FS2 Personalised Maths Learning Journey - Number

Development Matters:

- To count up to 10 objects with 1:1 correspondence
- To count, order and recognise numerals to 15 then 20, in and out of sequence.
- To write numbers to 5, 10 then 15, forming them correctly
- To say one more/less than a given number to 5, 10 then 15

ELG:

- 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.

Resources/documents:

FS Progression maps, Development Matters, White Rose schemes of work.

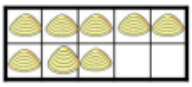
Real-life objects e.g. sweets etc, Numicon, base 10, counters, loose parts, number lines, number cards, sensory writing materials.

Real life discussion before teaching:

Relating to current topics and interests. Continuous provision will be carefully planned to practise new skills being taught, and to consolidate previous learning.

Pre- assessment	Assessment tasks
Previous learning can be seen on the mathematics progression map.	Mini – quizzes Plenaries Interactions with children in provision Observations of children in provision Questioning during learning time Assessments half termly – knowledge focused on for the half term

Teaching sequence	Learning tasks	Language Focus
WALT: To count up to 10 objects/sound/ movements with 1:1 correspondence	**Provide regular opportunities** for the children to practise and consolidate counting on and back within 10. **Counting objects** to 10 in a variety of ways – carpet, groups and provision. **Create collections** of 1,2,3 etc to create a central display 	Count, touch, number, order

	Number hunts inside and out. Where can you find 1,2,3 etc? Counting out objects from a larger group, for example, we are going to play a game. You will each need 3 beanbags.  **Counting sound and movement** is important too. For example, use a drum to sound beats to count or ask the children to do 2 claps, 3 jumps etc. **Use loose parts and natural objects** to practise counting in provision. For example, label small pots with numerals and children must fill them with the right amount of objects. **Outside provision** must be frequently changed and readily available. Beanbags, hoops, quoits, sponges and buckets etc must be provided for children to make their own games. Opportunities for recording scores also need to be readily available (easel/clipboards)  **Use a five/tens frame** alongside loose parts to practise counting objects onto. How many do they have? Can't they see without counting? The children may also enjoy filling large 10s frames outside. 	
WALT: To count, order and recognise numerals to 5, 10, 15 then 20 in and out of sequence	**Provide opportunities for the children to play games exploring numerals.** For example, as you pull out a numeral combine it with a task. For example, if you pull out a 2, take 2 giant strides. If you pull out a 5, find 5 sticks.  **Washing lines** need to be regularly used to practise ordering and recognising numerals. Order the numerals together, mix them up and allow the children to 'sort' the line. This can be accessed during learning time and within provision both indoors and outdoors. **Outdoor number hunts** allow children to practise this WALT. Hide numerals or objects with numerals on them outside. Ask the children to find the numerals and to sort them into 1,2,3 etc. encourage the, to count out quantities to match each numeral.  **Continuous provision and enhancements** must have the opportunity for numerals to be recognised, ordered and matched to quantities.	Count, touch, number, order
WALT: To write numbers to 5 then 10 then 15 forming them correctly	**Sensory enhancements** to be planned, both indoors and outdoors, to practise writing numbers. **Group activities** to include regular opportunities to write numerals.	Write, number

WALT: say one more/less than a given number to 5/10	**High 5** Teacher calls a number to 5 Children show the next number on their fingers. Find both numbers on the washing line to confirm. **Playdough digits** Children use playdough/salt dough to make a number and the next number. They decorate with the matching numbers of counters. **Beanbag hopscotch** Children play hopscotch. They say the number that is one more than the number the bean bag has landed on. If correct, they hopscotch to collect the bean bag.	One more One less 1,2,3,5 1,2,3,4,5,6,7,8,9,10 Before After, next
WALT: say one more/less than a given number to 15	**Next number** Display a 1-20 track. Shuffle and deal 1-20 cards, to 3 players. Place the rest face down in a pile. Turn over top card. *Who has the next number?* They keep the card. If no one has the next number, turn over the next card and place it on top. This time children could win both cards! **Act the addition** Ask a child to take and addition card. Read it together. The child 'acts' out the addition using cubes, e.g. take 5 cubes, then 1 more to make 6, then writes the answer on the card. If correct they win a cube. **Find the addition** Children take it in turns to roll a 1-6 dice and a 1, 2 dice. They say how many spots are on the first dice, and count on the 1 or 2 spots on the second dice. They look for the addition that matches the pair of dice. **Heads or tails?** Each child puts a counter on 6 on their own track. They toss a coin. If it shows heads, they say the number that is 1 more, if it shows tails, they say the number that is 1 less. If correct they move their counter to the correct number and collect this number of bricks. Repeat until a child reaches either end of their track.	One more One less 1,2,3,5,6,7,8,9, 10, 11,12,13,14,15
WALT: Verbally count beyond 20, recognising the pattern of the counting system. **ELG**	**Ongoing opportunities to practise counting** (both forwards and backwards, from different starting numbers etc) will be offered daily. Number songs to be sang often, encouraging children to represent each verse with counters/fingers etc.  **Set up a number rhyme table** to encourage children to re-enact the songs and thymes we sing. Provide characters, numerals, books and resources. Change the rhymes regularly. **Seek opportunities** to practise counting at different parts of the day, for example, when lining up for dinner.	Count, number, forwards, backwards
WALT: Compare quantities up to 10 in different	Taking part in all the activities above will work towards this ELG.	Compare, equal, more, less, same, number, count,

contexts, recognising when one quantity is greater than, less than or the same as the other quantity. **ELG**	**Counting principles** must be used in order to find how many in a set or to count out a required number of objects from a larger group. **Use objects** such as loose parts, counters, sweets etc to compare quantities. Focus on more/less than and equal.	touch, amount, how many

Y1 Personalised Learning Journey		
NC Objective: Place Value within 10		
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs. Base 10, multilink, counters, numicon, compare bears, bead strings		
Real life discussion before teaching : Pictures of numbers in everyday life: Road signs, bus numbers, and/or real items EG packet of sweets, crisps, bottle of juice etc. Give out on each table /or put around classroom and ask children to find all the numbers they can. Discuss what they have found. Can they read the numbers? Make sure you tell them that we use numbers every day and that is why it is important to understand numbers.		
Pre- assessment	Assessment tasks	Language Focus
Teaching sequence	Learning tasks	Language Focus
WALT: Sort objects into groups	1: Concrete Give real life situations e.g. sorting coloured crayons, children into different groups. Chn to be given a selection of objects that can be sorted in different ways and ask to sort into groups – leave open ended unless struggling. Bears, cubes, pom poms 2: Pictorial Look at images to sort in different ways e.g. fruit, shapes, pictures of children. Problem solving: Children explaining how groups are grouped, being able to find the odd one out and explain why / how something might be in the wrong group	Sort Groups Compare Similar Different The same In common Numbers Colours Shape Size
WALT: Count objects to 10	1. Concrete Practical; count objects up to 10 and give them the correct corresponding numeral. Counters, cubes, bears, pom poms 2. Pictorial Match numerals to groups of pictures. Draw the corresponding amount to a numeral	Count How many Careful counting Number Numeral Amount
WALT: Represent objects in different ways	1. Concrete Chn to make a given number using various groups of different objects Counters, bears, cubes, bead strings	Amount Number Objects

	2. Pictorial Complete grid representing different numbers in 4 ways – numeral, pictures, drawings, numicon	
WALT: count forwards	1. Concrete Counting to 10 using objects by adding one more each time and representing numbers with various concrete objects – do this from any given number. Find missing numbers and represent these using objects. (numicon) 2. Pictorial Use images and drawings to represent numbers counting up to 10. Draw missing images to represent numbers as well as numerals on number tracks. 3. Abstract Missing number tracks / incomplete number lines (numerals only) Prob solving – spot and explain the mistake	Counting Amount Number Forwards On More
WALT: Count backwards	1. Practical Start with 10 objects, take one away each time to count backwards. Count back from any given numbers by making the number and taking one away each time using various concrete objects – practical activity in spaces around the room. Multilink, bead strings 2. Pictorial Use images – cross one off each time to count backwards. Draw missing amounts when counting back. 3. Abstract Use number lines to count backwards from 10 – 0. Missing number tracks – count back to find missing numbers and complete.	Counting Amount Number Less Take away Smaller
WALT: Find one more.	1. Concrete Find one more than a given number to 10 bv adding one more object. Oracy: Full sentences – X is one more than X. One more than X is X counters and tens frames and bead strings. 2. Pictorial Give chn a number represented by pictures – chn to find the corresponding picture that has one more.	One more Bigger value Amount Add

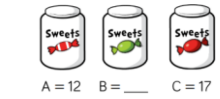
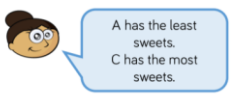
	Find one more by drawing one more – give a number to 10, chn to draw it then find one more by drawing another. 3. Abstract Chn to find one more than a given number using a number line – jump up one more. Introduce no. sentences to show one more than. Match the no. sentence to the statement Reasoning / problem solving: True or false – one more than x is x Real life – x is 1 year older than x, how old are they?	
WALT: Find one less	Concrete Find one less than a given number by taking one away using concrete objects. Practical activity using various objects around the room. Oracy: Full sentences – X is one less than X. One less than X is X Cubes, bead strings 2. Pictorial Show images, find one less by crossing one out. Match picture to no. that is one less and vice versa. Drawings – find one less by drawing the number and crossing one out 3. Abstract Use number lines to find one less by jumping backwards. Introduce no. sentences to show one less than. Reasoning / problem solving: One less than X is the same as one more than X – true or false? Explain. Real life: money. I have 8p, spend 1p, how much left?	One less Take away Less Smaller value Amount Total
WALT: understand one to one correspondence	1. Concrete Chn to use each other - are there enough pens for the group? How many left over? How many too little? Pens, pencils, stickers 2. Pictorial Pictures of different scenarios – are there enough hats per children, hoses for firefighters etc. (make real)	Amount Enough Too many Not enough
		Less than

WALT: compare amounts	1. Concrete Use scales and numicon or cubes Chn to add 2 given numbers to scales and determine which is more / less than / equal to by which is heaviest / lightest Oracy: x Is less than / greater than / equal to x Numicon / cubes 2. Pictorial Give 2 images, chn to count and compare looking for which has the most / least amount.	More than Equal to Amount Value Worth
WALT: Understand <, >, =	1. Concrete Create 2 amounts, use pencils to create the correct symbol by placing above and below built numbers. Cubes 2. Pictorial Pictures to represent numbers, chn to choose the correct symbol to put between 3. Abstract Draw the correct symbol between numerals. Select a number that could go and either side of symbols. Reasoning / problem solving: ___ < 7 – possible missing numbers.	Less than More than Equal to Amount Value Worth
WALT: Order amount	1. Concrete sticks of cubes + numicon – place in order from least to greatest amounts. Numicon, cubes 2. Pictorial Pictures of things in groups – place in order from least to most and most to least. Count objects and write the number beneath 3. Abstract Give some random numbers and ask chn to put in order from least to greatest and greatest to least. Reasoning / problem solving: Spot the mistake.	Order Least Greatest Amount More Less
WALT: Understand ordinal numbers	Concrete Chn to make patterns using objects with specific ordinal requirements e.g. “the second cube must be red”. 2. Pictorial Pictures – colour the 3rd in blue etc.	Ordinal Order First Second Third

	Circle the 2nd.. etc Create a queue – x first, x third etc. Reasoning / problem solving: White rose – complete the problem by putting the shapes in the correct order.	

