 10 Initially, allow children to explore finding the number bonds. They could use two different colour cubes to build towers of 10 and represent their tower in a number sentence. For example, if their tower is made up of 2 blue cubes and 8 red cubes, they have 10 cubes altogether, so 2 + 8 = 10 As children become more comfortable in finding these bonds to 10, encourage them to use their earlier learning to work systematically to find all the number bonds. Ten frames and double-sided counters can support them with their thinking. This is essential learning that forms the basis of our number system, so time should be spent ensuring that children are comfortable with finding and recognising these bonds.
Step 8 Addition- add together	In this small step, children begin to formalise the idea of addition as bringing two or more parts together to create a whole. This is a more formal way of looking at the learning they have covered earlier in this block. At this stage, the focus should be on bringing two parts together, rather than adding more, which will be covered explicitly in the next step. When representing their additions, encourage children to use correct mathematical language to explain, for example “3 cubes plus 5 cubes is equal to 8 cubes.” The use of “is equal to” rather than “makes” will support children in later learning. Ten frames, counters and Rekenreks are useful manipulatives to support this learning, and part-whole models can be used to represent additions
Step 9 Addition- add more	In this small step, children build on their understanding of addition as they explore the structure of “adding more”. The focus is on increasing one quantity by a given amount, while continuing to work within 10 As in the earlier steps, classroom items and concrete resources can be used to support children’s learning and “first, then, now” stories can help to build their understanding. For example, “First Rosie has 3 pencils. Then she is given 2 more pencils. How many pencils does she have now?” While exploring with physical pencils will help children with initial understanding, moving towards representations such as ten frames and counters and Rekenreks will support when working in the abstract. A number line can also support children in finding how many there are. When working on a number line, they should start from the “first” number, and draw jumps to find the total.
Step 10 Addition problems	This small step brings together the learning from the previous steps, as children start to answer addition problems that are not isolated to a specific structure. As this is the first time that they are likely to have explored multiple structures within different contexts, this can initially be overwhelming for children. The use of manipulatives and realistic situations can support children to understand what is happening. While concrete resources and visual representations are useful, children should move towards working in the abstract. This is an excellent opportunity to reinforce learning on number bonds, from earlier in the block. Children should start to use these bonds to find answers to additions rather than always relying on counting.
Step 11 Find a part	Now that children have looked at addition in detail, in this small step they begin to think about subtraction by finding a part. The focus of this small step is on the knowledge and use of number bonds to identify missing parts, rather than formal subtraction and the subtraction symbol. A practical way to introduce this to children is through games. If you tell them that you have 5 counters altogether, and show them 2 in one hand, they can use their knowledge of bonds and their earlier learning to work out how many are in the other hand. Children then begin to work more abstractly and use their earlier learning to identify what is missing. Questions will be presented in the form 3 + = 5, rather than 5 – 3 = . They will be introduced to the subtraction symbol formally in the next step.

Step 12 Subtraction- find a part	In this small step, children are formally introduced to the subtraction symbol for the first time. As in the previous step, the structure of all the questions is partitioning. The only difference is the way in which children represent their findings. They are still required to use their knowledge of number bonds to find parts, but represent them using the subtraction symbol. To begin, children focus on the meaning of the subtraction symbol rather than having to identify missing values. They are given a completed part-whole model and write the related subtractions using the numbers in the part-whole model to start to build their understanding. As children become more secure in this, and understand what the subtraction symbol represents, they then use it to answer missing number problems similar to the ones they saw in the previous step
Step 13 Fact families- the eight facts	Now that children have been exposed to both addition and subtraction, in this small step they build on their knowledge of addition fact families to find all eight facts within a fact family. An example of such a fact family is: 3 + 5 = 8 8 = 3 + 5 5 + 3 = 8 8 = 5 + 3 8 – 5 = 3 3 = 8 – 5 8 – 3 = 5 5 = 8 – 3 Initially, the focus is on identifying the facts from a completed part-whole model or number sentence. Once children are secure in this, they can start to use questions in similar structures to those they have seen previously, to complete a calculation and find its related fact family.
Step 14 Subtraction- take away	In this small step, children formalise their learning from the previous step. They again focus on subtraction questions that require them to take away, but this time record their findings in a number sentence. The use of "first, then, now" stories can aid understanding and help children to relate the question to the number sentence. For example, for the story "First there were 5 birds in a tree. Then 2 of the birds flew away. Now there are 3 birds in the tree", the related subtraction sentence is 5 – 2 = 3. Encourage children to recognise that the 5 represents the number of birds at the start, the 2 represents the number of birds that flew away and the 3 represents the number of birds that are left. Initially, children simply form the subtraction sentences for a given scenario. Then they move on to questions where they need to work out how many are left. Use of concrete resources and pictorial representations is useful throughout.
