



EP's MENTAL MATHS - KEY SKILLS!



MULTIPLICATION AND DIVISION

Multiply and divide mentally with increasingly large numbers!
 Perform mental calculations of increasing complexity - including mixed operations and large numbers!
 Identify common factors, common multiples and prime numbers
 Explore the order of operations using brackets $() \div \times + -$
 Use estimation to check answers

PLACE VALUE AND COUNTING

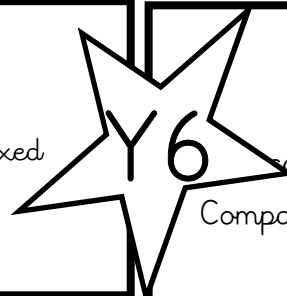
Read, write, order and compare numbers up to 10, 000, 000 and understand the value of each digit.
 Use negative numbers in context and calculate intervals across zero (e.g. the difference between -14 and 23)
 Round any whole number to a required degree of accuracy

ADDITION AND SUBTRACTION

Add or subtract mentally with increasingly large numbers!
 Perform mental calculations of increasing complexity - including mixed operations and large numbers!
 Explore the order of operations using brackets $() \div \times + -$

FRACTION ACTION!

Use common factors to simplify fractions (e.g. $5/15 = 1/3$)
 Use common multiples to express fractions in the same denomination
 Compare and order fractions including those that are more than 1 (e.g. $6/5$)



PRIME NUMBERS!

Know there are 25 primes under 100

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|------------|------------|
| 2 (1, 2) | 43 (1, 43) |
| 3 (1, 3) | 47 (1, 47) |
| 5 (1, 5) | 53 (1, 53) |
| 7 (1, 7) | 59 (1, 59) |
| 11(1, 11) | 61 (1, 61) |
| 13 (1, 13) | 67 (1, 67) |
| 17 (1, 17) | 71 (1, 71) |
| 19 (1, 19) | 73 (1, 73) |
| 23 (1, 23) | 79 (1, 79) |
| 29 (1, 29) | 83 (1, 83) |
| 31 (1, 31) | |

SQUARE NUMBERS!

Squares of numbers	Corresponding squares of multiples of 10
$1 \times 1 = 1$	$10 \times 10 = 100$
$2 \times 2 = 4$	$20 \times 20 = 400$
$3 \times 3 = 9$	$30 \times 30 = 900$
$4 \times 4 = 16$	$40 \times 40 = 1600$
$5 \times 5 = 25$	$50 \times 50 = 2500$
$6 \times 6 = 36$	$60 \times 60 = 3600$
$7 \times 7 = 49$	$70 \times 70 = 4900$
$8 \times 8 = 64$	$80 \times 80 = 6400$
$9 \times 9 = 81$	$90 \times 90 = 8100$
$10 \times 10 = 100$	$100 \times 100 = 10,000$
$11 \times 11 = 121$	$110 \times 110 = 12,100$
$12 \times 12 = 144$	$120 \times 120 = 14,400$

Identify the value of each digit to 3 decimal places
 Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places

Multiply 1 digit numbers with up to 3 dp. by whole numbers (e.g. $0.4 \times 2 = 0.8$)

Add and subtract some fractions mentally

Recall and use these fraction, decimal & percentages equivalents..

- | | | |
|----------------------------|-----------------------------|-----------------------------|
| $\frac{1}{2} = 0.5 = 50\%$ | $\frac{1}{4} = 0.25 = 25\%$ | $\frac{3}{4} = 0.75 = 75\%$ |
| $1/5 = 0.2 = 20\%$ | $2/5 = 0.4 = 40\%$ | $4/5 = 0.8 = 80\%$ |

Interactive Resources:

Dice Games and Activities: