

Year 5:

National Expectations For Learning



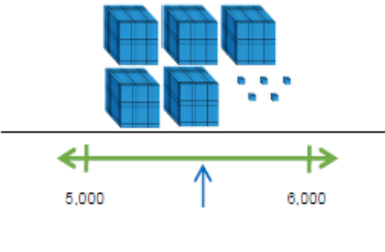
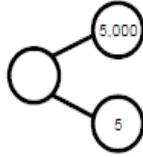

Mathematics

Arithmetic
Problem Solving & Reasoning

Number and Place Value:

Pupils should be taught to

- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
- round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- solve number problems and practical problems that involve all of the above
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

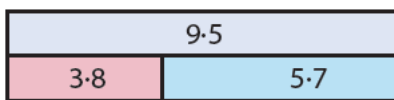
<p>Which diagram is the odd one out?</p>   	<p>Complete the function machines.</p> <table border="0"><tr><td>CCC</td><td>→</td><td>+10</td><td>→</td><td><input type="text"/></td></tr><tr><td><input type="text"/></td><td>→</td><td>-1</td><td>→</td><td>DCLXXV</td></tr></table>	CCC	→	+10	→	<input type="text"/>	<input type="text"/>	→	-1	→	DCLXXV
CCC	→	+10	→	<input type="text"/>							
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Addition & Subtraction:

Pupils should be taught to:

- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- add and subtract numbers mentally with increasingly large numbers
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Write four number facts that this bar diagram shows.



$$\square + \square = \square$$

$$\square + \square = \square$$

$$\square - \square = \square$$

$$\square - \square = \square$$

The table shows the cost of train tickets from different cities.

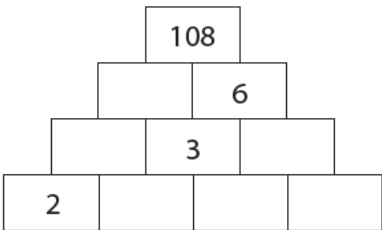
What is the total cost for a return journey to York for one adult and two children?
How much more does it cost for two adults to make a single journey to Hull than to Leeds?

		York	Hull	Leeds
Adult	Single	£13.50	£16.60	£11.00
	Return	£24.50	£30.00	£20.00
Child	Single	£9.75	£11.00	£8.00
	Return	£15.00	£18.50	£13.50

Multiplication & Division:

Pupils should be taught to:

- 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 numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- 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 and divide whole numbers and those involving decimals by 10, 100 and 1000
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

	$8 \div 2 = \square \div 4 = 32 \div \square = 64 \div \square$
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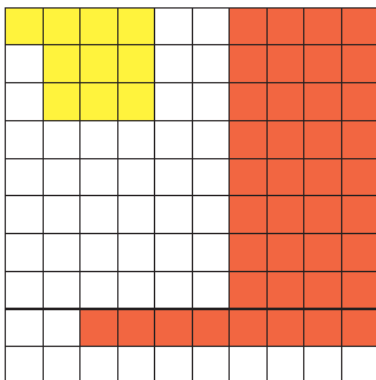
Fractions:

Pupils should be taught to:

- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
- add and subtract fractions with the same denominator and denominators that are multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
- solve problems which require knowing percentage and decimal equivalents of 2

Express the yellow section of the grid in hundredths, tenths, as a decimal and as a percentage of the whole grid.

Do the same for the red section.



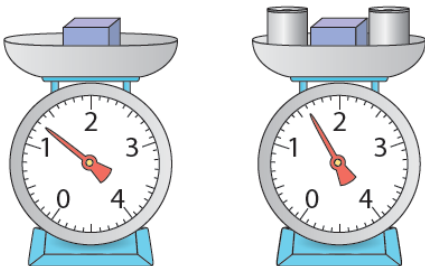
Measures:

Pupils should be taught to:

- convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- understand and use approximate equivalences between units and common imperial units such as inches, pounds and pints
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes
- estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]
- use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

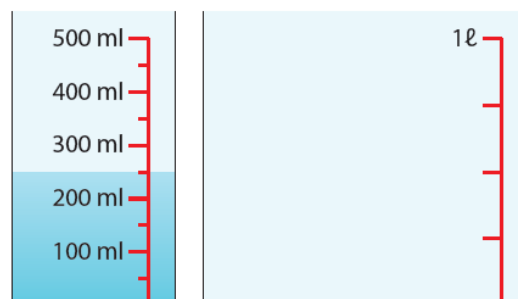
A box weighs 1.3 kg. A box and two tins weigh 1.6 kg.

How much does one tin weigh in grams?



Hamsa has some juice in a jug and he pours it into a different jug.

Draw the level of the juice in the jug on the right.



