Example Scheme of Work – MKSHK Year 3 Maths

Teacher		Prep	Year	3	No of pupils		Subject	Maths
Term						**No. of lessons**		5

About this Unit	**Strands:** Mental multiplication and division (MMD); Fractions, ratio and proportion (FRP); Problem solving, reasoning and algebra (PRA)
Summary	**Week summary:** Doubling and halving numbers up to 100 using partitioning; understanding fractions and fractions of numbers

	Main Focus	**Starter**	**Teaching Summary**	**Task Descriptions**	**Outcomes**
1	**Lesson** Double numbers to 50 using partitioning	**ST 3.6.1** Play 'Bean Bag Doubles'. Throw the bean bag to a child and say Double 1 is… They reply and throw back. Rpt to double 20. Rpt again with random doubles.	• Show a 'Doubling Machine' Function machine tool 3.6.1a. Use place-value cards to make a 2-digit number. Demonstrate how to partition the number, e.g. double 24 = double 20 + double 4 = 40 + 8 = 48. Rpt for 26, then other numbers less than 50 with different 1s digits, the chn work in pairs on a whiteboard. • Demonstrate double 26 is 52 which is the same as 2 × 26 = 52.	**Core: (T) Gui 3.6.1** In pairs chn need 10s (less than 40) and 1s place-value cards. They take a card from each pile to make a number and double it. Rpt. Challenge them, e.g. Find a number which doubles to make a number between 80 and 90. **Core: GP.C 3.6.1** Chn complete as many questions as they can on GP 3.6.1 'Doubling'. **Support:** Y3 TB1 p50 Linked Resources: Y3 TB1 Answers p41-50 **Extend:** Y3 TB1 p51 Linked Resources: Y3 TB1 Answers p51-58	Chn can: • double 2-digit numbers up to 50.

				Extend: GP.E 3.6.1 Chn complete questions 7-17 on GP 3.6.1 'Doubling'.	

Objectives: MMD.36 Double and halve numbers to 100, including partitioning 2-digit numbers

Key Vocabulary: double; multiplying; partition; place-value

Physical Resources: bean bag; whiteboards; Y3 Textbook 1; **Photocopiables:** RS 22 Place-value cards (1); RS 24a Place-value cards (2); RS 24b Place-value cards (2); Y3 TB1 Answers p41-50; Y3 TB1 Answers p51-58; **Digital Resources:** Bead string tool 3.6.1; Function machine tool 3.6.1a; Function machine tool 3.6.1b; GP 3.6.1; Lesson: Year 3; Money tool 3.6.1

| 2 | **Lesson** Halve even numbers to 100 using partitioning | **ST 3.6.2** Chn guess how to share three biscuits between two chn. Demonstrate. Write half of 3 is 1 1/2. In pairs chn write the numbers 1–19, write half of each number and ring six of their answers. Use cards 1–19. Reveal one, if it is ringed they score a point. | • Teaching: Use a bead string. Show 30 beads. Demonstrate half of 30 (one group of 10 and five single beads). Rpt with 70.
• Task: In pairs chn halve each multiple of 10 to 100 and write them in a list.
• Teaching: Show a 'Halving Machine' Function machine tool 3.6.2a. Use place-value cards to make an even 2-digit number. Demonstrate how to partition the number, e.g. half of 32 = half 30 + half 2 = 15 + 1 = 16 (use their list for half of 30). Rpt. Use other even numbers, the chn work in pairs on a whiteboard. | **Core:** Y3 TB1 p52 Linked Resources: Y3 TB1 Answers p51-58 **Support: (T) Gui 3.6.2** Use 10s or 1s (even only) place-value cards. In pairs chn choose a pile, take a card each, write their total on a shared whiteboard and then halve their numbers to find half the original number. They record their workings as a number sentence. **Extend:** Y3 TB1 p53 Linked Resources: Y3 TB1 Answers p51-58 | Chn can:
• halve even numbers to 100, using partitioning.
• understand the relationship between doubling and halving. |

Objectives: MMD.36 Double and halve numbers to 100, including partitioning 2-digit numbers

