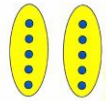
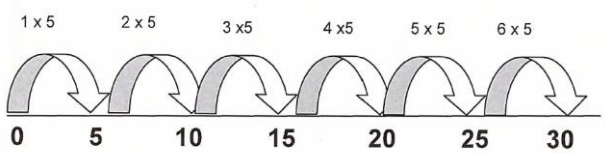
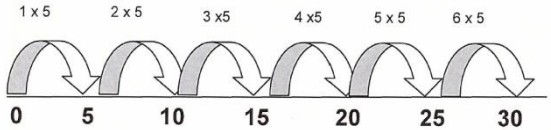
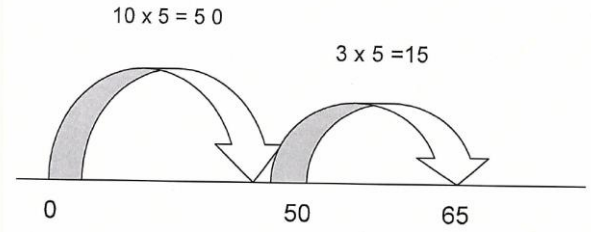
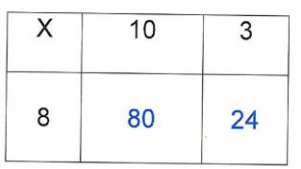
Multiplication stages by half term – use Calculation Policy for further support

	Autumn	Spring	Summer (EXS)
R	 'Three apples for you and three apples for me. How many apples altogether'	 'Three apples for you and three apples for me. How many apples altogether'	 'Three apples for you and three apples for me. How many apples altogether'
1	concrete objects and pictorial representations  'Six pairs of socks. How many socks altogether? 2, 4, 6, 8, 10, 12'	**Arrays**  'Five groups of two faces. How many faces altogether? 2, 4, 6, 8, 10' Two groups of five faces. How many faces altogether? 5, 10'	Use **arrays**  '2 groups of 5' 'How many altogether?' '5 + 5 = 10' Double five is ten
2	**introduce** the multiplication (x) sign as repeated addition **and** as arrays **6 x 5 = 30**  '5 + 5 + 5 + 5 + 5 + 5 = 30 ' '6 rows of 5' '6 groups of 5' '5 groups of 6' '5 x 6 = 30' '6 x 5 = 30'	**Consolidate** multiplication as repeated addition and as arrays **Extend** by using an empty number line **6 x 5 = 30**  1 x 5 2 x 5 3 x5 4 x5 5 x 5 6 x 5 0 5 10 15 20 25 30	Represent multiplication using an **empty number line** **6 x 5 = 30**  1 x 5 2 x 5 3 x5 4 x5 5 x 5 6 x 5 0 5 10 15 20 25 30
3	Arrays and empty number lines (year 2) Partitioning **13 x 5 = 65** **(Partition 13 into 10 + 3)** 10 x 5 = 50 3 x 5 = 15 50 + 15 = 65	Partitioning Demonstrate the partitioning method using a **number line:** **13 x 5 = 65**  10 x 5 = 5 0 3 x 5 =15 0 50 65 Introduce the **grid method**	Consolidate the **grid method** **13 x 8 = 104**  X 10 3 8 80 24 80 + 24 = 1 **Extend** with the formal written method (expanded)

		13 x 8 = 104 X | 10 | 3 8 | 80 | 24 80 + 24 = 104	This will lead into **expanded short multiplication:** **13 x 8 = 104** 10 + 3 x 8 24 (3 x 8) + 80 (10 x 8) 104 Include an addition symbol when adding partial products.
4	**partitioning method** (using the distributive law) **grid method and/or the expanded method** **36 x 4 = 144** X | 30 | 6 4 | 120 | 24 120 + 24 = 144 (add the partial products)	**formal written method of short multiplication** **Expanded short multiplication** (two-digit number by a one-digit number): **36 x 4 = 144** 30 + 6 X 4 24 (4 x 6 = 24) +120 (4 x 30 = 120) 144 Include an addition symbol when adding partial products.	**formal written method of short multiplication** **36 x 4 = 144** 36 x 4 + 24 (4 x 6) 120 (4 x 30) 144 **36 x 4 = 144** 36 x 4 144 2
5	Consolidate the **formal written method of short multiplication** **36 x 4 = 144** 36 x 4 144 2	**formal written method of short multiplication** **introduce long multiplication** **Expanded long multiplication** (two-digit numbers multiplied by a teen- number): 23 x 13 = 299 23 X13 9 (3 x 3) 60 (3 x 20) +30 (10 x 3) 200 (10 x 20) 299	**formal written method of short multiplication** **long multiplication** **Compact long multiplication (formal method):** 23 x 13 = 299 23 X13 +69 (3 x 23) 230 (10 x 23) 299 Use the language of place value to ensure understanding. Add the partial products.
6	Consolidate the **formal written method of short multiplication**	**formal written method of short multiplication** **introduce long multiplication**	**formal written method of short multiplication** **introduce long multiplication**

		The formal written method of long multiplication: 5 3·2 x 2 4·0 2 1 ^{1}2·8 (53·2 x 4) 1 0 6 4·0 (53·2 x 20) 1 2 7 6·8 It is an option to include ·0 in this example, but not essential. The prompts (in brackets) can be omitted if children no longer need them.	**The formal written method of long multiplication:** 5 3·2 x 2 4·0 2 1 ^{1}2·8 (53·2 x 4) 1 0 6 4·0 (53·2 x 20) 1 2 7 6·8 It is an option to include ·0 in this example, but not essential. The prompts (in brackets) can be omitted if children no longer need them.