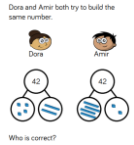
Y1 Personalised Learning Journey Date: WB: 4.1.22		
NC Objective: Place value within 20		
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs. Base 10, multilink, counters, numicon, compare bears, bead strings		
Pre- assessment	Assessment tasks	Language Focus
Teaching sequence	Learning tasks	Language Focus
1. WALT: Count, recognise and write numbers to 20	**1. Concrete** WILF: Use concrete objects to count and represent numbers to 20 Create numbers using tens frames Create numbers using deinnes **EVIDENCE**: photos 2. **Pictorial** WILF: Use images and drawings to count and represent numbers to 20 Draw onto tens frames Match numerals to images of objects Draw the correct amount of bubbles **EVIDENCE**: Blank tens frames to stick in. Matching challenge cards to stick in. Drawing bubbles. **Apply:** Spot the mistake 3. **Abstract** WILF: Recognise and count numerals to 20 Bingo Add in missing numbers **EVIDENCE:** bingo grids / number tracks **Apply:** I am counting from 12 to 20, will I say number 10?	Amount Value Place value Tens Ones Twenty Count Forwards Higher Number Numeral
2.	Matching numeral to word	

WALT: Represent numbers to 20 using numerals and words	Missing number track – add missing number as word **EVIDENCE:** Numeral / word matching Number tracks Cutting and sticking activity **Apply:** true or false "The castle has fifteen windows." Or similar example (with pic)	
3. WALT: Partition numbers into tens and ones	**1. Concrete** WILF: Use concrete objects to partition number into tens and ones Tens frames Deinnes + part-whole models **EVIDENCE:** Photos **2. Pictorial** WILF: Partition numbers into tens and ones using drawings and pictures **EVIDENCE:** Drawings into blank tens frames Drawings into part-whole models Complete sentences to match: ____ is ___ tens and ____ ones **Apply:** Odd one out of 3 numbers shown in tens frames. **3. Abstract** WILF: partition numerals into tens and ones **EVIDENCE:** Write numbers into part-whole models with missing part, parts or whole Write numbers into bar models with missing part, parts or whole **Apply:** Spot the mistake **GD:** Odd one out – more than one possible answer	
4. WALT: Find one more and one less	**1. Concrete** WILF: I can use concrete objects to find one more or less than a given amount. **EVIDENCE**: complete sentence stems. One more than ____ is _____. One less than ____ is _____. **Apply:** True or false – one more than ____ is the same as one less than ____ **GD:** Can you create your own version of the statement? **2. Pictorial** WILF: I can use drawings to find one more and one less than a given amount.	

	EVIDENCE: Draw sticks of ten and add one more or cross one off to find one more / less to complete sentences. One more than _____ is _____. One less than _____ is _____. Higher ability chn to write sentences. Lower ability to stick in. **5. Abstract** WILF: I can use a number line to find one more / one less than a given amount. **EVIDENCE**: Number lines – jump up or down to find one more or less. Put into number sentence ___ + 1 = ___ or ___ - 1 = ____	
5. WALT: Compare groups of objects	WILF: I can create numbers and compare them using 'greater than', 'less than' or 'equal to'. **EVIDENCE**: Photos – children to move around the room to create given numbers and place the correct symbol in the middle of the amounts. Numicon Deinnes PV counters **Apply**: "14 is greater than 11" – true or false? Explain	
6. WALT: Compare numbers	WILF: I can compare numbers to 20 using 'greater than', 'less than' or 'equal to'. **EVIDENCE**: Complete the more than / less than / equal to table. **Apply**: complete- 6 < 10 > _____ ____ > 12 < _____ ____ < ____ > 16 **GD**: Dora has three jars of sweets.  A = 12 B = ___ C = 17 She says:  How many sweets could be in B?	
7. WALT: Order groups of objects	WILF: I can figure out the amount of objects in a group and order them by value **EVIDENCE**: Cut and stick in order, write the value beneath each. Draw missing amounts to make statements correct	

	Apply: Spot and explain the mistake **GD**: How many different amounts can go in the gap?	
8. WALT: Order numbers	WILF: I can put numerals to 20 in order from smallest to greatest values and greatest to smallest values. **EVIDENCE**: Write numbers in correct order. Worded problem – Three children were playing basketball. The scoreboard shows how many hoops they scores each. The winner is the child who scores the most hoops. Eva: 9 Jack: 16 Tommy: 13 Place the children in 1st, 2nd and 3rd **Apply**: I am the youngest. Sister: 17, Brother: 15. How old am I? Explain answer. **GD**: Mr Monaghan says,  What could his number be?	

Y1 Personalised Learning Journey Date: WB:		
NC Objective: Place value within 50		
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs. Base 10, multilink, counters, numicon, compare bears, bead strings		
Pre- assessment	Assessment tasks	Language Focus
Teaching sequence	Learning tasks	Language Focus
1. WALT: count forwards within 50.	**WILF:** I can count on from any given number up to 50. Pictures of groups of ten and ones more – count in tens then ones to find the whole amount. **EVIDENCE**: missing number tracks / challenge cards **Apply:** Spot the mistake **Apply 2:** "When I count on in ones from 33 to 43, it's only the tens that change" – true or false?	Count Count on Higher Forwards Ones Tens

2. WALT: count backwards within 50	**WILF:** I can count backwards from any give number within 50 **EVIDENCE:** ordering backwards/ missing number tracks **Apply**: If I count back from x to x will I say x? .	Count Count back Less Least Backwards Ones Tens
3. WALT: Understand the place value of numbers within 50	**9. Concrete** **WILF**: I can show the amount of tens and ones in numbers to 50 using objects. Deinnes / PV counters – tens and ones to build numbers to 50 **EVIDENCE:** Photos **Apply**  : **GD**: Part covered up number – what number could it be? **10. Pictorial** **WILF**: I can use pictures and drawings to represent numbers to 50 in tens and ones. **EVIDENCE:** Match images to correct amount / draw on blank PV counters to match to number. **Apply:** Which is the odd one out? **GD:** I am thinking of a number that has x amount of tens, what could it be? – draw multiple answers/ I am thinking of a number that has x amount of ones, what could it be? – draw multiple answers. **11. Abstract** **WILF**: I understand the place value of numerals to 50. **EVIDENCE**: partition into tens and ones using numerals. **Apply**: Complete the missing parts **GD**: Complete the missing parts – more than one possible answer	Value Tens Ones Represent Show
12. WALT: find one more than numbers within 50	**3. Concrete** **WILF**: I use objects to find one more than a given amount. Deinnes / PV counters around the room – find one more than given amount on post-its Full sentences – one more than x is x (fill in sentence blanks) **EVIDENCE**: photos **Apply:** True or false: When I find one more than any number, it's only the ones that change.	One more Ones Tens More Grater Value Altogether Total

	4. Pictorial **WILF**: I can use pictures and drawings to find one more than numbers within 50 **EVIDENCE**: Draw straight into books. Draw deinnes / PV counters to find one more than given numbers, Match the pictorial representation to numerals to say what is one more. (e.g. one more than 33 is *match to correct pic* **Apply**: Spot the mistake **13. Abstract** **WILF**: I can find one more than given numbers to 50 by using a number line. **EVIDENCE**: Number lines – jump up one more to find one more. Write corresponding no. sentence. **Apply**: x has shown "one more than 35" – have they done it right? – explain your answer.	
5. WALT: Find one less than numbers within 50	1. **Concrete** **WILF**: I can make a given number using objects and take one away to find one less. Base 10 / PV counters **EVIDENCE**: photos 2. **Pictorial** **WILF**: I can use pictures and drawings to find one less than a given number. Draw numeral representations, cross off one to show one less **EVIDENCE**: drawing into books, write corresponding number sentence. **Apply**: Spot the odd one out. 3. **Abstract** **WILF**: I can use a number line to find one less than numbers to 50. Jump back one on a number line to find one less than a number. **EVIDENCE**: no. lines in books. Write corresponding no. sentence, complete missing number word sentence. **Apply**: Which of the following shows one less than x **GD:** One more than x is the same as one less than x – lots of answers. .	Tens Ones Take away Subtract One less
14.	**WILF**: I can use the correct symbol to compare groups of objects.	Greater than Equal to Less than

WALT: compare objects within 50	< > or = Place the correct symbol between two pictorial representations of numbers Oracy: x is greater than / less than / equal to x **EVIDENCE**: photos **Apply**: x says "I have a greater amount because I have more ones" – who is right? **GD**: ____ is greater than ___ but less than _____ - put pics in the gaps	Amount Value Tens Ones Worth
15. WALT: Compare numbers within 50.	**WILF**: I can compare numerals and use the correct symbol to say if a number is greater than, less than or equal to another. **EVIDENCE**: comparison table, add >, < or = **Apply**: 50 < 43 because it has less tens. True or false? **GD: ___ > _____ < _____**	Greater than Less than Equal to Amount Total Compare
16. WALT: Order numbers within 50	**WI:F:** I can order pictorial representations of numbers within 50 from least to most and most to least. **Evidence**: cut and order strips of pictures showing different amounts. **Apply**: Full in the gap for a possible amount in the order.	
17. WALT: Order numerals within 50	**WILF:** I can order numerals from least to greatest and greatest to least amounts **Evidence**: number strips – stick in book and write the correct order beneath – highest to lowest and vice versa. **Apply**: Spot the mistake **GD**: Add the missing number / different possibilities	Order Greatest Least Amount Place value Tens Ones

Y1 Personalised Learning Journey Date: WB: 17.5.21		
NC Objective: Place value within 100		
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs. Base 10, place value counters, part-whole models, double sided counters, bead strings, tens frames.		
Real life discussion before teaching : Pictures of numbers in everyday life: Road signs, bus numbers, and/or real items EG packet of sweets, crisps, bottle of juice etc. Give out on each table /or put around classroom and ask children to find all the numbers they can. Discuss what they have found. Can they read the numbers? Make sure you tell them that we use numbers every day and that is why it is important to understand numbers.		
Pre- assessment	Assessment tasks	Language Focus
Chn are mostly secure in place value to 50. Some need a bit of		

work on finding one more and one less (can do so using a number line). Need practise using a 100 square.		
Teaching sequence	Learning tasks	Language Focus
1: WALT: Understand and identify the place value of numbers within 100.	CONCRETE WILF: I can use concrete objects to show understand the tens and ones in numbers within 100 Look at different numbers to identify the amounts of tens and ones to embed this learning. Make given numbers using equipment and write the numbers corresponding to shown concrete objects. Use base 10 and PV counters. Real life: Worded sentences Linked to money – how many 10ps and 1ps? PICTORIAL WILF: I can use pictures and drawings to show and understand the tens and ones in numbers within 100. Chn to look at groups of objects in 10s and 1s – e.g. 6 bunches of 10 flowers and 3 single. How many altogether using PV knowledge? Model counting in tens then ones if need be.	Tens Ones How many More Less Value Total
2: WALT: Count to 100.	CONCRETE: WILF: I can use concrete objects to count from any given number to 100. Use base 10 / PV counters. Adding one more each time when counting from a given number to another within 100. Investigate crossing 10 when counting – what happens to the objects? What would we need to change? PICTORIAL WILF: I can use drawings and images to count from any given number to 100. Look at groups of objects similar to session 2. Make groups of 10 if not already in them to count that number. Add more single pictures to continue counting on. ABSTACT WILF: I can use numerals to count to 100 Use 100 square to count to 100. Practise using 100 square to count on from any given number to another, crossing 10.	Counting Forwards More Count on Change Tens Ones

