AP Progression Map Examples: Mathematics

Maths White Rose: Nursery

The teacher will use the suggested adult-led and continous provision ideas on the scheme to enhance provision for learners.

More than, fewer than, same **Comparison 1**	**Explore and build with shapes and objects** **Shape, Space and Measure 1**	**Explore repeats** **Pattern 1**	**Hear and say number names** **Counting 1**	**Begin to order names** **Counting 2**	**I see 1, 2, 3** **Subitising 1**
Suggested Outcomes: I can explore different objects by gathering and moving them. I can make a group (collection) of things I like. I can join in when we sort into groups, like at tidy-up or snack time. I can demonstrate persisitance when exploring an activity that uses objects I like to play with.	**Suggested Outcomes:** I can explore different shapes by touching, holding, and moving them. I can carry shapes or objects around with me. I can stack or place shapes in different ways. I can try to fit shapes into puzzles of containers. I can choose a big or small object when asked. I can notice when something fits or doesn't fit.	**Suggested Outcomes:** I can explore sounds and songs by listening, moving, or clapping. I can notice when sounds, words, or actions are the same. I can line up objects in a row. I can use the same objects more than once when I build or play. I can choose to do something again if I enjoyed it. I can notice when I've made a line or shape with objects.	**Suggested Outcomes:** I can listen when someone counts during play or routines. I can participate in a counting song by moving my body, using a gesture, or using a symbol. I can join in with part of a counting rhyme or song. I can match a numebr word or sound with an action or object. I can show that I enjoy or expect counting by looking, smiling, or joining in with movement. I can copy or say some counting words.	**Suggested Outcomes:** I can demonstrate some understanding of the counting pattern "1, 2, 3" during a routine or song. I can participate in games or routines that use "1, 2, 3, go!" I can hold up one, two, or three fingers with support or modelling. I can begin to count actions like claps, jumps or taps up to three. I can demonstrate and show interest when someone counts or models numbers in play.	**Suggested Outcomes:** I can look at a group of 1,2 or 3 things when they are shown to me. I can point to or touch the group I see when there are 1,2 or 3 items. I can notice images in books. I can respond to seeing 1,2 and 3 when exploring books and pictrues. I can particpate in a 'my turn, your turn' activity and make attempts at copying "I see 1, 2, 3". I can recognise 1, 2, 3 in familiar stories. For example, The Three Billy Goats Gruff or The Three Little Pigs.

Maths *White Rose: Reception*

Match, sort and compare	Talk about measure and patterns	It's me 1, 2 , 3	Circles & Triangles	1, 2, 3, 4, 5	Shapes with 4 sides
All: I can explore a matching activity using physical objects. **Challenge 1:** I can match physical objects independently. **Challenge 2:** I can identify objects which do not match and use vocabularly such as the 'same' and 'different' to categorise them.	**All:** I can participate with the rhyme 'Big Fish, Little Fish, Cardboard Box'. **Challenge 1:** I can identify and make comparisons between 'big' and 'small'. **Challenge 2:** I know and understand that objects can be compared and ordered by size.	**All:** I can participate with the rhyme 'Three Blind Mice'. **Challenge 1:** I can count from 1 – 3 OR I can count from 1-3 and match the verbal number names to numerals and quantities. **Challenge 2:** I can count from 1 – 3 using objects in different arrangements touching each object as I count.	**All:** I can point to a circle in my classroom. I can point to a triangle in my classroom. **Challenge 1:** I can identify circles and triangles and begin to describe their properties. **Challenge 2:** I know that a triangle is a flat shape with three sides OR I know that a circle is a flat shape that is perfectly round.	**All:** I can explore finding different representations of 4 and 5. **Challenge 1:** I can match the verbal number names to numerals and quantities. **Challenge 2:** I can count objects from 1-5 teaching each object as they count to support one-to-one correspondence.	**All:** I can point to a square in my classroom. I can point to a rectangle in my classroom. **Challenge 1:** I can identify rectangles and squares and begin to describe their properties. **Challenge 2:** I know that both rectangles and squares have 4 straight sides and 4 corners OR I know and undersand that squares are a special kind of rectangle, where each of the 4 sides are equal in length.
All: I can explore a matching activity using physical objects and pictures. **Challenge 1:** I can match objects with pictures & I can match pictures with pictures. **Challenge 2:** I can play a memory game and choose two cards to make a pair.	**All:** I can explore 'heavy' and 'light' objects. **Challenge 1:** I can identify which objects are heavier and which objects are lighter. **Challenge 2:** I know that the heavier object is lower on the balance scale and the lighter object is higher.	**All:** I can participate with the rthyme 'When I was One, I banged by Thumb'. **Challenge 1:** I can understand what 1 looks like in a range of images and stories. **Challenge 2:** I can subtise groups of 1,2 and 3 items in different arrangements.	**All:** I can explore circles and triangles in a tuff tray. **Challenge 1:** I can print using the flat faces of 3D shapes and identify what shape it makes. **Challenge 2:** I can explain why some of the non-examples of 'almost' circles and 'almost' triangles are not circles or triangles.	**All:** I can particpate in a 'How many can you see?' game as an adult-led activity. **Challenge 1:** I can understand what 1, 2, and 3 look like in a range of images and stories. **Challenge 2:** I can subitise groups of up to 4 and 5 items in different arrangements.	**All:** I can investigate shapes and explore how shapes can be combined to make new shapes. **Challenge 1:** I can explore how shapes can be combined and partitioned like numbers in every day contexts. *Links to prior learning on composition of numbers. **Challenge 2:** I know that flat shapes are called 2-D shapes.

