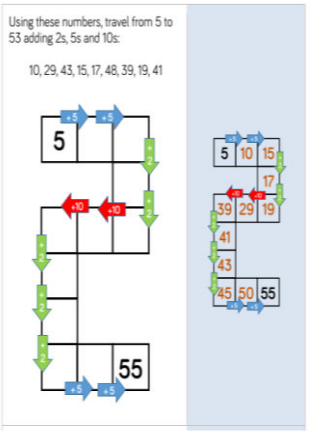
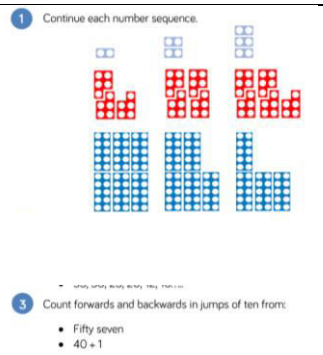
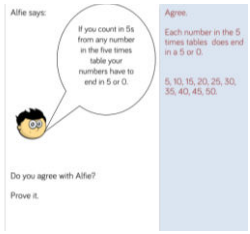
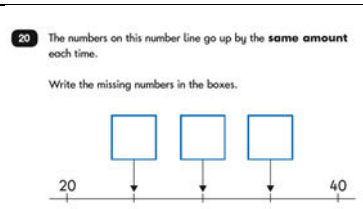
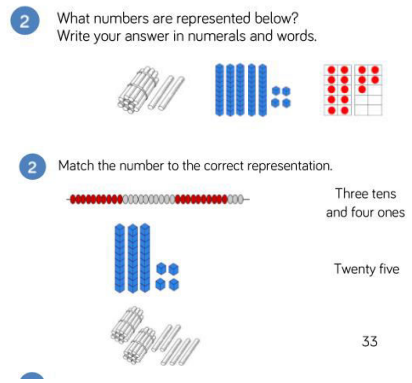
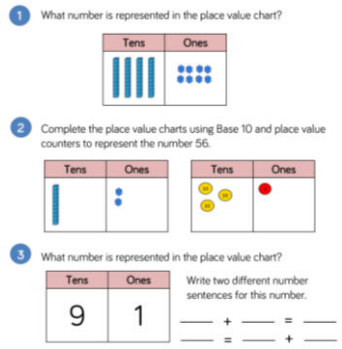
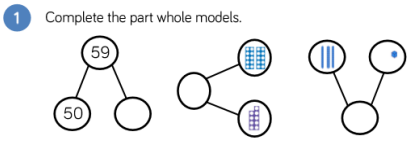
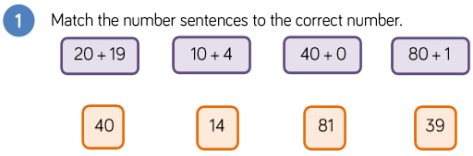
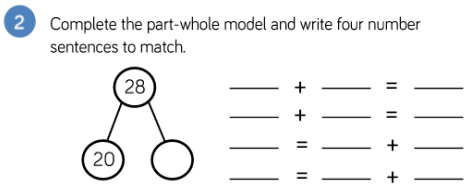
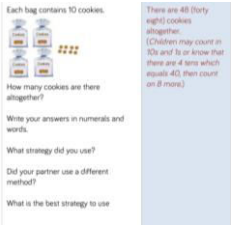
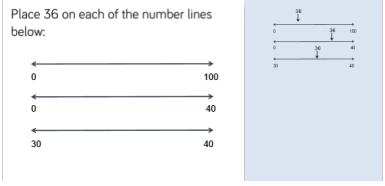
Timbertree Academy

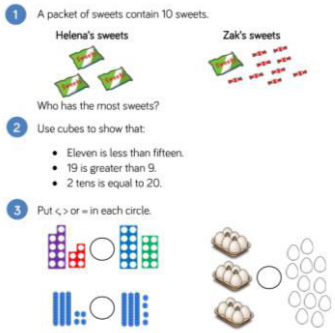
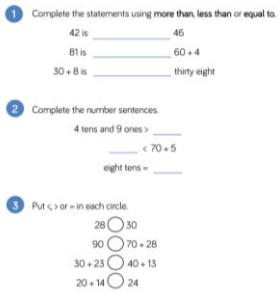
Year 2 – Autumn 1							
AutumnTerm Mental/ Oral focus	Weekly arithmetic focus – Matched to strand where possible						
• Number bonds to 10 and 20 • Recalling doubles and halves to 20 (Number fun) • Counting on and back in 2s, 5s and 10s • Simple sequences – including counting in 2s, 5s and 10s • Addition and subtraction facts – 2-digit number and ones 2 digit number and tens Adding three 1-digit numbers • Multiplication multiplication 10 times tables	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
	12/9 *Teach* Missing number statements – Addition and Subtraction.	19/9 *Test* Autumn Test 1	26/9 *Teach* Addition and subtraction of multiples of 10	3/10 *Test* Autumn Test 4	10/10 *Teach* Addition and subtraction of a two digit number and a single digit without crossing ten.	17/10 *Test* Autumn Test 5	
	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
	31/10 *Teach/Test* Multiplication and division by 2	7/11 *Revisit Interim framework*	14/11 *Teach/ Test* Mulitplicatio n by 10 and the X sign	21/11 Revisit Interim framewor k	28/11 *Teach/ Test* Division by 10 and the ÷ sign	5/12 *Test* Revisit Interim framewo rk	