	Complete missing number sequences Reasoning: finding the mistakes in given sequences	
3 WALT: Partition numbers into tens and ones.	CONCRETE WILF: I can use concrete objects to partition numbers within 100 into tens and ones. Use part-whole models / bar models and partition into 10s and 1s. – use base 10 / PV counters Start with giving the whole number then asking chn to partition. Show models with missing part and ask children to add what is missing. PICTORIAL WILF: I can use pictures and drawings to partition numbers within 100 into tens and ones. Use part-whole models and partition into 10s and 1s. – look at pictures of numbers similar to session 2 and write partitioned numbers into part-whole model. Start with giving the whole number then asking chn to partition. Show models with missing part and ask children to add what is missing. ABSTRACT WILF: I can partition numerals within 100 into tens and ones. Start with giving the whole number then asking chn to partition. Show models with missing part and ask children to add what is missing. Link to number sentences. Problem solve / GD: show models with multiple possibilities for chn to complete.	Tens Ones Part Whole Partition
4 WALT: Compare numbers within 100	CONCRETE WILF: I can use concrete objects to compare amounts within 100, using the correct symbol Use base 10, PV counters, numicon to build numbers and compare using symbols Chn making given numbers using concrete objects and putting the correct symbol between numbers. How do we know what is more / less? Tens or ones worth more? Make is make sense by building appropriate numbers: ____ < 56 _____ > 32 Etc.	More than Greater than Less than Equal to Place value Tens Ones Worth Value

	PICTORIAL WILF: I can use pictures and drawings to compare amounts within 100. Show amount of things as images for chn to compare (bunches of flowers, purses with money etc.) group tens and ones to find numbers then compare. ABSTRACT WILF: I can compare numerals within 10, using the correct symbol Use numbers – link to 100 square and counting finding numbers on there. Find a number greater than 'x'. Find a number less than 'x'. How do we know that 'x' is less than 'x'. How do we know that 'x' is greater than 'x'. Look at numbers with same amount of 10s or 1s – how do we know 54 is less than 59 e.g. Reasoning / problem solving – would you rather	
5 WALT: Order numbers to 100.	CONCRETE WILF: I can use concrete objects to order amounts within 100. Chn to use numicon / PV counters / base 10. Chn to work in small groups. Give numbers, ask to build each and put in order from least to most / most to least. Give images of concrete objects and ask chn to put in order independently. PICTORIAL WILF: I can use pictures and drawings to order amounts within 100. Use images of objects in groups of 10 + singles. Ask chn to figure out each number by looking at amount of 10s and 1s then place in order from least to most / most to least. How do we know it's correct? Spot the mistakes. ABSTRACT: WILF: I can order numerals within 100 from the least to most and vice versa. Use numbers and place in order. Put people in age order Put money in amount order	Worth Least Most In between

	Reasoning / prob solving – spot the mistake Missing number sequences – what could be there? (more than one possible answer)	
6 WALT: Find one more and one less than numbers to 100.	CONCRETE WILF: I can use concrete objects to find one more and one less than numbers within 100. Use base 10 / PV counters / bead strings Give a number – find one more by physically placing one more and one less by taking away. Link to no. sentences (x + 1 = , x – 1 =) Real life / topic link: 'x' has 54 bones, it finds one more. How many now? There are 88 'x' in a herd, one gets eaten, how many left? Tens or ones that change? Is it ever both? – explore using objects. PICTORIAL: WILF: I can use pictures and drawings to find one more than given numbers within 100. Use images of groups of 10 + singles. Find one more by figuring out the number shown then adding / drawing one more. Link to no. sentences & topic links as above. Continue exploring crossing tens. ABSTRACT WILF: I can use number lines and 100 squares to find one more and one less than numbers within 100 Use 100 sq. to find numbers then find one more / less. Explore crossing tens again. Chn to find one more than / less than given numbers. Complete sentences with different wording such as ____ is one more than 56. One more than 87 is _____. Link to no. sentences. Worded problems: X has 87 dojos, x has one less than them, how many do they have?	One more One less Greater Less More Worth Add Take away

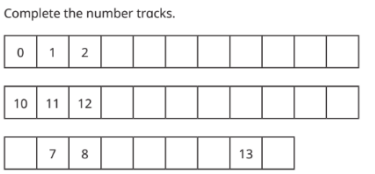
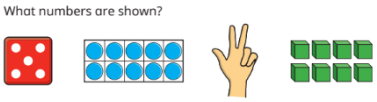
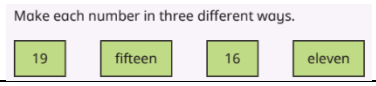
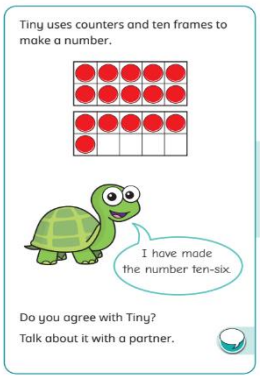
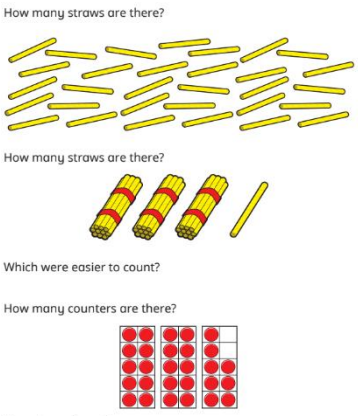
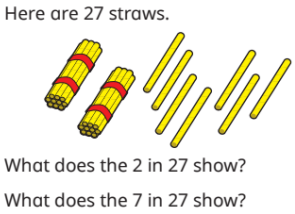
Y2 Personalised Learning Journey
Block 1: Place Value

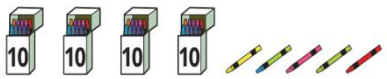
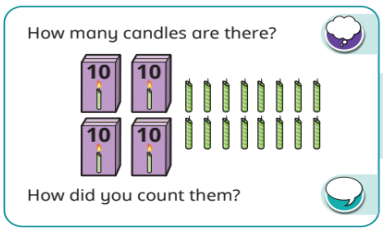
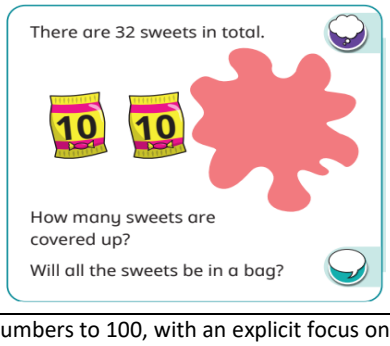
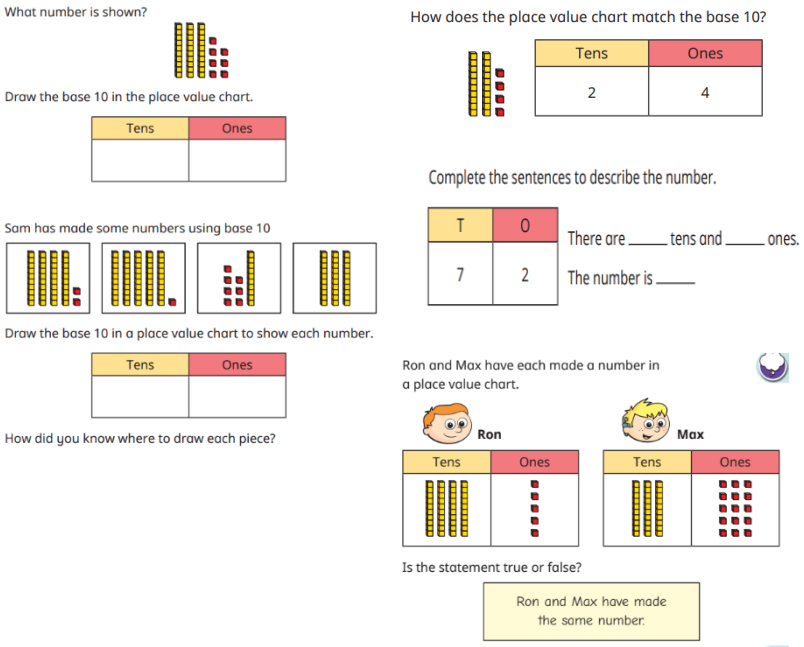
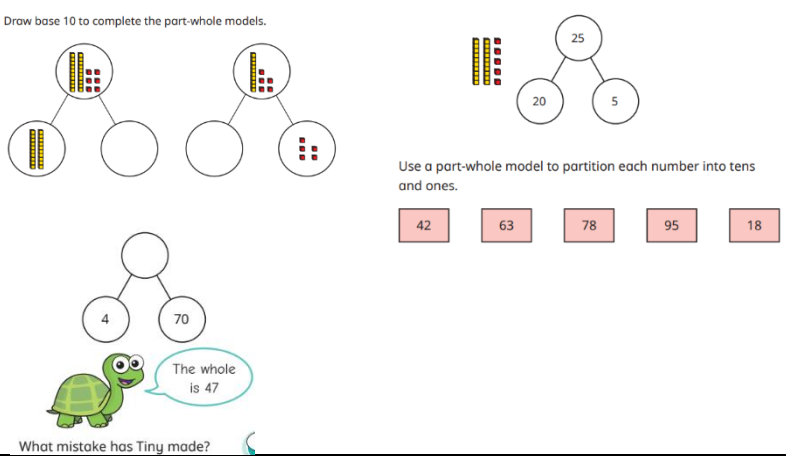
- **NC Objective:** count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward
- recognise the place value of each digit in a two-digit number (10s, 1s)