Time:

- solve problems involving converting between units of time

Shape:

Pupils should be taught to:

- identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- draw given angles, and measure them in degrees (o)
- identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and 2, 1 a turn (total 180o), other multiples of 90o
- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

What shapes do you make when these 2-D representations (nets) are cut out and folded up to make 3-D shapes?

A

B

Identify the regular and irregular quadrilaterals.

Data and Statistics:

Pupils should be taught to:

- solve comparison, sum and difference problems using information presented in a line graph
- complete, read and interpret information in tables, including timetables.

	Bus Timetable					
Highway Rd	06:50		07:25	08:45	09:10	09:45
Rain Rd	07:00	07:25	07:41	08:55	09:19	09:53
Coldcot Rd	07:11	07:41	07:51	09:04	09:28	10:02
Westland Rd	07:18	07:59	07:59	09:11	09:38	10:11
Bod Rd	07:29	08:12	08:09	09:16	09:47	10:16
Kingswell Rd	07:33	08:15	08:14	09:20	09:53	10:21
Long Rd	07:45	08:30	08:30		10:05	10:40

Use the bus timetable to answer the following questions:
On the 6:50 bus how long does it take to get from Highway Rd to Westland Rd?
Can you travel to Long Rd on the 8:45 bus?
Which journey between Rain Rd and Kingswell Rd takes the longest time, the bus that leaves Rain Rd at 7:25 or the bus that leaves Rain Rd at 7:41?

Position and Direction:

Pupils should be taught to:

- identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

The following reading and writing expectations are taught through Year 5 and 6.

Reading

X2 Reading Papers:
Length & variation of texts



By the end of Year 5 children should be reading
150 words per minute.

By the end of Year 5 children should be reading at least a dark
blue book band.

Pupils should be taught to:

- continue to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books
- read books that are structured in different ways
- increase their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage.
- recommend books that they have read to their peers, giving reasons for their choices
- learning a wider range of poetry by heart
- preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience
- understand what they read by: checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context , asking questions to improve their understanding
- drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence
- predicting what might happen from details stated and implied
- summarising the main ideas drawn from more than one paragraph, identifying key details that support the main ideas
- identifying how language, structure and presentation contribute to meaning
- discuss and evaluate how authors use language, including figurative language, considering the impact on the reader
- distinguish between statements of fact and opinion
- retrieve, record and present information from non-fiction

Writing

Ongoing teacher assessment
Spelling, Punctuation & Grammar Test (SPAG)



Pupils should be taught to:

- spell some words with 'silent' letters [for example, knight, psalm, solemn]
- use dictionaries to check the spelling and meaning of words
- use the first three or four letters of a word to check spelling, meaning or both of these in a dictionary
- use a thesaurus.

Pupils should be taught to:

- recognising vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms
- using passive verbs to affect the presentation of information in a sentence
- using the perfect form of verbs to mark relationships of time and cause
- using expanded noun phrases to convey complicated information concisely
- using modal verbs or adverbs to indicate degrees of possibility
- using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun
- using commas to clarify meaning or avoid ambiguity in writing
- using hyphens to avoid ambiguity
- using brackets, dashes or commas to indicate parenthesis
- using semi-colons, colons or dashes to mark boundaries between independent clauses
- using a colon to introduce a list
- punctuating bullet points consistently

Pupils should be taught to plan their writing by:

- identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own
- noting and developing initial ideas, drawing on reading and research where necessary
- in writing narratives, considering how authors have developed characters and settings in what pupils have read, listened to or seen performed

draft and write by:

- selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning
- in narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action
- using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining]

evaluate and edit by:

- assessing the effectiveness of their own and others' writing
- proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning
- ensuring the consistent and correct use of tense throughout a piece of writing
- ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register
- proof-read for spelling and punctuation errors

Reading and Spelling

The follow list is of words over Year 5 and 6 children need to be able to read and spell.



accommodate	criticise (critic + ise)	individual	relevant
accompany	curiosity	interfere	restaurant
according	definite	interrupt	rhyme
achieve	desperate	language	rhythm
aggressive	determined	leisure	sacrifice
amateur	develop	lightning	secretary
ancient	dictionary	marvellous	shoulder
apparent	disastrous	mischievous	signature
appreciate	embarrass	muscle	sincere(ly)
attached	environment	necessary	soldier
available	equip (-ped, -ment)	neighbour	stomach
average	especially	nuisance	sufficient
awkward	exaggerate	occupy	suggest
bargain	excellent	occur	symbol
bruise	existence	opportunity	system
category	explanation	parliament	temperature
cemetery	familiar	persuade	thorough
committee	foreign	physical	twelfth
communicate	forty	prejudice	variety
community	frequently	privilege	vegetable
competition	government	profession	vehicle
conscience*	guarantee	programme	yacht
conscious*	harass	pronunciation	
controversy	hindrance	queue	
convenience	identity	recognise	
correspond	immediate(ly)	recommend	