	Interim Framwor	Vocabulary	Learning journey	Big Problem ideas
Autumn 1 Number and Place Value (3 weeks)	The pupil can count in twos, fives and tens from 0 and use counting strategies to solve problems	count in ones, twos, fives, tens, threes, pattern, sequence, order, forwards, backwards	Skill: . count in twos, fives and tens from 0 and use counting strategies to solve problems Conceptual – What is a number sequence/pattern? Can children use digits cards/numicon/number words to show different number patterns? Discuss patterns that go forwards/backwards. What happens to the number? Fluency – • Counting in 2's, 5's and 10's (forwards/backwards) • Continue the sequences • Missing numbers within in sequences	Flowchart counting problem Includes counting in 3s 

			 Last question to link to the next session.Discuss what they notice with a number sequence of 3s. What would be the next number? Conceptual – How do we create a number pattern of threes? Provide time for children to use a hundred square work out the number pattern of threes. What do they notice? Reasoning – • Do you agree questions.  • True of False questions I start at 0 and count in 3's. I say the number 14. • Odd one out questions Circle the odd one out in each number pattern. Explain why this is the odd one out. • Spot the mistake: What is wrong with this sequence of numbers? 55, 50, 45, 35 Problem	

				
Autumn 1 Number and Place Value(3 weeks)	The pupil can partition two-digit numbers into different combinations of tens and ones	place, place value stands for, represents, ten, ones, partition, recombine More than, less than, greater, than, compare, Order, larger, smaller, equal to	Skill: partition two-digit numbers into different combinations of tens and ones **Conceptual –** What is the value of each digit in a number? Represent numbers/words using a range of concrete resources including Diennes, Numicon/ Straws Photograph for evidence **Conceptual –** How do we partition a number? Which part of the resource(concrete and pictorial) represents tens/ones? How many tens/ones? Focus on pictorial representations  Use place value charts to enable	Seven dwarfs have been counting their piggy banks. Represent piggy banks using 10ps and 1ps. (Two dwarfs will have the same amount)  Snow White wants to compare the dwarfs amounts. Who can help her to buy apples? (An amount where two dwarfs can afford to help Snow white) Can they order the piggy banks? Can children use < , > and = ?

			understanding of place value  Fluency – Build on prior knowledge of tens and ones to work out the missing part of the part whole models. What number completes the part whole model?    Reasoning – Spot the mistakes and explain?  Use question below to link to next unit - comparing  	

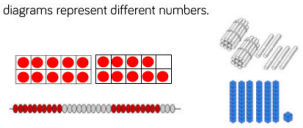
			Fluency Comparing with < , > and =. Looking at equals as a balance. Once children are secure with tens and ones comparing objects can be introduced. Introduce < , > and = Use concrete and pictorial representations to compare  Abstract representations  Order the numbers in concrete, pictorial and abstract from • Use <, > and = to make these number sentences correct. 4 tens _____ 40 ones 2 tens _____ 9 ones 4 tens _____ 44 ones • Order the amounts below, 2 tens and 5 ones, 27, 2 lots of 10 and 8 ones, 1 ten and 14 ones	

1 Circle the numbers 48, 43 and 50 on the number line.

Put the numbers 48, 43 and 50 in order starting with the smallest.

2 Use Base 10 to make the numbers sixty, sixteen and twenty six. Write the numbers in order starting with the greatest number.

3 The diagrams represent different numbers.



Circle the greatest number.
Circle the smallest number.
Complete the number sentence ____ > ____

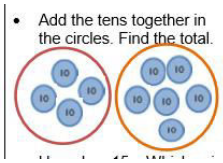
Reasoning –

If you ordered the numbers below, which number would be fourth? Explain how you ordered them. 33, 53, 37, 29, 34, 43

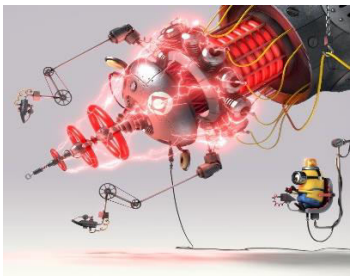
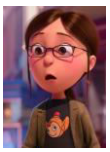
Use <, > and = to make these number sentences correct.

4 tens + 3 ones____ 3 tens + 13 ones 2 tens and 7 ones__ 1 ten and 14 ones 5 tens and 2 ones __ 4 tens + 15 ones

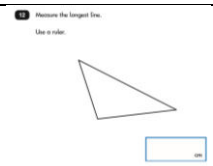
• True or False: One ten and twelve ones is bigger than two tens. Explain how you know.

Addition (2 weeks)	The pupil can add 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate their method using concrete apparatus or pictorial representations.	addition add, more, and make, sum, total altogether, equals, balance, same as	Skill: add 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate their method using concrete apparatus or pictorial representations. Conceptual – What different strategies can you use to add two amounts together/ Present children with number sentences in digits and words. Ensure calculations are presented with the equals in the middle, at the start and as a balance. Adding three 1 digit numbers Fluency - Use strategy of empty number line to solve different addition problems Add amounts together using an empty number line. Counting on in tens and ones. Adding multiples of tens using a hundred square Use concrete counters to help with understanding of jumps. Addition calculations in numbers and words • Represent in money • Part whole models • Three 1 digit numbers • Word problems   Reasoning True or false questions Show that the addition of two numbers can be done in any order (commutative) Explain why? Sam says 'I am thinking of a two digit number, if I add ones to it, I will only need to change	Miss Green wants to reward all classes who earn more than 100 house points 10 minutes extra play. She knows how many the boys and girls earn in each class but she can't work out the totals. Which classes can have extra play? Which classes can't? | Year Group	Boys	Girls
---	---	---
Rec	54	30
One	66	50
Two	70	32
Three	5	66
Four	20	12
Five	67	20
Six	87	9	 **Reasoning:** How could Year 6 have the earnt extra play? Without calculating, can you spot any classes that definitely get the extra play? Where Year 3 or Reception closer to getting the extra play?

			the ones digit.' Is he right? Explain your answer. You can have more than one equals sign in a calculation. Convince me	
Shape (1 week)	The pupil can describe properties of 2-D and 3-D shapes	flat curved, straight round hollow, solid sort face, edge, vertex, vertices cube, cuboid pyramid sphere cone cylinder corner, side rectangle (including square), rectangular circle, circular triangle, triangular pentagon hexagon octagon	Skill: name and describe properties of 2-D and 3-D shapes Conceptual - What are 2D and 3D shapes? Discuss shapes and properties they know.Work in Kagan teams Take photographic evidence. Fluency • Identifying 2D shapes using simple features such as the number of sides and corners • Identifying 3D shapes based on their appearance and the 2D faces they have How many faces does a cube have? What is my shape? I have 5 faces, 8 edges and 5 vertices. What is the name given to 2 faces that meet? What is my shape? It is used in a game with two teams. It has only 1 face. Reasoning – • Explanations about properties of shapes • Convince me/ Prove it questions • True of false questions Katie is trying to build a tower with 3D shapes. When she uses one shape they keep rolling off each other. What shape do you think she is using and why? Class 2 are using straws to make 3D shapes. Each child is given 12 straws to make a cuboid. Is this the right amount? Explain how you know. (Give children straws to use). Jack says, "All 3D shapes have at least 1 vertex." Do you agree? Convince me. I am thinking of a 3D shape. The faces are made up of triangles. What shape am I thinking of? Saira is drawing all the 2D shapes she finds on 3D shapes. She draws 8 squares for a cube. Is she right? Prove it!	 Postman Pat has a range of parcels (3D household items) that need to be sorted at the post office ready for delivery. Provide children with a range of equipment and containers with different labels. Examples for labels: Spheres Shapes with six faces Shapes which contain a triangular face Reasoning: Are there any shapes left over? Why couldn't they be sorted? Can you create a label for a new box for them? Can the Certain 3D shapes only go into one of the boxes? Explain your thinking.