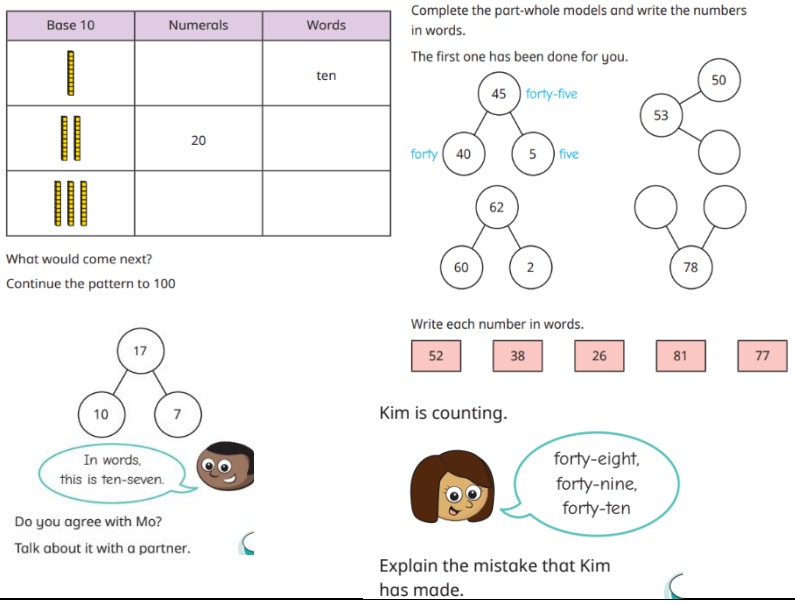
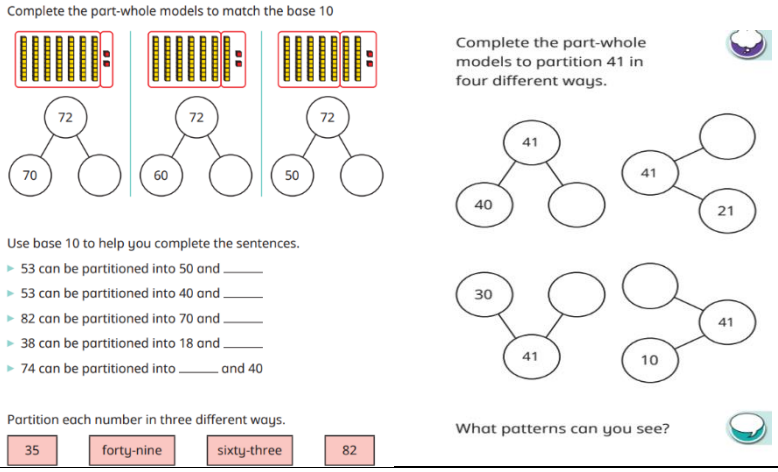
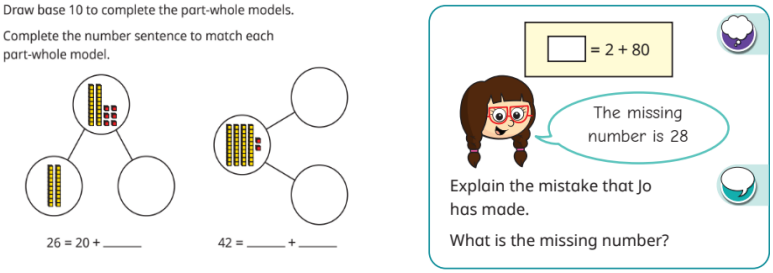
- identify, represent and estimate numbers using different representations, including the number line
- compare and order numbers from 0 up to 100; use <, > and = signs
- read and write numbers to at least 100 in numerals and in words
- use place value and number facts to solve problems

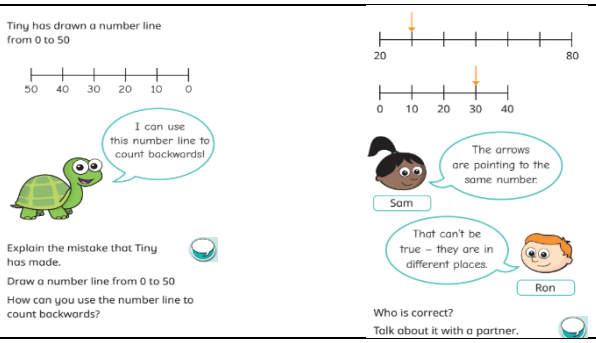
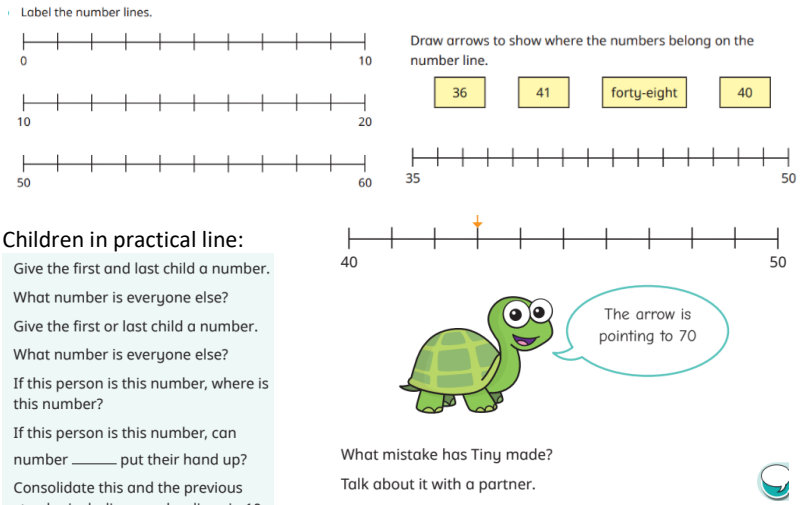
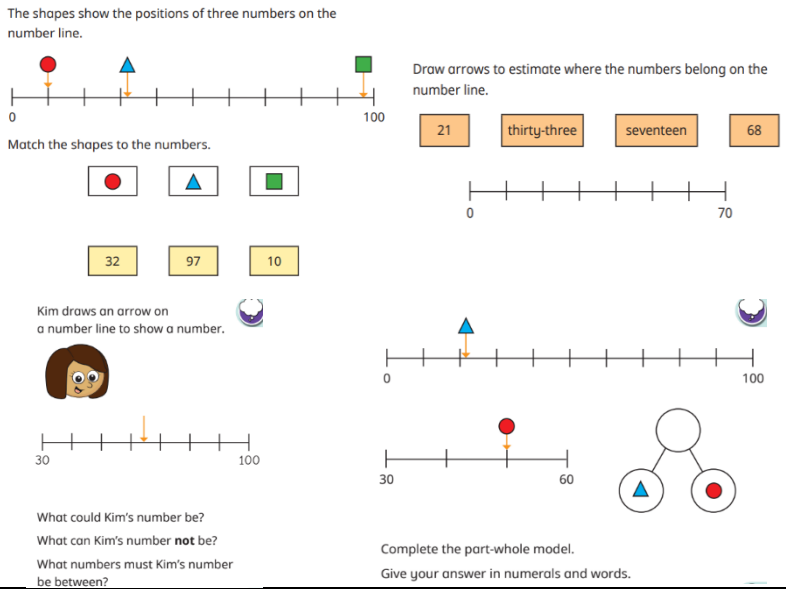
Resources/documents: White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs, Garry Hall.org.uk

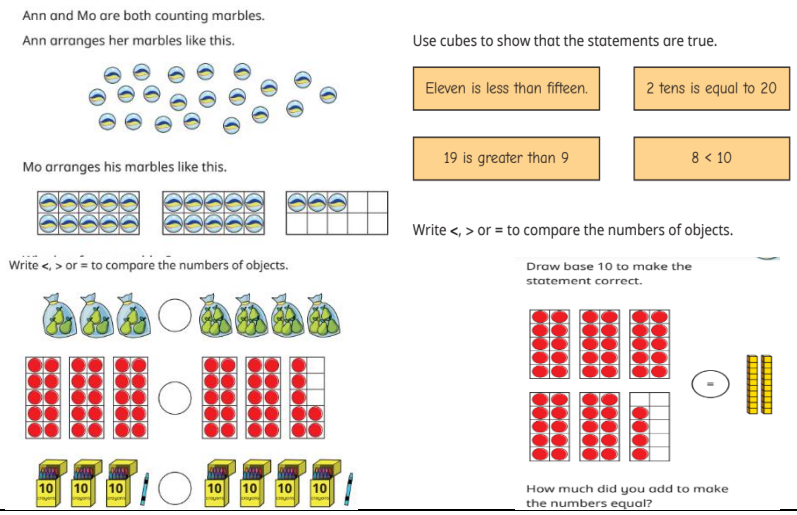
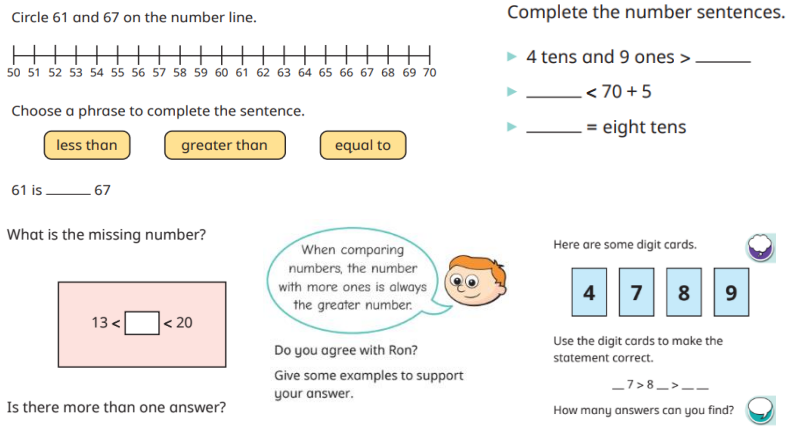
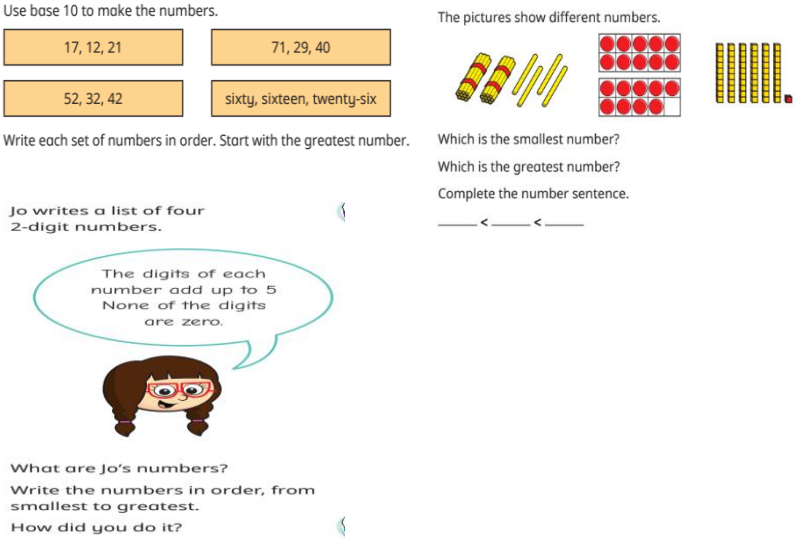
Real life discussion before teaching: Brainstorm where we see numbers in everyday life. Why is it important to understand these numbers – shopping, measuring time e.g in PE activities, baking, finding best holiday prices, best value pocket money purchases

