Key Stage 2—Year 5 and 6 — Multiplication and Division

Year 5	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers; Establish whether a number up to 100 is prime and recall prime numbers up to 19 Multiply and divide numbers mentally drawing upon known facts; Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Recognise and use square numbers and cube numbers, and notation for squared and cubed Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes; involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign; involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
Year 6	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Perform mental calculations, including with mixed operations and large numbers; Identify common factors, common multiples and prime numbers Use their knowledge of the order of operations to carry out calculations involving the four operations Solve problems involving addition, subtraction, multiplication and division. Use estimation to check answers to calculations and determine, in the context of the problem, an appropriate degree of accuracy.

Vocabulary

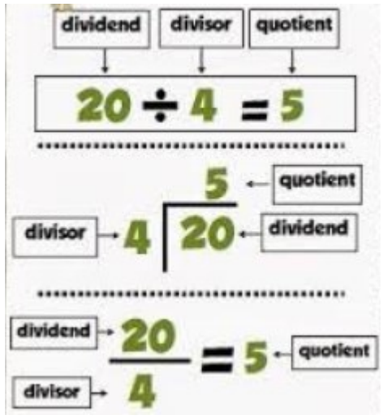
Multiply, times, lots of, groups of, product, repeated addition

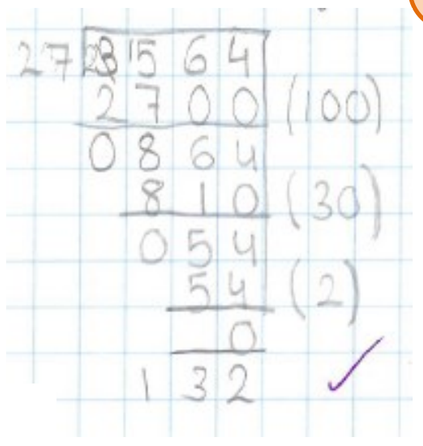
Divide, share equally, group, remainder

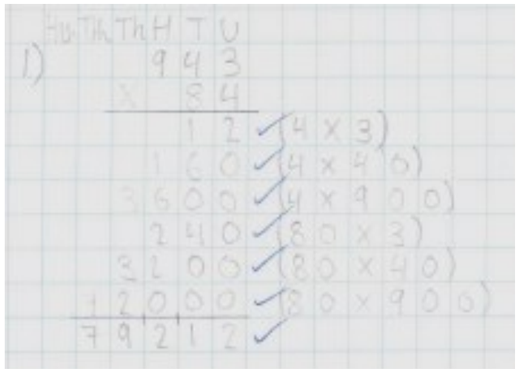
Strategies

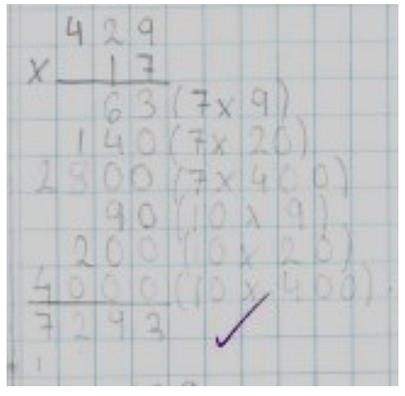
Multiplication: Expanded column method (with then without brackets and place value headings to support) , Short multiplication (progressing to decimals)

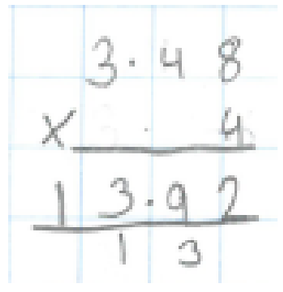
Division: Chunking (for long division) and short division

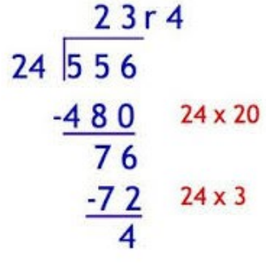


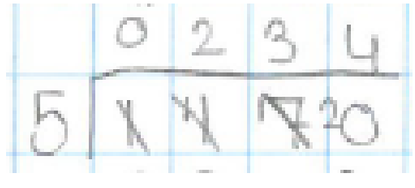


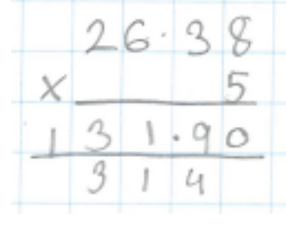












Mastery	Mastery with Greater Depth
It is correct that 273 × 32 = 8736. Use this fact to work out: ■ 27·3 × 3·2 ■ 2·73 × 32 000 ■ 873·6 ÷ 0·32 ■ 87·36 ÷ 27·3 ■ 8736 ÷ 16 ■ 4368 ÷ 1·6	Which calculation is the odd one out? ■ 753 × 1·8 ■ (75·3 × 3) × 6 ■ 753 + 753 ÷ 5 × 4 ■ 7·53 × 1800 ■ 753 × 2 – 753 × 0·2 ■ 750 × 1·8 + 3 × 1·8 Explain your reasoning.

Mastery	Mastery with Greater Depth
Miriam and Alan each buy 12 tins of tomatoes. Miriam buys 3 packs each containing 4 tins. A pack of 4 costs £1·40. Alan buys 2 packs each containing 6 cans. A pack of 6 costs £1·90. Who gets the most change from a £5 note?	Miriam buys 19 tins of soup. All the tins cost the same price. She goes to the shop with just one note, and comes home with the tins and the change in coins. On the way home she drops the change. She looks carefully and she thinks she picks it all up. When she gets home she gives £2·23 change to her mother. Do you think that Miriam picked up all the change that she dropped? Explain your reasoning.