As outcomes, Year 5 pupils should, for example:

Informal written methods

Use pencil and paper methods to support, record or explain calculations, achieving consistent accuracy. Discuss, explain and compare methods.

Approximate first. Explain orally how method works.

A: grid method (HTU × U and TU × TU)

346 × 9 is approximately 350 × 10 = 3500.

346 × 9

×	300	40	6	
9	2700	360	54	= 3114

72 × 38 is approximately 70 × 40 = 2800.

72 × 38

×	70	2	
30	2100	60	2160
8	560	16	+ 576
			2732

Standard written methods

Continue to develop an efficient standard method that can be applied generally, approximating first. Where calculations are set out in columns, know that units should line up under units, tens under tens…

B: partitioning

Short multiplication: HTU × U

346 × 9 is approximately 350 × 10 = 3500.

```
             346                      346
           ×   9                    ×   9
300 × 9     2700    leading to       3114
 40 × 9      360                      4 5
  6 × 9       54
            3114
```

Long multiplication: TU × TU

72 × 38 is approximately 70 × 40 = 2800.

```
              72
            × 38
 72 × 30    2160
 72 ×  8     576
            2736
             1
```

Extend to simple decimals with one decimal place

Multiply by a single digit, approximating first. Know that decimal points should line up under each other.

4.9 × 3 is approximately 5 × 3 = 15.

```
4.9 × 3     4.0 × 3 = 12.0
            0.9 × 3 =  2.7
                      14.7
```

As outcomes, Year 6 pupils should, for example:

Informal written methods

Use pencil and paper methods to support, record or explain calculations, achieving consistent accuracy. Discuss, explain and compare methods.

Approximate first. Explain orally how method works.

A: grid method (ThHTU × U and HTU × TU)

4346 × 8 is approximately 4500 × 10 = 45 000.

4346 × 8

×	4000	300	40	6	
8	32000	2400	320	48	= 34768

372 × 24 is approximately 400 × 20 = 8000.

372 × 24

×	300	70	2	
20	6000	1400	40	7440
4	1200	280	8	+ 1488
				8928

Standard written methods

Continue to develop an efficient standard method that can be applied generally, approximating first. Where calculations are set out in columns, know that units should line up under units, tens under tens…

B: partitioning

Short multiplication: ThHTU × U

4346 × 8 is approximately 4500 × 10 = 45 000.

```
               4346                     4346
             ×    8                   ×    8
4000 × 8      32000    leading to      34768
 300 × 8       2400                    2 3 4
  40 × 8        320
   6 × 8         48
              34768
```

Long multiplication: HTU × TU

352 × 27 is approximately 350 × 30 = 10 500.

```
              352
            ×  27
352 × 20     7040
352 ×  7     2464
             9504
             1
```

Extend to decimals with up to two decimal places

Multiply by a single digit, approximating first. Know that decimal points should line up under each other.

4.92 × 3 is about 5 × 3 = 15.

```
4.92 × 3     4.00 × 3 = 12.00
             0.90 × 3 =  2.70
             0.02 × 3 =  0.06
                        14.76
```

Begin to extend to multiplying by two-digit numbers: for example, 4.92 × 73 is about 5 × 70 = 350.