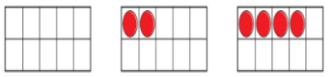
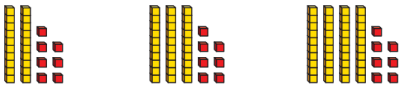
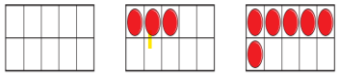
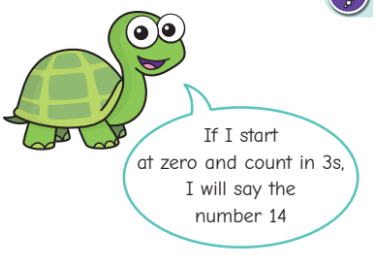
Pre-assessment	Assessment tasks	Language Focus
	Assessment info from Y1	
Teaching sequence	**Learning tasks**	
WALT: Consolidate numbers to 20	Revise reading and writing numbers to 20 with emphasis on 11, 12, 13 and 15 where the word does not make specific reference to the number of ones. Possible sentence stems: There is 1 ten and____ ones. The number is___ The number after ___ is ___ The number before ___is ____ ____ in words is ____ _____in numerals is ___   Give your answers in numerals and words.   	• What number comes before/after _____? • How do you write ____in words? • How do you write____ in numerals? • What number is made up of 1 ten and ____ ones?
WALT: Count objects to 100 by making 10s	Count objects to 100 by making tens. Explore how a number can be made in different ways. E.g 27 can be made by making 2 groups of 10 and 1 group of 7  Make numbers on a bead string. Can children: Can they write the number in numerals? Can they say the number out loud? How did they make the number? Get children to work with a partner to make numbers.  	• How did you count them? • How many __are in each group/bundle? • How many extra are there? • How many ___are there in total? • How do you write __ in numerals? • What number is made up of ___tens and ____ ones?

WALT: Recognise tens and ones	How many crayons are there?  How did you count them? How many sweets are there?  How did you count them? How many marbles are there?  How did you count them?  How many candles are there? How did you count them?  There are 32 sweets in total. How many sweets are covered up? Will all the sweets be in a bag?	What does each piece represent? • Where can you see the ten? • Do you need to count each one individually? • How many are there in each box/pack?
WALT: Use a place value chart	So far, children have looked in detail at numbers to 100, with an explicit focus on making tens. They now build on this to organise their representations in a place value chart, placing pieces of equipment under the correct place value headings. Once children are comfortable with organising equipment into place value charts and understand the column headings, they begin to write numbers into place value charts with digits in the correct place  What number is shown? Draw the base 10 in the place value chart. Tens / Ones Sam has made some numbers using base 10 Draw the base 10 in a place value chart to show each number. Tens / Ones How did you know where to draw each piece? How does the place value chart match the base 10? Tens / Ones 2 / 4 Complete the sentences to describe the number. T / O 7 / 2 There are ____ tens and ____ ones. The number is ____ Ron and Max have each made a number in a place value chart. Ron Tens / Ones Max Tens / Ones Is the statement true or false? Ron and Max have made the same number.	• What number is represented? • How many tens/ones are there? • How does the place value chart show the number? • What do you do if there are no ones? • What does the digit _____represent? • Which column do you write ____in? • Why can you not write a digit greater than 9 in a place value column?
WALT: Partition numbers to 100	Use understanding from earlier in the block and begin to partition numbers to 100 using standard partitioning. Use representations first then abstract numbers Record in part-whole models.  Draw base 10 to complete the part-whole models. How does the part-whole model match the base 10? 25 20 5 Use a part-whole model to partition each number into tens and ones. 42 / 63 / 78 / 95 / 18 4 70 The whole is 47 What mistake has Tiny made?	• How many tens are there? • How many ones are there? • What is the number? • What is the whole? • What are the parts? • Does it matter which way round you draw the parts?

WALT: Write numbers to 100 in words	Previously, children wrote numbers to 20 in words. Since then, they have focused on numbers to 100 in different representations. Introduce recording in words. 	• How many tens are there? • How do you write that in words? • How many ones are there? • How do you write that in words? • How do you write ___ in words? • How do you write ___in numerals?
WALT: Flexibly partition numbers to 100	Ch already know standard partitioning. If children know that 27 is made up of 2 bundles of 10 straws and 7 more straws, then by physically unbundling 1 group of 10 straws they see that 27 could also be made up of 1 bundle of 10 straws and 17 more straws. 	If you unbundle one lot of 10, how many tens are there now? How many ones? • How many ones are there in each ten? • How else can you partition the number?
WALT: Write numbers to 100 in expanded form	Children should be confident in partitioning numbers to 100 in a standard way, and also understand that numbers can be partitioned more flexibly. From earlier steps, children can e[plain that 32 is made up of 3 tens and 2 ones, or 30 and 2. At the end of this small step, children should be able to write this as 32= 30 + 2 and say 32 is equal to 30 plus 2 	How do you write that as a number sentence? • What number is equal to __ + ____? How does the part-whole model link to the number sentence? • How can you write the other partitions as a number sentence?
WALT: Count 10s on the number line to 100	Focus/; Position of tens on a number line. Ch use their knowledge of counting in multiples of 10 to label number lines. Identify and find the position of given numbers on a number line. Teach completing number lines and identify what number the arrow is pointing to. Reasoning and problem solving:	What is the value at the start point of the number line? • What is the value at the end point of the number line? • How many intervals are there?

		• What is the number line counting up in? How do you know? • Where would ____ be on the number line? How do you know? • What number is the arrow pointing to? How do you know?
WALT: Count 10s and 1s on the number line to 100	In the previous step, children looked only at intervals on a number line that were multiples of 10. In this small step, they consider the numbers that lie between multiples of 10 as they look at 10s and 1s on a number line. Children start by considering number lines with start and end points that are a multiple of 10, before exploring other number lines with more varied start and end points and a different number of intervals. All the number lines count up in 1s. 	What is the value at the start point of the number line? • What is the value at the end point of the number line? • How many intervals are there? • What is the number line counting up in? How do you know? • Where would ____ be on the number line? How do you know? • What number is the arrow pointing to? How do you know?
WALT: Estimate numbers on a number line	Children estimate the position of numbers on number lines. Using the number lines counting in 10s that they worked with in the previous step, they position numbers made up of tens and ones. encourage children to use their number sense to first decide which two intervals a number lies between 	Which two intervals is ___between? • What number is halfway between ___ and ___? • Which multiple of 10 is ___closer to? • Why can you only estimate the position of on the number line?
WALT: Compare objects	Children combine all their learning so far from this block as they begin to compare objects to 100. Children identify which quantity is greater, explaining their reasoning. The language of "more than" and "fewer than" will be used in the context of quantity. When using objects as a representation of number, children should use the language of "greater than", "less than" and "equal to" alongside the inequality symbols to compare.	How can you arrange the objects to make them easy to compare? • How did you count the objects? • Do groups of 10 help you to count? Why?

		
WALT: Compare numbers	Children compare numbers in a more abstract way. The language of “greater than”, “less than” and “equal to” be used alongside the inequality symbols throughout. The use of a number line supports children’s understanding. 	Can you show your answers using base 10/counters? • Can you show your answers by drawing a picture? • Is there more than one answer? • How does a number line help you to compare numbers? • Do you need to work out the number sentences to decide which is greater/smaller?
WALT: Order objects and numbers		How do you know which picture shows the smallest/greatest number? • Did you look at the tens or ones to help you order?

WALT: Count in 2s, 5s and 10s	In Year 1, children covered counting in 2s, 5s and 10s. This step revisits those skills in preparation for later in the year when working on topics such as money. Children count both forwards and backwards in 2s, 5s and 10s. When counting in 2s and 5s, the starting number should be a multiple of 2 or 5 respectively. Children should be able to count both forwards and backwards in 10s from any number. What numbers are shown?  Make the next two numbers in the pattern. What numbers have you made? Are the statements always true, sometimes true or never true? When counting in 2s from zero, the numbers you say are even. When counting in 5s from zero, the numbers you say are even. When counting in 10s from zero, the numbers you say are even. Circle the number that does not fit the pattern. ▸ 2, 4, 6, 8, 9, 10, 12 ... ▸ 35, 30, 25, 20, 12, 10 ... ▸ 0, 5, 10, 20, 30, 40 ... ▸ 28, 26, 24, 22, 20, 10 ... What numbers are shown?  Make the next two numbers in the pattern. Mo and Kim are counting backwards from 100   What numbers will they both say? What do you notice?	How many do you need to count on each time? How do you know? • When counting forwards, do the numbers get greater or smaller? • When counting backwards, do the numbers get greater or smaller? • Do you notice any patterns? • What happens to the ones digit when counting in 10s? • What do you notice about the numbers when you are counting in 5s? • What do you notice about the numbers when you are counting in 2s
WALT: Count in 3s	Use concrete resources to physically make each number and begin to spot patterns when counting in 3s. Children explore problems in the abstract by drawing jumps on number lines, completing number tracks or using a hundred square to support them in counting and spotting patterns What numbers are shown?  Make the next two numbers in the pattern. What numbers have you made? Continue the jumps on the number line to count forwards in 3s.  What number will you say after 15? Continue the jumps on the number line to count backwards in 3s.  What number will you say after 15?  Is Tiny correct? Explain your answer. Ben has 15 stickers. He collects 3 more stickers each day. How many stickers will he have after 6 days? Mo is counting in 2s and Kim is counting in 3s. |				
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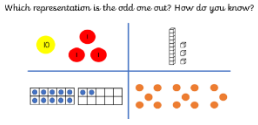
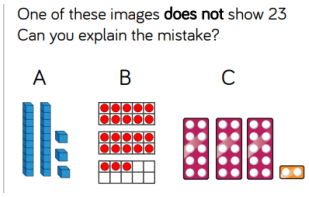
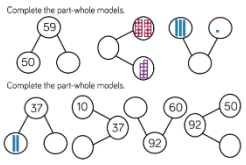
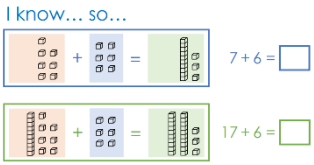
Mo	2	4	6	8
Kim	3	6	9	12
Total				|  What pattern do they make? Sam and Ron count in 5s and add their numbers together as they count. What new pattern do they make?	When counting forwards, do the numbers get greater or smaller? •When counting backwards, do the numbers get greater or smaller? • Do you notice any patterns? • What do you notice about the numbers when you are counting in 3s? • What is different about counting in 2s and counting in 3s?