Key Vocabulary: half; halving; multiple of 10; partition; place-value

Physical Resources: bead strings; biscuits; whiteboards; Y3 Textbook 1; **Photocopiables:** RS 2 Number cards 0-20; RS 22 Place-value cards (1); RS 24a Place-value cards (2); RS 24b Place-value cards (2); Y3 TB1 Answers p51-58; **Digital Resources:** Function machine tool 3.6.2a; Function machine tool 3.6.2b; Lesson: Year 3; Screen 3.6.2

| 3 | **Lesson** Understand fractions as parts of wholes | **ST 3.6.3** Each child has a strip of card and an elastic band (representing a 0-100 number line). They move the band to different positions on the strip, e.g. 50, 10, 95, 45, 55, etc. | • Teaching: Chn work in pairs using five equal length strips of coloured paper. They fold the first strip in half and write 1/2 on each half. Discuss. Rpt with the next strip folded into quarters.
• Task: Chn fold the remaining strips into thirds, sixths and eighths.
• Teaching: Write 1/3, 1/6 and 1/8. Chn match their strips to the fractions and | **Core:** Y3 TB1 p55 Linked Resources: Y3 TB1 Answers p51-58 **Support:** Y3 TB1 p54 Linked Resources: Y3 TB1 Answers p51-58 **Extend: (T) Gui 3.6.3** Chn try to find equivalent fractions using their coloured strips, e.g. 2/4, 3/6 and 4/8 are equivalent to 1/2. | Chn can:
• understand the concept of a fraction, realising that each part must be equal.
• write unit fractions.
• realise that a unit fraction with a larger denominator is smaller than a unit |

			label them. Discuss, e.g. Which is larger 1/6 or 1/8 ? • Task: Chn arrange their strips in order with biggest fraction (1/2) at the top. • Teaching: Discuss the fractions (which is bigger/smaller, what would be smaller than 1/8?). Refer to Fraction strips tool 3.6.3a to check.		fraction with a smaller denominator.

Objectives: FRP.31 Understand unit and non-unit fractions with denominators of 2, 3, 4, 6 and 8; **FRP.35** Compare fractions using number lines and fraction strips

Key Vocabulary: eighth; equal; fraction; half; quarter; sixth; third

Physical Resources: elastic bands; five strips of paper per pair in different colours; paper strips and circles; strips of card; Y3 Textbook 1; **Photocopiables:** Y3 TB1 Answers p51-58; **Digital Resources:** Fraction strips tool 3.6.3a; Fraction strips tool 3.6.3b; Lesson: Year 3; Mastery Checkpoint 3.6.5

4	**Lesson** Find fractions of amounts using fraction strips	**ST 3.6.4** Use an analogue clock. Show quarter past 3. In pairs, chn write the time in words and as a digital time. Rpt with other 1/4 past, 1/2 past and 1/4 to times. Rpt, using different 'minutes to' and 'past' times.	• Teaching: Show a set of 18 dog treats and 3 dogs on Screen 3.6.4a. Chn divide them equally. Write 1/3 of 18 is 6. Rpt for 20 treats and 4 dogs. Write 1/4 of 20 is 5. Rpt for 12 treats and 2 dogs. Write 1/2 of 12 is 6. • Show a quarter of 12 treats (a big dog needs 3/4). Write 1/4 of 12 is 3 and 3/4 of 12 is 9. Rpt for 15 treats and 2 dogs (a big dog needs 2/3). Write 1/3 of 15 is 5 and 2/3 of 15 is 10. • Task: In pairs chn build sticks of 12, 15 and 20 cubes and find 1/2, 1/3, 1/4. • Teaching: Discuss. • Task: Chn find 1/6 of 12. Discuss. Write 1/6 of 12 is 2, 2/6 of 12 is 4, etc.	**Core: GP.C 3.6.4** Chn complete as many questions as they can on GP 3.6.4 'Fractions of objects', using fractions strips to help them. **Support: (T) Gui 3.6.4** Chn complete questions 1−6, on GP 3.6.4 'Fractions of objects', using fractions strips to help them. Chn show 1/4 strip, 2/4 and 3/4. Show that 2/4 is the same as 1/2, or 3/6 is the same as 1/2, etc. **Support: GP.S 3.6.4** Chn complete questions 1-6, on GP 3.6.4 'Fractions of objects', using fractions strips to help them. Chn show 1/4 strip, 2/4 and 3/4. Show that 2/4 is the same as 1/2, or 3/6 is the same as 1/2, etc. **Extend: GP.E 3.6.4** Chn complete questions 7-17, on GP 3.6.4 'Fractions of objects', using fractions strips to help them.	Chn can: • use strips to find 1/2, 1/3 and 1/4 of multiples of 2, 3 and 4. • find several quarters and thirds of amounts.