MATHS *White Rose*

The coverage has been sequenced using the KS1 overviews from *White Rose Maths*. This means that over the course of a three-year cycle, all formal learners will be taught and/or exposed to all KS1 curriculum objectives with appropriate scaffolding to ensure it is accessible for all. Each box is linked to a step on the scheme and within that step we have created a tiered approach in order to meet the needs of all of our learners. This means if a pupil remains on the Primary Formal Pathway for longer than three years, they will continue to be offered a sequential and progressive curriculum.

Number

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	*Year 1*	*Year 1*	*Year 1*	*Year 1*	*Year 1*
Place Value (within 10) *See knowledge and skills progressions below for beyond 10.	Addition and Subtraction (within10) *See knowledge and skills progressions below for beyond 10.	Place Value (within 20) Step 1-6	Addition and Subtraction (within 20)	Place Value (within 20) Step 7-12 *See knowledge and skills progressions below for beyond 10.	Multiplication and Division

Number Knowledge and Skills (each box is a step)

All: I can **sort objects** based on colour. **Challenge 1:** I can **sort objects** based on size and shape. **Challenge 2:** I can come up with my own criteria for **sorting objects** into sets.	**All:** I know that numbers can be composed of two or more **parts.** **Challenge 1:** I can subitise objects from 1-5. **Challenge 2:** I can subitise objects from 1-10.	**All:** I can verbally **count from 1-20** on a number track. **Challenge 1:** I know what number comes before and after when **counting from 1-20.** **Challenge 2:** I know which numbers after 10 do not include "teen".	**All:** I can **count** on from a given number **within 20.** **Challenge 1:** I know that is it more efficient to start from the greater number than the smaller number. **Challenge 2:** I can use a number line to count on from a given number.	**All:** (Recap) I can find **one more and one less** using a number track. **Challenge 1:** I can find **one more and one less** within numbers up to 20. **Challenge 2:** I can find **one more and one less** with numbers beyond 20.	**All:** I can practically explore **counting in 2's.** **Challenge 1:** I can count forwards and backwards in 2's using a number line and spot the pattern. **Challenge 2:** I can count forwards and backwards in 2's.
All: I know that the final object in a group is the total **number** of **objects.** **Challenge 1:** I know that anything can be counted, including things that cannot be touched. **Challenge 2:** I know that the order in which they **count** a group of **objects** is irrelevant.	**All:** I know that numbers can be represented in two or more parts using a **part-whole model.** **Challenge 1:** I know that the parts cannot be bigger than the whole and amount to the whole. **Challenge 2:** I can describe the parts and wholes in a variety of way.	**All:** I know that **10** can be fixed or broken apart when exploring manipulatives **Challenge 1:** I know that **10** ones and 1 ten are equivalent. **Challenge 2:** I know what a piece of base **10** is worth.	**All:** (Recap) I know **number bonds** to 10 and be able to recall related facts. **Challenge 1:** I can use **number bonds** and related facts when adding within 20, as an alternative to counting on. **Challenge 2:** I can use **number bonds** and related facts to explore missing number problems.	**All:** (Recap) I can count forwards and backwards from 1-20. **Challenge 1:** I can label a **number line** from 1-20. **Challenge 2:** I know how much each jump on the **number line** is worth.	**All:** I can practically explore **counting in 10's.** **Challenge 1:** I can count forwards and backwards in 10's using a 1-50 number grid. **Challenge 2:** I can count forwards and backwards in 10's.
All: I can **count** a specific number of objects from a **larger group.** **Challenge 1:** I can recall the final number when asked "how many?" **Challenge 2:** I can reason when accessing word problems using mathematical knowledge.	**All:** I know that the addition symbol (+) can be used to represent two or more parts. **Challenge 1:** I know that the equals symbols (=) can be used to show equivalence between the whole and the sum of parts. **Challenge 2:** I know that **number sentences** can be written in different orders.	**All:** I can add more to make **11, 12 and 13.** **Challenge 1:** I can use a second tens frame to learn about "10 and a bit". **Challenge 2:** I know how tens and ones are represented in the numerals.	**All:** I know how many more I need to make 20. **Challenge 1:** I can use knowledge of number bonds to 10 in order to **find and make number bonds to 20.** **Challenge 2:** I can explain what is the same and what is different about 4 + 6 = 10 and 14+ 6 = 10.	**All:** I can label a **number line** from 1-20. **Challenge 1:** I know that one more is the next number along the **number line** and one less is the previous numbers. **Challenge 2:** I can identify all the numbers between two given numbers on a **number line.**	**All:** I can practically explore **counting in 5's.** **Challenge 1:** I can count forwards and backwards in 5's using a 1-50 number grid. **Challenge 2:** I can count forwards and backwards in 5's.