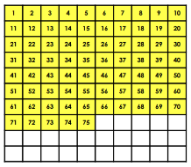
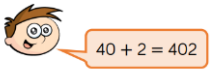
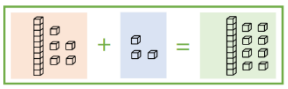
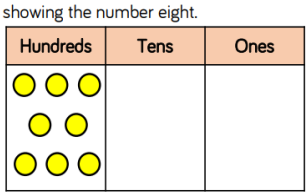
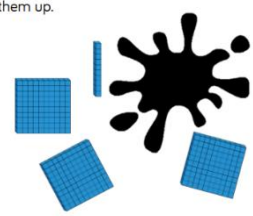
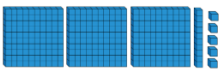
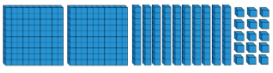
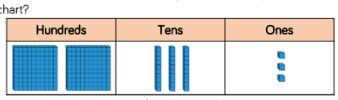
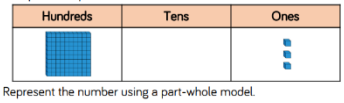
Y3 Personalised Learning Journey
Place Value

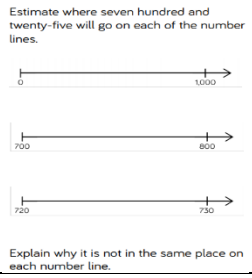
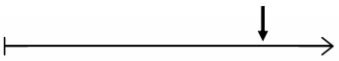
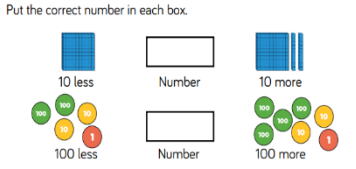
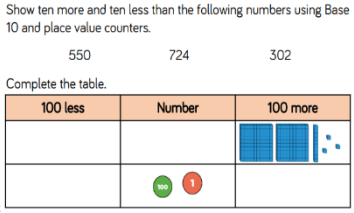
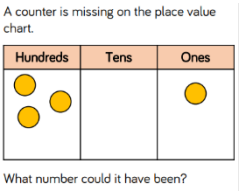
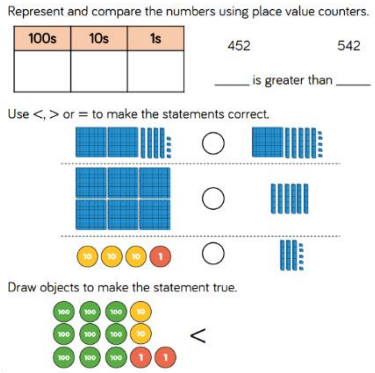
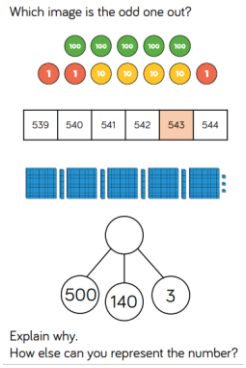
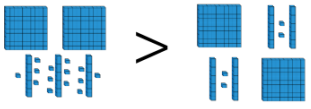
- **NC Objective:** recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)
- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas

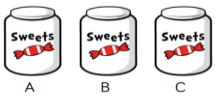
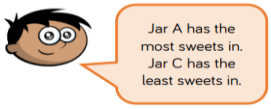
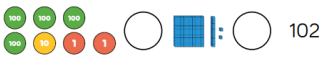
Resources/documents: White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs, Garry Hall.org.uk

Real life discussion before teaching: Brainstorm where we see numbers in everyday life. Why is it important to understand these numbers – shopping, measuring time e.g in PE activities, baking, finding best holiday prices, best value pocket money purchases

Pre-assessment	Assessment tasks	Language Focus
	Recap representing numbers to 100. Check addition using 10s and 1s	
Teaching sequence	Learning tasks	
1. WALT: Represent numbers to 100	Represent numbers using range of concrete materials State numbers in terms of tens and ones Use of concrete materials within part-whole models and bar models Partitioning in different ways   	Which is more efficient, counting in tens or ones? Can you show me the tens and the ones? What does the word partition mean? Part-whole, bar model, base 10, place value. What is the value of the 6 in the number 62? Which part is missing?
3. Tens and ones using addition		What clues are there in the calculations? Can we look at the tens number to help us out? What is the same/different about the calculations? What are the key bits of information?

WALT: Partition and recombine and represent numbers to 100	Match the number sentence to the correct number. 20 + 19 | 10 + 4 | 40 + 0 | 80 + 1 40 | 14 | 81 | 39  75 + ☐ = 100 35 | 25 Teddy thinks that,  40 + 2 = 402 Explain the mistake he has made. Can you show the correct answer using concrete resources?  15 + 3 = ☐	
4. Hundreds WALT: Understand the relations ship between 10s and 100s	Use bundles of straws in tens, bead strings and Base 10 to explore how many tens make a hundred. Children use the equipment to count up and down in tens to make 100 *There are 3 tens this is thirty.* *There are _____ this is _____ .* *There are _____ tens in one hundred.* There are 100 sweets in each jar.  How many sweets are there altogether? True or false? If the centurion counts his horses in 100s from zero, all his numbers will be even. Convince me. Sort these statements into always, sometimes or never. • When counting in hundreds, the ones column changes. • When counting in hundreds, the hundreds column changes. • To count in hundreds we use 3-digit numbers. Whitney thinks the place value grid is showing the number eight.  Do you agree? Explain why. Using all of the counters, what is the smallest number you can make? What other numbers could you make?	How many tens have you made? How else can we say this? What do these digits represent? How many ones have you made? How else can you say this? If we continue counting in tens, what do we say after 100? What numbers wouldn't we say?
5. WALT: Represent numbers to 1000	Concrete: Use base 10 to become familiar with numbers to 1000 Pictorial: Write the numbers shown using base 10 representation Problem solving when ready: Teddy has used Base 10 to represent the number 420. He has covered some of them up.  Work out the amount he has covered up. How many different ways can you make the missing amount using Base 10? Which child has made the number 315? Dora  Mo  Explain how you know.	Does it matter which order you build the number in? Can you have more than 9 of the same type of number e.g. 11 tens? Can you create a part-whole model using or drawing Base 10 in each circle?
6.100s, 10s, 1s WALT: Read and represent 3 digit numbers	What is the value of the number represented in the place value chart?  Write your answer in numerals and in words. Complete this place value chart so that it shows the number 354  Represent the number using a part-whole model. How many different ways can you make the number 452? Can you write each way in expanded form? (e.g. 400 + 50 + 2) Eva  The place value grid shows the number 467 Is Eva correct? Explain your reasoning. What do you notice about the number shown? Digit card investigation to see how many three digit numbers you can make	What is the value of the number shown on the place value chart? Why is it important to put the values into the correct column on the place value chart? How many more are needed to complete the place value chart?

	Use place value counters to see how many ways you can make 350	
7. Number line to 1000 WALT: Estimate, work out and mark numbers on a line	Create and mark number lines  If the arrow is pointing to 780, what could the start and end numbers be? Find three different ways and explain your reasoning. 	What is the value of each interval on the number line? Which side of the number line did you start from? Why? When estimating where a number should be placed, what facts can help you? Can you draw a number line where 600 is the starting number, and 650 is half way along? What do you know about the number that A is representing? A is more/less than _____
8. WALT: Find 1, 10, 100 more or less than a given number	  Reasoning: 10 more than my number is the same as 100 less than 320 What is my number? Explain how you know. Write your own similar problem to describe the original number. 	What is 10 more than/less than ___? What is 100 more than/less than ___? Which column changes? Can more than one column change? What happens when I subtract 10 from 209? Why is this more difficult?
9. WALT: Compare objects to 1000	Use comparative language when comparing two numbers to 1000 represented by objects:   Problem solving with objects: True or False?  Which tribe has the most sacks of food? How do you know? Explain your answer.	How do you know which number is greater? Do you start counting hundreds, tens or ones first? Why? What strategy did you use to compare the two numbers? Is this the same or different to your partner? Are the Base 10 and place value counters showing the same amount? How do you know? Is there only one answer?

10. WALT: Compare numbers to 1000	Compare numbers represented as numerals rather than objects. Circle the greatest number in each pair. Nine hundred and two 920 500 and 63 568 7 hundreds and 6 ones 76 tens Use <, > or = to make the statements correct. 399 ◯ 501 800 ◯ 80 tens I am thinking of a number. It is between 300 and 500 The digits add up to 14 The difference between the greatest digit and the smallest digit is 2 What could my number be? Is there only one option? Explain each step of your working. Amir has 3 jars of sweets.  A B C Jar A contains 235 sweets. Jar C contains 175 sweets.  How many sweets could be in jar B? Explain how you know.	What strategy did you use to compare the numbers? What materials would be useful to help you compare the numbers? How do you know which number is the smallest /greatest? Which column do you start comparing from? Why? Can you find more than one way to complete the statements?
11.WALT: Order 3 digit numbers	Use base 10 to explore ordering sets of numbers greatest to smallest and smallest to greatest Here are three digit cards. 3 4 5 What is the greatest number you can make? What is the smallest number you can make? Use the symbols <, > or = to make the statement correct.  102 Whitney has six different numbers. She put them in ascending order then accidentally spilt some ink onto her page. Two of her numbers are now covered in ink. 214, ▪ 243, 256, ▪ 289 What could the hidden numbers be? Explain how you know. **True or False?** When ordering numbers you only need to look at the place value column with the highest value.	How do you know you have created the greatest/smallest number? What number is being represented by the place value counters/Base 10? What does the word ascending/descending mean?
12.WALT Count in 50s	Make links to 5 times table to count in steps of 50 Count forwards and backwards from any multiple of 50 Look at patterns on number tracks and explain them. Complete and correct mistakes on number tracks Reasoning and problem solving: **Odd One Out** 100, 150, 200, 215, 300 Circle the odd one out. Explain how you know. Which is quicker: counting to 50 in 10s or counting to 150 in 50s? Explain your answer. **Always, Sometimes, Never** Sort the statements into always, sometimes or never. • When counting in 50s starting from 0, the numbers are all even. • There are only two digits in a multiple of 50 • Only the hundreds and tens column changes when counting in 50s.	What is the same and what is different between counting in 5s and counting in 50s? Hence, what is the connection between the 5 times table and the 50 times table? Can you notice a pattern as the numbers increase/decrease? Can you correct the mistakes in each?