Objectives: FRP.25 Use fraction strips to find fractions of amounts

Key Vocabulary: fraction; half; quarter; sixth; third; three-quarters

Physical Resources: cubes; cubes; paper; scissors; **Photocopiables:** RS 70 Fraction strips with objects; **Digital Resources:** Clock tool 3.6.4; FE 3.6.4; GP 3.6.4; Lesson: Year 3; Screen 3.6.4a; Screen 3.6.4b

5	**Lesson** Investigate which numbers can be split into thirds and which can be split into quarters	**ST 3.6.5** Each child has 4 strips of paper. Ask them to show you, one and a half strips, then one and a quarter strips. Write 1 1/2, 1 1/4. Rpt for different mixed numbers including halves and quarters.	• Teaching: Show Screen 3.6.5a. Gran has 17 pound coins to share between three chn. Chn use cubes and divide them into thirds. Discuss. Gran finds another coin. Show they can now be shared equally. • 33 strawberries are shared between four chn. Chn try to divide 33 cubes into four equal groups. Discuss. • Task: Write 12, 13, 18, 23, 24, 28, 31, 36, 48 and 56 or show Screen 3.6.5b. Chn investigate which numbers can be shared into thirds, quarters or both and write relevant fraction statements. • Chn write their own lists of numbers that can be shared into thirds or quarters and make predictions based on their findings.	**Core: (T) PSR.C 3.6.5** Chn continue the investigation from the Main teaching to include splitting numbers into sixths and checking their predictions. **Support: (T) PSR.S 3.6.5** Chn carry out the investigation from the Main teaching but use the fraction strips. This will help them to see which can be folded into thirds and into quarters so that a whole number of objects is in each third/quarter. **Extend: (T) PSR.E 3.6.5** Challenge chn to find numbers greater than 60 that can be split into thirds, quarters and sixths	Chn can: • look for patterns and relationships, and make predictions. • begin to see the relationship between finding fractions of amounts and division.

Objectives: FRP.13 Understand that a fraction is an equal part of a whole; 1/2s and 1/4s of lengths and numbers; **FRP.23** Understand the concept of a unit fraction; 1/2, 1/3, 1/4, 1/8; **FRP.26** Find unit fractions of small numbers; **PRA.44** Spot patterns and relationships and make predictions

Key Vocabulary: fraction; fraction statement; half; quarter; sixth; third; three-quarters

Physical Resources: counters; cubes; four strips of scrap paper per pair; scissors; whiteboards; **Photocopiables:** RS 69 Fraction strips: 1/2s, 1/3s, 1/4s, 1/6s; RS 70 Fraction strips with objects; RS 71 Fraction strips with objects (2); **Digital Resources:** Lesson: Year 3; Mastery Checkpoint 3.6.6; Screen 3.6.5a; Screen 3.6.5b

Supplementary Resources	**Suggested Homework**
Mastery Checkpoints • Mastery Checkpoint 3.6.5 What are fractions? • Mastery Checkpoint 3.6.6 Finding fractions of amounts **Fluency Fitness** • FF 3.6a Missing numbers • FF 3.6b Word problems • FF 3.6c Fifty times!	**Individual Practice Games** • Pesky Pests 3.6a • Pesky Pests 3.6b • Pesky Pests 3.6c