Step 15 Subtraction- on a number line	In this small step, children look at subtraction on a number line for the first time. Children use the method of "counting back" to find the answers to subtraction calculations. As they did when adding more, they start from the "first" number and then count back to find the answer. These questions can be linked to examples and scenarios they have used in earlier steps in this block. This allows children to first focus their attention on how the number line helps with the calculation, before they move on to work more abstractly to complete subtractions by counting back. As in the previous step, encourage children to think about each number within a calculation, what it represents and how it is shown on the number line. For example, in 5 – 3 = 2, 5 is the number they start at, 3 is the number of jumps back they do and 2 is the number they land on.
Step 16 Add or subtract 1 or 2	In this small step, children focus on adding 1 or 2 in a variety of different contexts. They combine all the methods and approaches they have seen so far in this block. The main difference between this learning and the previous learning is that children need to decide for the first time whether the question is an addition or a subtraction. So far, they have only seen each skill in isolation. Encourage children to make connections between adding/ subtracting 1 and adding/subtracting 2. It is important that they recognise that adding 2 is the same as adding 1 twice, and similarly subtracting 2 is the same as subtracting 1 twice. This will help children to be secure in their understanding of the composition of 2
Block 3 Geometry	
Step 1 Recognise and name 3D shapes	This small step is the first in a block of learning on shape. Children start by looking at 3-D shapes, as these are tangible shapes that they can touch and feel to help understand their identifying features. Children are required to name simple 3-D shapes such as cubes, cuboids, cylinders, pyramids, cones and spheres. While some questions require children to write the names of the shapes, at this point the focus should be more on verbally naming and matching. Encourage children to make links to previous learning and to start to think about the 2-D faces on a 3-D shape, as this will support them later on when they look at 2-D shapes in detail.
Step 2 Sort 3D shapes	In this small step, children start to sort 3-D shapes. They should be given the opportunity to explore similarities and differences between shapes as they play, and to sort them according to what they notice. While they may have naturally started to sort 3-D shapes already, in this step children sort and group 3-D shapes more formally according to simple properties, including type, size and colour. As well as sorting shapes themselves, children also identify how given groups of shapes have been sorted. Encourage children to explain in detail what they notice about groups of shapes and to consider whether they could have been sorted another way. Children should think about the key features of each 3-D shape. Encourage them to consider questions such as "Will they stack, or will they roll?" as another method for sorting.
Step 3 Recognise and name 2D shapes	Now that children have looked in detail at 3-D shapes, they begin to look at 2-D shapes. They will have experience of 2-D shapes and may already know some of the names. Children are required to name simple 2-D shapes, such as triangles, squares, rectangles and circles. While some questions require children to write the names of the shapes, at this point the focus should be on verbally naming and matching. As 2-D shapes cannot be physically explored in the same way as 3-D shapes, they can be difficult to introduce to children in a practical way. 3-D shapes can be used as a way of exploring 2-D shapes, where children focus on the faces

	of the 3-D shapes to identify which 2-D shapes they are made up of. They can also draw around 3-D shapes or use them to make prints of 2-D shapes. It is essential that children recognise that 2-D shapes are completely flat.
Step 4 Sort 2D shapes	In this small step, children start to sort 2-D shapes. While they may have naturally started to sort 2-D shapes already, in this step they sort and group 2-D shapes more formally according to simple properties, including type, size and colour. As well as sorting shapes into groups themselves, children also identify how given groups of shapes have been sorted. Encourage children to explain in detail what they notice about groups of shapes and to consider whether they could have been sorted another way. They should think about what is the same and what is different about shapes, while also recognising that the orientation of a shape does not affect its properties. Take time to explore the similarities between squares and rectangles, so that children see the connection.
Step 5 Patterns with 2D and 3D shapes	In this small step, children create patterns with 2-D and 3-D shapes. They should experience both repeating patterns (ABAB) and symmetrical patterns (ABBCBBA), but do not need to know the names of these types of patterns. Children use both 2-D and 3-D shapes to complete and make simple patterns, focusing on different shapes, sizes and colours. Encourage children to say the patterns aloud, consolidating their previous learning on naming shapes. Use shapes in different orientations to reinforce children's recognition of 2-D and 3-D shapes. Children should be able to recognise the rule within a pattern and use this to continue it in any direction.