Y4 Personalised Learning Journey

NC Objectives:

Year 3

- Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)
- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas

Year 4

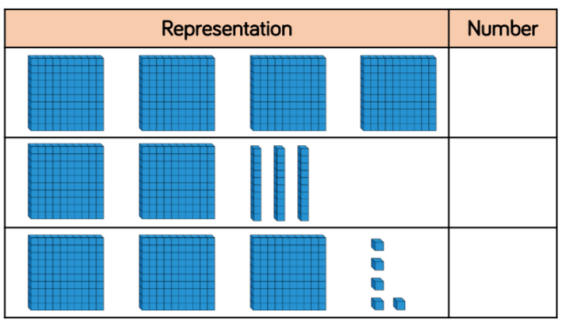
- count in multiples of 6, 7, 9, 25 and 1,000
- find 1,000 more or less than a given number
- count backwards through 0 to include negative numbers
- recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s)
- order and compare numbers beyond 1,000
- identify, represent and estimate numbers using different representations
- round any number to the nearest 10, 100 or 1,000
- solve number and practical problems that involve all of the above and with increasingly large positive numbers
- read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value

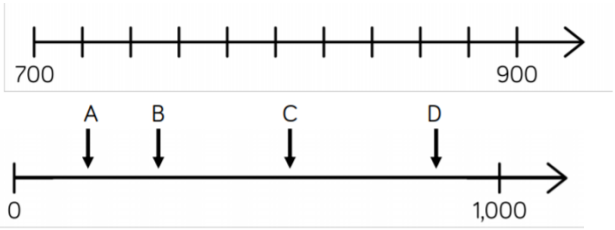
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation, deepening understanding resources Policies (Use of concrete), NCETM mastery assessment docs, past SATs questions. Deepening Understanding TTRS Prodigy Maths

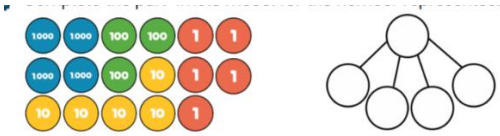
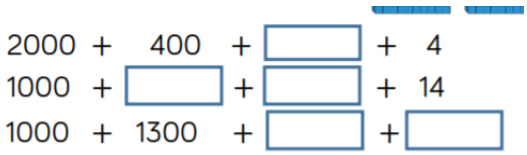
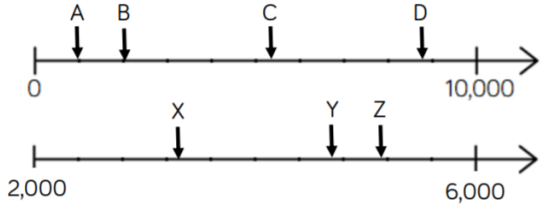
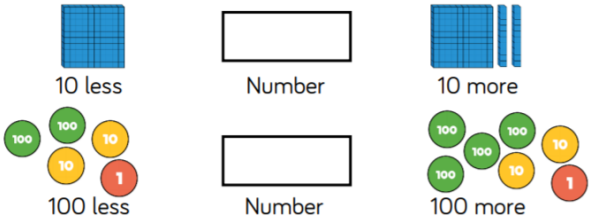
Base 10. Place value counters. Unifex (SEN),, beads and other objects.

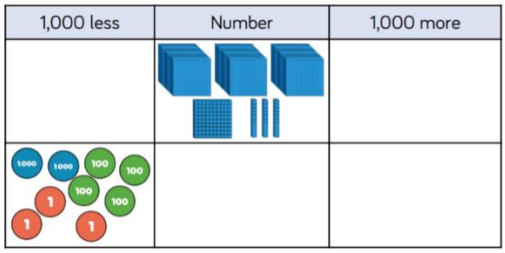
Real life discussion before/during teaching : Where do we use Place Value in real life:

EG: pizza cakes

Pre- assessment	Assessment tasks	Language Focus
Revision from previous years: Puma assessments	White Rose assessments	
Teaching sequence	**Learning tasks**	**Language Focus**
Recognise numbers to 1000	Recap numbers to 100 begin by encouraging spending time on numbers within a 1,000 to ensure they are secure on this knowledge before moving into 10,000. Using equipment or digital manipulatives may help children increase their understanding.  	

100s, 10s and 1s	Check children's understanding of a 3-digit number is made up of 100s, 10s and 1s. They read numbers shown in different representations on a place value grid, and write them in numerals. Children to represent different 3-digit numbers in various ways such as Base 10 or numerals.	
Number line to 1,000	Work with children to estimate, work out and write numbers on a number line. Number lines should be shown with or without start and end numbers, and with numbers already placed on it.  Children may still need Base 10 and/or place values to work with as they develop their understanding of the number line.	
Round to the nearest 10	start to look at the position of a 2-digit number on a number line. They then apply their understanding to 3-digit numbers, focusing on the number of ones and rounding up or not. Children must understand the importance of 5 and the idea that although it is in the middle of 0 and 10, that by convention any number ending in 5 is always rounded up, to the nearest 10. **Use the rounding rap when washing hands and lining up. Display on learning wall.**	
Round to the nearest 100	Children compare rounding to the nearest 10 (looking at the ones column) to rounding to the nearest 100 (looking at the tens column.) Children use their knowledge of multiples of 100, to understand which two multiples of 100 a number sits between. This will help them to round 3-digit numbers to the nearest 100	
Count in 1,000s	Children look at four-digit numbers for the first time. They explore what a thousand is through concrete and pictorial representations, to recognise that 1,000 is made up of ten hundreds. They count in multiples of 1,000, representing numbers in numerals and words. Use sentence stems like: How many hundreds are there in one thousand? How many hundreds make _____ thousands?	
1,000s, 100s, 10s and 1s	Children represent numbers to 9,999, using concrete resources on a place value grid. They understand that a four digit number is made up of 1,000s, 100s, 10s and 1s.	

	Moving on from Base 10 blocks, children start to partition by using place value counters and digits. 	
Partitioning	Children explore how numbers can be partitioned in more than one way. They need to understand that, for example, 5000 + 300 + 20 + 9 is equal to 4000 + 1300 + 10 + 19 This is crucial to later work on adding and subtracting 4-digit numbers and children explore this explicitly.   2000 + 400 + ☐ + 4 1000 + ☐ + ☐ + 14 1000 + 1300 + ☐ + ☐	
Number line to 10,000	Children estimate, label and draw numbers on a number line to 10,000 They need to understand that it is possible to count forwards or backwards, in equal steps, from both sides. Number lines should be shown with or without start and end numbers, or with numbers already placed on it.  	
Find 1, 10, 100 more or less	Building on children's learning in Year 2 where they explored finding one more/less, children now move onto finding 10 and 100 more or less than a given number. Show children that they can represent their answer in a variety of different ways. For example, as numerals or words, or with concrete manipulatives.  	
1,000 more or less	Children have explored finding 1, 10 and 100 more or less, in Year 3. They now extend their learning by finding 1,000 more or less than a given number.	

	Show children that they can represent their answer in a number of ways, for example using place value counters, Base 10 or numerals. 	
Compare numbers	Children compare 4-digit numbers using comparison language and symbols to determine/show which is greater and which is smaller. Children should represent numbers using concrete manipulatives, draw them pictorially and write them using numerals.	
Order numbers	Children explore ordering a set of numbers in ascending and descending order. They reinforce their understanding by using a variety of representations. Children find the largest or smallest number from a set.	
Round to the nearest 1,000	Children build on their knowledge of rounding to the nearest 10 and 100, to round to the nearest thousand for the first time. Children must understand which multiples of 1,000 a number sits between. When rounding to the nearest 1,000, children should look at the digits in the hundreds column.	
Count in 25s	Children will count in 25s to spot patterns. They use their knowledge of counting in 50s and 100s to become fluent in 25s. Children should recognise and use the number facts that there are two 25s in 50 and four 25s in 100.	
Negative numbers	Children recognise that there are numbers below zero. It is essential that this concept is linked to real life situations such as temperature, water depth etc. Children should be able to count back through zero using correct mathematical language of “negative four” rather than “minus four” for example. This counting can be supported through the use of number squares, number lines or other visual aids.	
Roman numerals to 100	Children will build on their knowledge of numerals to 12 on a clock face, from Year 3, to explore Roman Numerals to 100	

Y5 Personalised Maths Learning Journey

NC Objectives:

♣ read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
♣ count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
♣ interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
♣ round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
♣ solve number problems and practical problems that involve all of the above
♣ read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Resources/documents:

Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs.

Base 10, place value counters, part-whole models, bar models real-life objects e.g. sweets etc., numberlines.

Real life discussion before teaching:

Comparing prices, estimating measurements, temperature, estimating costs, banking

Pre- assessment	Assessment tasks	Language Focus
Revision from previous years: ♣ count in multiples of 6, 7, 9, 25 and 1000 ♣ find 1000 more or less than a given number ♣ count backwards through zero to include negative numbers ♣ recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) ♣ order and compare numbers beyond 1000 ♣ identify, represent and estimate numbers using different representations ♣ round any number to the nearest 10, 100 or 1000	White Rose Year 4 Place Value Assessment sheets.	Place, position, value, worth, numeral, digit, identify, represent, estimate, negative, positive, backwards, forwards, ones, tens, hundreds, thousands.

♣ solve number and practical problems that involve all of the above and with increasingly large positive numbers ♣ read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.		
Teaching sequence	Learning tasks	Language Focus
1. WALT: To represent numbers up to 9,999. WILF: I will represent numbers using concrete resources.	Model numbers using various resources e.g. base 10, place value counters and how to use them to identify the number. Model and explain how to identify the specific digits in various numbers e.g. 78465. Give the children different numbers on their desks and have them represent them using the various equipment. Have them take a photo using the iPads when they have completed each one (make sure at least one child is in each photo so they can be identified and printed later if the children pack them away). Remind them that 0 is still needed to show there is no value in that column. Problem solving and reasoning questions. TG- presenting 2-digit numbers in number form and vice-versa. (TAKE PHOTOS AND STICK IN BOOK FOR EVERY PRACTICAL LESSON)	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number
2. WALT: To represent numbers up to 10,000. WILF: I will read and represent numbers to 10,000 in a variety of different ways.	Model matching numbers to their concrete and pictoral representations and identifying odd one out. Problem solving and reasoning questions. Word problems- 1) There are 2 types of new game experience day coming out. One is £6084 and the other is £6048. Which one is the cheapest and how to you know? 2) Sam has 9308 Pokémon stickers, Sarah has 9038 stickers and Dave has 9380 stickers. Who has the least stickers and how do you know? TG- as day before to consolidate.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model
3. WALT: To round numbers to the nearest 10. WILF: I will use my knowledge of multiples of ten to determine whether a	Model how to round by first identifying the multiples of ten that the numbers sit between. 5 or more raise the floor, 4 or less, let it rest. Model how to show this without a numberline by just making notes of the multiples of ten. Circle the ten and underline the 1 if needed to who which is changing and which we need to use to determine whether we round up or down. Problem solving and reasoning questions.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline

number should be rounded up or down to the nearest 10.	TG- draw out a number line on the playground or classroom carpet. Start by showing a 1 digit card and having the number line from 0-10. Have him use this to round either up or down. He can physically move the card to the correct place. Move on the number line being 0-20 and with 2-digit number cards. Move on to 0-50 and then 0-100 when ready. THIS LESSON IS OVER 3 DAYS SO NEED TO RUSH HIM.	
4. WALT: To round numbers to the nearest 100. WILF: I will use my knowledge of multiples of ten to determine whether a number should be rounded up or down to the nearest 100.	As above but with rounding to 100. TG- if ready, see if he can move on to a laminated number line to 100 and him writing on the number line the given number and then rounding. If not ready, move on to this when ready during this 3 days lesson.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline
5. WALT: To round numbers to the nearest 10, 100 or 1000. WILF: I will use my knowledge of multiples of ten to determine whether a number should be rounded up or down to the nearest 10, 100 or 1000.	As above but with rounding to 10, 100 or 1000.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline
6. WALT: To represent numbers to 100,000 WILF: I will use various concrete and pictoral equipment to represent numbers up to 100,000.	Recap representing numbers to 1,000. What can you tell me? What did we learn? What do we need to remember? Model and explain that the same principles apply with up to 100,000. Model different ways of representing numbers beyond 1,000 up to 100,000. Give children numbers on their tables to represent using concrete equipment and pictoral representations. Problem solving and reasoning questions. TG-representing 2-digit numbers in number form and pictoral and vice versa. Move on to 3-digits, if he successfully completed this during lessons 1 and 2 and has retained the understanding. Perhaps he could complete a matching game where the cards show both the numbers in digits and pictoral. Then do this with the equipment e.g. show a 3-digit number that has been made by base 10, counters on a place value grid or digits a place value grid, he then writes the number that it represents on a whiteboard. Then give him a	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline, hundred thousand, ten thousand