MATHS White Rose					
Year 3 Place value	*Year 3 Addition & Subtraction*	*Year 3 Multiplication & Division A*	*Year 3 Multiplication & Division B*	*Year 3 Fractions A*	*Year 3 Fractions B*
All: I can use objects or drawings to show tens and ones in numbers up to 100. **Challenge 1:** I know how many tens and ones are in a number and I can show them in more than one way. **Challenge 2:** I can justify and give reasons for my representations (e.g, "I know 42 is 4 tens and 2 ones because 40 + 2 =42).	**All:** I can use number bonds to 10 to complete part-whole models. **Challenge 1:** I can recall number bonds to 10 and use them to help me find bonds to 100. **Challenge 2:** I can explain how number bonds to 10 help me solve problems with 2-and-3 digit numbers.	**All:** I can make equal groups using objects or pictures **OR** I know that 'equal' means each group has the same number. **Challenge 1:** I can show equal groups using counters and repeated additions. **Challenge 2:** I can explain why a group is equal, even if it looks different.	**All:** I can count in steps of 10 up to 100 **OR** I can spot numbers that are multiples of 10 because they end in zero. **Challenge 1:** I can use place value to explain why numbers like 60, 90 and 120 are multiples of 10. **Challenge 2:** I can solve problems using multiplication or division facts from the 10 times-table (e.g, 7x10).	**All:** I know that a fraction means a part of a whole OR I can find 1 part when something is split into equal parts (e.g 1 out of 2 is one-half). **Challenge 1:** I can name and find unit fractions like 1/2, 1/3 etc. **Challenge 2:** I know that the denominator tells me how many equal parts the whole is split into.	**All:** I can add two fractions with the same denominator. **Challenge 1:** I can use a bar models to help me add fractions. **Challenge 2:** I can add more than two fractions with the same denominator and explain my thinking **OR** I know that adding unit fractions can make a non-unit fraction and I can write it in its simplest form.
All: I can partition numbers into tens and ones using objects or drawings. **Challenge 1:** I can complete part-whole models independently for standard partitions. (e.g., 58 = 50 + 8). **Challenge 2:** I know how to partition a number into tens and ones, and I can write it as an addition sentence."	**All:** I can use a place value chart or base 10 to show what changes when I add or subract a 1-digit number. **Challenge 1:** I can add or subtract a 1-digit number from a 3-digit number in my head when there is no exchange. **Challenge 2:** I can explain what happens when I add or subtract any 1-digit number to/from a 3 digit number and predict if an exchange is needed.	**All:** I can arrange objects in rows and columns to make an array. **Challenge 1:** I can use arrays to show multiplication as repeated addition **OR** I can write multiplication sentences that match my arrays. **Challenge 2:** I know that changing the order of numbers in multiplication gvies the same answer (e.g, 3 x 4 = 4 x 3).	**All:** I can use place value counters to show how numbers get 10 times bigger or smaller. **Challenge 1:** I can use what I know about 3 x 4 to help me work out 3 x 40. **Challenge 2:** I can explain how multiplying one number in a times-table fact by 10 changes the answer (e.g., 3 x 4 = 12 becomes 3 x 40 = 120). **Extension:** Step 3 on the scheme.	**All:** I can use pictures or bar models to help me see which fraction is bigger. **Challenge 1:** I know that ¼ is bigger than 1/10 because the whole is split into fewer parts. **Challenge 2:** I can compare and order unit fractions without pictures, just by looking at the denominator.	**All:** I can subtract one fraction from another when the denominators are the same. **Challenge 1:** I can use a bar model to demonstrate how I subtract fractions. **Challenge 2:** I can explain different ways to subtract fractions, like taking away, finding the difference, or partitioning.

Please note these are Cycle 1 examples from each long-term plan in our learning pathways. If you would like to see the full documents which show the progression of the subject from start to finish, please contact the school office.