Subtraction (2 weeks)	The pupil can add and subtract a two-digit number and ones and a two-digit number and tens where no regrouping is required (e.g. 23 + 5; 46 + 20), they can demonstrate their method using concrete apparatus or pictorial representations	subtract take away how many are left/left over? how many have gone? how many fewer is … than …? how much less is …? difference between equal	Problem Solving – •Sorting between 3D, 2D and some simple features • Look at the diagram below. 3D / Not 3D Has 1 or more curved sides/ faces No curved sides/ faces Sort the shapes on your table into this diagram. Title/Skill - subtract a two-digit number and ones and a two-digit number and tens where no regrouping is required they can demonstrate their method using concrete apparatus or pictorial representations Conceptual What different strategies do you know to work out a subtraction calculation? What key words relate to subtraction? Present children with number sentences in digits and words. Provide children with marked number lines, objects and a hundred square. Fluency – Subtract an amount from another using an empty number line. Counting back in tens and ones. Subtract multiples of tens using a hundred square Use of bar methods and other pictorial representations to visualise subtraction Use concrete counters to help with understanding of jumps Use strategy of empty number line to solve different problems • Represent in money • Bar modelling • Word problems Reasoning – True or false questions Spot the mistake questions	 The minions have been messing with Gru's laser machine and have accidently lasered some of the numbers on Margo's homework. Can you help her to work out what number is represented by each shape?  36 – 14 = ▭ 32 - ⬭ 17 △ - 21= 19 ▭ - ⬭ = Triangle – circle = Circle - _____=2

			Sid says 'In a subtraction, you always start with the largest number and take away from that.' Do you agree? Explain your answer Write the missing number to make this number sentence correct. 9 + 7 − ☐ = 12 Explain the best way to work out this calculation .	
Measurement (1 week)	The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given	measurement size compare measuring scale longer, shorter, taller, higher longest, shortest, tallest, highest far, further, furthest, near, close ruler metre stick, tape measure centimetre, metre length, height, width	Title/Skill - read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given Conceptual – How do we measure length and height? Using and applying key vocabulary related to length and height. Measuring items using resources that they can recall to record the length and height of an object. Kagan teams. Showing understanding independently. Conceptual – Children to measure items recording length and height. Decide which resource (ruler, metre stick, trundle wheel) to use to measure the following; length of the hall, width of the table, pencil Fluency •Compare and order lengths and record the results using < = >. Order the lengths below – 12cm, 25cm, 20cm, 15cm. Measure the longest line.	 Catboy (from PJ masks following children's interest) has been practising his jumps for when he has to save somebody. Can you use the scale on the long jump track and work out how far he has jumped? Children will read scales in divisions of ones, twos, fives and tens. Some numbers on the scale may be missing. Attempt / Distance in M 1 2 3 4 5 Can you order the distances from the shortest to furthest? What do you notice? (Two distances will be the same 1m 100cm) Which attempt was the furthest? How do you know? Measure how far you and your friends can jump. Who can jump the furthest? How do you know? Can you create a leader board and order the distances? Did anyone get close to Catboy's best jump? How

			 Reasoning Choose and use appropriate standard units to estimate and measure length/height in any direction (c/cm) to the nearest unit, using rulers. Explain why you have used each piece of equipment. Identify objects which are longer/shorter than a given object.Can you use a ruler to measure an item that is longer than 10cm? Reason about length/height. How long is the pen? How much shorter is the pencil? Reason as to what is shorter/longer. **True or False?** 34cm < 36cm 45cm > 46cm 31m > 30m Read numbers on a missing scale. Reason why it would be that measurement?	close?

	The pupil can read scales in divisions of ones, twos, fives and tens in a practical situation where not all numbers on the scale are given.	kilogram, half kilogram, gram weigh, weighs, balances heavy, light heavier than, lighter than heaviest, lightest scales	Title/Skill - read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given Conceptual – How do we measure weight? Using and applying key vocabulary related to weight. Provide children with g and kg weights, bucket balance, weighing scales both step on and cooking scales. Allow time for children to explore and show their understanding independently. Kagan teams. Showing understanding independently. Fluency – Children to weigh items practically. Children to read a scale pictorial representations. Answer questions • Weigh the items below, write a number sentence showing which is heavier using < or >.  How much do the cubes weigh?  Reasoning- True or false questions - Reason as to what is heavier/lighter Which is heavier, the red or the yellow bear? Explain why.  - Reason about statements; 'Helen says "I think the bigger something is, the heavier it is" Do you agree? Use objects in the classroom to prove your answer Read numbers on a missing scale. Reason why it would be that measurement? Problem solving – • Hannah is weighing three bags.  The green bag is heavier than the pink bag. The orange bag is lighter than the pink bag. Order the bags from heaviest to lightest. If the pink bag weighs 7kg, what could the other bags weigh?	 Little Red Riding hood's mother wants to make a cake for Granny. However she is not sure she has enough ingredients. Provide children with a recipe and pictorial representations of the ingredients on the weighing scales (some missing numbers on scales). Can children record how much she has in g/kg? Does she have enough to make the cake? Can you make a shopping list of the ingredients she needs to buy? How much more does she need?