	number in digits on a whiteboard and he has to make it using his equipment of choice. REMEMBER TO TAKE PHOTOS.	
7. WALT: To compare and order numbers up to 100,000. WILF: I will read, represent and write numbers and compare their place value in order to put them in order.	Model how to use their knowledge of place value to order the numbers. Show this using different representations. Problem solving and reasoning questions. TG- starting with 2-digit numbers, give several numbers on cards or post-it notes. Can he put them in order? Have him explain why one number is worth more than another. E.g., 25 is greater value than 23 because it has more ones. Model this language with him. Once he has order them, he can write them in his book.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline, hundred thousand, ten thousand
8. WALT: To represent numbers to 1 million. WILF: I will use various concrete and pictoral equipment to represent numbers up to 1 million.	Recap representing numbers to 1 million. What can you tell me? What did we learn? What do we need to remember? Model and explain that the same principles apply with up to 1 million. Model different ways of representing numbers up to 1 million. Give children numbers on their tables to represent using concrete equipment and pictoral representations. Problem solving and reasoning questions. TG- move on from lesson 6 if knowledge is secure from previous lessons. If secure, continue to move on to similar task to lesson 6 with 3-digit numbers. Can he try 4-digit?	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline, hundred thousand, ten thousand, 1 million
9. WALT: To count in powers of ten. WILF: I will identify the value range in a number sequence to identify and use the rule.	Show a sequence of numbers. Model how to use their knowledge of place value to find the changing value and use this to identify the rule. Repeat this with the rule applying to different place values. Problem solving and reasoning questions. TG- show a 2-digit number. can he count in tens from it? He may need a number square to help. He could move a counter on this and then write the next three numbers in his books. E.g. show him 17. He needs to find 27,37 and 47 on the hundred square. Could he do this on the number square on year 1 playground? He could jump on the numbers of use chalk to circle them.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline, hundred thousand, ten thousand, 1 million
10. WALT: To compare and order numbers to 1 million. WILF: I will use symbols and comparison language to compare	Recap the vocab and symbols for more than, less than, equal to. Model this with a range or numbers in both number and pictoral representations. Children will use digit cards and white boards to create a range of numbers and use the whiteboard to fill in the appropriate symbol. Give them criteria e.g. two 5-digit numbers using the more than symbol, a number shown in 2 representations and the equal symbol etc. Problem solving and reasoning questions.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline, hundred

and order numbers to 1 million.	TG-continue from lesson 7. Can he move on to 3-digit numbers?	thousand, ten thousand, 1 million
11. WALT: To round numbers to the nearest 1 million. WILF: I will use my knowledge of multiples of ten to determine whether a number should be rounded up or down to the nearest 1 million.	Recap how to round by first identifying the multiples of ten that the numbers sit between. 5 or more raise the floor, 4 or less, let it rest. Recap how to show this without a numberline by just making notes of the multiples of ten. Circle the ten and underline the 1 if needed to who which is changing and which we need to use to determine whether we round up or down. Problem solving and reasoning questions. TG- continue from lesson 3,4 and 5.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, numberline, hundred thousand, ten thousand, 1 million
12. WALT: To explore negative numbers. WILF: I will plot negative numbers on a numberline.	Ask children to count down from 10. Ask them to count down further. See what they remember from negative numbers in Year 4. Model negative numbers on the numberline from positive 10 to negative ten. explain that negative 1 comes directly after 0- misconception is often that they would put -10 next to the 0 and count down again but with negative numbers. Make sure they understand that they use the vocabulary 'negative' instead of 'minus. Link this with temperature and explain which would be warmer and cooler. Talk about the direction if the temperature increased or decreased. Problem solving and reasoning questions. Word problems- 1) TG- use this lesson to practice specific needs e.g. is he secure with number bonds to 10, 20 and 100?	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, number line, hundred thousand, ten thousand, 1 million, negative, increase, decrease
13. WALT: To explore Roman Numerals from 1000. WILF: To convert and write numbers from numbers, words and Roman Numerals.	Recap Roman numerals and the patterns and methods for the numbers. Explain why there is no 0 in Roman Numerals. Say a number and have the children make the number in straws. Problem solving and reasoning questions. Word problems- 1) TG- use this lesson to practice specific needs e.g. is he secure in time stables? Could he try some multiplication games. Start with 2x, then 10x, 5x, 4x, 3x etc.	Place value, worth, value, representation, represent, ones, tens, hundreds, thousands, digit, number, part-whole, bar model, round, nearest, number line, hundred thousand, ten thousand, 1 million, negative, increase, decrease, Roman Numerals

Y6 Personalised Learning Journey Number and Place Value		
NC Objectives: • read, write, order and compare numbers up to 10 000 000 and determine the value • of each digit • round any whole number to a required degree of accuracy • solve problems which require answers to be rounded to specified degrees of accuracy (including rounding decimals) • use negative numbers in context, and calculate intervals across zero • solve number and practical problems that involve all of the above • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places		
Resources/documents: Ready to Progress Guidance, White Rose Small steps, White Rose Calculation Policies (Use of concrete), NCETM mastery assessment docs, past SATs questions. Base 10. Place value counters, positive and negative number lines, cut up pieces of paper into tenths, hundredths, thousandths compared to one whole		
Real life discussion before/during teaching : Seeing large numbers in real life(EG: house prices, football attendances. Recognising that decimals relate to money and measures, using negative numbers –temperature, back overdrafts		
Pre- assessment	Assessment tasks	Language Focus
Revision from previous years:	Give small assessment tasks to see if they understand place value of numbers up to 1,000,000 and decimals up to 3 decimal places.	Ones Tens Hundreds Thousands Ten Thousands Millions Tenths Hundredths Thousandths
Teaching sequence	Learning tasks	Language Focus
1: Concrete, pictorial and abstract. Identify the value of each digit in whole numbers up to 10,000,000.	Concrete: Partitioning numbers up to 10,000,000 using place value counters in a place value chart. Pictorial: Recognising numbers and the place value of each digit in numbers up to 10,000,000 from a pictorial representation using place value counters and place value chart. Abstract: Partitioning numbers up to 10,000,000 using place value chart	Ones Tens Hundreds Thousands Ten Thousands Millions Ten Million Place value Digit 10 hundred-thousands is equal to 1 million." "1,000,000 is 10 times the size of 100,000." "100,000 is one-tenth times the size of 1,000,000."
2:		Ones

Compare and order whole numbers to 10,000,000	Application of the knowledge of place value up to 10,000,000 – comparing numbers using < > = and ordering in ascending and descending order. Use of pictorial representations and place value charts. Place value counters where needed.	Tens Hundreds Thousands Ten Thousands Compare Ascending Descending
3: Concrete lesson Identify the value of each digit in decimal numbers up to 3 dp.	Concrete: Children to use bar model to draw and cut up (save and use on maths help desk for future use), in order to recognise the size of tenths, hundredths and thousandths compared to one whole; they will understand that thousands are tiny compared to tenths etc. They will understand the relationship: Pupils need to be able to read and write numbers from 1 hundredth to 10 million, written in digits, beginning with the powers or 10, as shown below, and should understand the relationships between these powers of 10. 0 . 0 1 one hundredth 0 . 1 one tenth 1 one 1 0 ten 1 0 0 one hundred 1 , 0 0 0 one thousand 1 0 , 0 0 0 ten thousand 1 0 0 , 0 0 0 one hundred thousand 1 , 0 0 0 , 0 0 0 one million 1 0 , 0 0 0 , 0 0 0 ten million Pupils should know that each power of 10 is equal to 1 group of 10 of the next smallest power of 10, for example 1 million is equal to 10 hundred thousands.  Figure 206: ten 100,000-value place-value counters in a tens frame Demonstrate by writing and showing on a place value chart alongside their cut up bar models.	Ones Tens Hundreds Thousands Ten Thousands Millions Tenths Hundredths Thousandths
4: Identify the value of each digit in decimal numbers up to 3 dp.	Using their knowledge from concrete lesson, children will be able to understand the value of each digit in numbers up to 3 dp. Use of pictorial representations (base 10 and place value counters) placed in a place value chart.	Ones Tens Hundreds Thousands Ten Thousands Millions Tenths Hundredths Thousandths
5. Compare and order decimal numbers up to 3 dp	Use concrete materials (cut up bar model from previous lesson), so that children are able to grasp the idea of the size of decimal numbers. EG: 3.678 is smaller than 3.7 because there are more tenths. Use of pictorial representations and then abstract when children are secure.	Ones Tens Hundreds Thousands Ten Thousands Millions Tenths Hundredths Thousandths Ascending Descending < > =
6. Negative numbers	Negative numbers in real life:	Positive numbers Negative numbers

Reason about positive and negative numbers. Assessment lesson	When and where are they used? Discussion. Relate to temperature: Give out images of different weather/people wearing different outfits outside, desert, Antartica. Children to work in pairs and rank the pictures from coldest to hottest. Then suggest a temperature for each picture. Lots of discussion around negative numbers.	Minus Degrees Celsius
6 WALT: Order and compare positive and negative numbers.	Use of numberlines, thermometer scales (images) to compare negative and positive numbers using < > and = as well as ordering. Use the idea of countrys' temperatures to compare.	Negative numbers Minus Degrees Celsius Greater than > Less than < Equal to = Ascending descending
7. Solve problems involving positive and negative numbers	Worded problems and SATS style questions. Use of a graphic organiser to help solve problems involving positive and negative numbers- demonstrate how to use graphic organiser (metacognition).	Negative numbers Minus Degrees Celsius Greater than > Less than < Equal to = Ascending descending graphic organiser higher lower number sequence
8. Round whole numbers to nearest 10, 100, 1000 and 10000.	Demonstrate using numberlines asking children to find the mid point beweeen two numbers (EG: 10, 000 and 11,000. What would be the middle number? Where would 10, 451 be on the numberline? Is it nearest to 10, 000 or 11, 000?) Relate rounding to meaning the nearest and recap on rules of rounding.	Rounding Round Nearest Degree of accuracy
9. Round decimal numbers up to 3dp, to the nearest whole, tenth, hundreth	As above but with decimal numbers	Rounding Round Nearest Degree of accuracy Tenth Hundredth Thousandth whole

10. Solve problems involving rounding.	A range of worded problems relating to topic/real life where children need to round up or down involving whole numbers and decimals.	
11. assessment	SATs style questions involving all of the above.	