

MIS EYFS skills progression - Maths

DM 2020	3-4 - Fast recognition of up to 3 objects, without having to count them individually ('subitising'). - Recite numbers past 5. - Say one number for each item in order: 1,2,3,4,5. - Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). - Show 'finger numbers' up to 5. - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. - Experiment with their own symbols and marks as well as numerals. - Solve real world mathematical problems with numbers up to 5. - Compare quantities using language: 'more than', 'fewer than'. - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. - Understand position through words alone – for example, "The bag is under the table," – with no pointing. - Describe a familiar route. - Discuss routes and locations, using words like 'in front of' and 'behind'. - Make comparisons between objects relating to size, length, weight and capacity - Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. - Combine shapes to make new ones – an arch, a bigger triangle etc. - Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. - Extend and create ABAB patterns – stick, leaf, stick, leaf. - Notice and correct an error in a repeating pattern. - Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	Reception - Count objects, actions and sounds. - Subitise. - Link the number symbol (numeral) with its cardinal number value - Count beyond ten. - Compare numbers - Understand the 'one more than/one less than' relationship between consecutive numbers. - Explore the composition of numbers to 10. - Automatically recall number bonds for numbers 0–10. - Select, rotate and manipulate shapes in order to develop spatial reasoning skills. - Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. - Continue, copy and create repeating patterns. - Compare length, weight and capacity.
ELG 2020	Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other Quantity`. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	
Strand	Subtraction	
Element		
Range	Within 10	

Progression of skill	Possible misconception	Pedagogical Guidance
Know that numbers identify how many objects are in a set.	Children may not yet have developed the concept of cardinality (that the last number they say is the number of objects in the set).	Model counting objects, emphasising the last number to be said and then follow up with a sentence, e.g. 'The last number I said was five so there are five cars'.
Know that a group of things changes in quantity when something is taken away.	Children may not understand that when objects are taken away from a group, the quantity of the group changes.	Encourage children to experience quantity changes in real-life situations that they can relate to. For example, by taking away some snacks or toys.
Count out objects from a larger group	Children may not know when to stop counting out objects from a larger group and may count the whole set rather than the smaller amount.	Encourage children to move the items as they count them and say each number aloud.
Compare sets of objects, saying when they have the same number.	Children may think that 'same' refers to the appearance of the objects rather than the number in the set.	Begin by using objects that are the same colour, before progressing to using objects that differ in appearance somehow, such as size or colour.
Compare sets of objects, saying which has fewer objects.	Children may think that the set of objects that are smaller in size or are less spread out contain less than a set which contains larger-sized objects or objects that are placed further apart.	Begin by comparing groups of objects that are the same size and type. Compare different layouts before you start to compare objects of different sizes. Provide children with opportunities to compare two groups of objects where the group with the largest-sized objects have less than the group containing more, smaller objects. For example, five shells and two cups.
Compare sets of objects, saying how many fewer are in each set.	Children may be able to count each set but may not be able to compare the two numbers	Use objects, such as two towers made of building bricks or number lines, to explore how many fewer in each tower. Line objects up carefully to compare how many fewer are in one line. Using a meaningful context will enable them to make sense of their learning.
Subtract by counting a group of objects, counting out the number to remove and then recounting all.	Children may believe that when a small group of objects is removed from a larger group, the number in the original group stays the same.	Encourage children to physically move the items that are being removed and then carefully count the number of objects remaining.
Find one less than a number from one to ten	Children may not fully understand the term 'less'. They may not understand that 'one less' will always be the previous number on a number line or in a counting sequence.	Provide practical opportunities to explore one less by removing one object from a set. Show this on a number line to demonstrate that one less is the previous number on the line. Provide visual comparisons of numbers for children to compare, such as number shapes or ten-frames.

Know that numbers are made up of different numbers. For example, four can be four and zero, one and three or two and two.	Children may not realise that numbers can be broken apart in different ways.	Provide sets of objects for children to explore separating numbers in different ways. Encourage them to explore that the total stays the same, even when the objects are arranged differently.
Represent numbers in different ways using equipment, such as five or ten-frames, part-whole models, number lines or stories.	Children may not understand that one number can be used in a nominal, cardinal and ordinal manner. They may only see a number as identifying a set of things and may not understand that it can be a label or identify a position.	Explore numbers in all the different aspects that they can be used. Allow plenty of opportunities to count up and down numbers lines, use numbers as labels for trikes or pegs and use numbers to identify how many are in a set.
Understand the effect of subtracting zero.	Children may think of zero as simply nothing and not understand the effect of subtracting zero.	Model subtracting zero through practical activities and through using a number line. Make it clear that although the number stays the same, a subtraction is taking place.
Understand the effect of subtracting the full amount.	Children may not understand that if they subtract the full amount the answer will always be zero.	Provide lots of practical opportunities for children to subtract the full amount, such as subtracting the full amount of bricks or the full amount of toy cars. Discuss with the children what they notice is happening each time the full amount is subtracted.
Compare groups of objects, saying how many belong and how many don't belong in the set.	Children cannot identify objects within a group that 'have' or 'have not' got a certain attribute and struggle to identify which objects do and don't belong.	Look at groups of similar objects and try to identify and remove objects that do not have a certain attribute. For example, look at a set of biscuits and identify the biscuits that have not got chocolate chips. This aspect of subtraction is known as 'the complement of a set'.
Count back to subtract.	Children may think they need to count the number they are on when counting back to subtract.	Use number lines to demonstrate counting back, emphasise that children need to count the 'movement', e.g. start counting once they have jumped back to the previous number.
Use vocabulary of equals: leaves, balances, same, total.	Children may not understand that the different words, such as equals, leaves, balances have the same meaning.	Demonstrate the meaning of the vocabulary of equals through practical demonstrations so that children get a clearer picture of what the meaning 'looks like.'

Use vocabulary of subtraction: take away, how many left, subtract, minus.	Children may not understand all of the different terms used for subtraction, such as subtract, minus, take away.	Model using the range of vocabulary involved with subtraction but stick to key terms that the children need to know. Use subtraction vocabulary posters in the classroom to refer to regularly.
Use vocabulary of comparison in practical contexts: how many fewer? How much shorter/cheaper than...?	Children may have a limited understanding of the correct use of some vocabulary of comparison, such as cheaper or fewer.	Model the use of a range of vocabulary during practical activities. Encourage children to repeat and use the vocabulary when describing their practical work
Understand subtraction as a decrease.	Children may only understand subtraction as 'taking away' objects and may not understand that numbers can decrease	While subtracting, use a vertical number line to demonstrate how the number is decreasing. Use a context children can relate to, such as moving back on a numbered game board or prices going down.