

Year 4:

National Expectations For Learning



Mathematics

Arithmetic
Problem Solving & Reasoning

Number and Place Value:

Pupils should be taught to

- count in multiples of 6, 7, 9, 25 and 1000
- find 1000 more or less than a given number
- count backwards through zero to include negative numbers
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- order and compare numbers beyond 1000
- identify, represent and estimate numbers using different representations
- round any number to the nearest 10, 100 or 1000
- solve number and practical problems that involve all of the above and with increasingly large positive numbers
- read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

Kiz has these numbers:

1330 1303 1033 1003 1030

He writes them in order from smallest to largest.

What is the fourth number he writes?

Using these 4 digits:

1

7

3

0

What is the smallest number you can make?

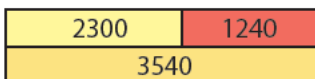
What is the largest number you can make?

Addition & Subtraction:

Pupils should be taught to:

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Write down the four relationships you can see in the bar model.



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

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

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

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

Fill in the empty boxes to make the equations correct.

$$\boxed{7} \boxed{} \boxed{1} + \boxed{} \boxed{3} \boxed{} = 999$$

$$\boxed{7} \boxed{} \boxed{1} + \boxed{} \boxed{3} \boxed{} = 1000$$

Multiplication & Division:

Pupils should be taught to:

- recall multiplication and division facts for multiplication tables up to 12×12
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- recognise and use factor pairs and commutativity in mental calculations
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Fractions:

Pupils should be taught to:

- recognise and show families of common equivalent fractions
- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- solve problems with harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
- add and subtract fractions with the same denominator
- recognise and write decimal equivalents of any number of tenths or hundredths
- find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones,

Three children calculated 7×6 in different ways.
Identify each strategy and complete the calculations.

Annie

$$7 \times 6 = 7 \times 5 + \square$$
$$= \square$$

Bertie

$$7 \times 6 = 7 \times 7 - \square$$
$$= \square$$

Cara used the commutative law

$$7 \times 6 = \square \times \square$$
$$= \square$$

Now find the answer to 6×9 in three different ways.

Place one of these symbols in the circle to make the number sentence correct:
>, < or =.

Explain your reasoning.

8×50	<input type="radio"/>	50×8
8×50	<input type="radio"/>	80×5
300×3	<input type="radio"/>	5×200

tenths and hundredths

- round decimals with one decimal place to the nearest whole number
- compare numbers with the same number of decimal places up to two decimal places
- solve simple measure and money problems involving fractions and decimals to two decimal places.

Put these fractions on the number line:

$$\frac{2}{3}, \frac{1}{2}, \frac{3}{6}, \frac{4}{9}$$



Put these fractions on the number line:

$$\frac{4}{5}, \frac{7}{10}, \frac{5}{10}, \frac{2}{5}$$



Match each fraction to its decimal equivalent.

$\frac{1}{2}$	$\frac{4}{10}$	$\frac{3}{4}$	$\frac{1}{4}$
0.25	0.75	0.4	0.5

Circle the equivalent fraction to 0.25.

$\frac{2}{5}$	$\frac{5}{2}$	$\frac{25}{100}$	$\frac{100}{25}$
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Round to the nearest whole number.

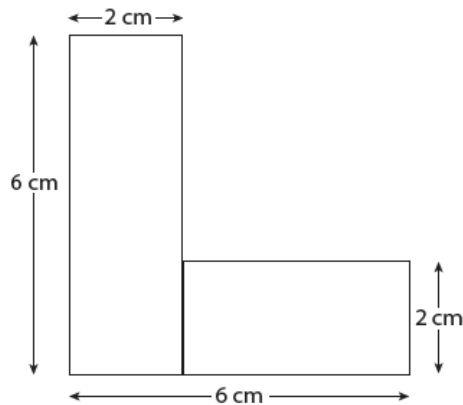
$8\frac{3}{8}$	8.38	8.83
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Measures:

Pupils should be taught to:

- Convert between different units of measure [for exam kilometre to metre; hour to minute]
- measure and calculate the perimeter of a rectilinear fi (including squares) in centimetres and metres
- find the area of rectilinear shapes by counting squares

Identify the perimeter of each of the two rectangles.
How many 1 cm squares would fit into the smaller rectangle?
How many more squares fit into the larger rectangle?



Money:

- estimate, compare and calculate different measures, including money in pounds and pence

Time:

- read, write and convert time between analogue and digital 12- and 24-hour clocks
- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Shape:

Pupils should be taught to:

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- identify acute and obtuse angles and compare and order angles up to two right angles by size
- identify lines of symmetry in 2-D shapes presented in different orientations
- complete a simple symmetric figure with respect to a specific line of symmetry.

Data and Statistics:

Pupils should be taught to:

- interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Here is a table of the average temperature for each month of last year:

Month	1	2	3	4	5	6	7	8	9	10	11	12
Average Temp (°C)	6	7	10	12	16	18	21	22	18	14	10	7

Answer the questions below and explain your reasoning:

- On average what was the hottest month of the year?
- In which months was the average temperature below 10°C?
- In which months would you choose to go outside without your coat on?

Position and Direction:

Pupils should be taught to:

- describe positions on a 2-D grid as coordinates in the first quadrant
- describe movements between positions as translations of a given unit to the left/right and up/down
- plot specified points and draw sides to complete a given polygon.

The following reading and writing expectations are taught through Year 3 and 4.



X2 Reading Papers:
Length & variation of texts

Reading

By the end of Year 4 children should be reading 110 words per minute.

By the end of Year 4 children should be reading at least a grey book band.

Pupils should be taught to:

- develop positive attitudes to reading and understanding of what they read by:
- listening to and discussing a wide range of fiction, poetry, plays, non-fiction and reference books or textbooks
- reading books that are structured in different ways and reading for a range of purposes
- using dictionaries to check the meaning of words that they have read
- increasing their familiarity with a wide range of books, including myths and legends, and retelling some of these orally
- preparing poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action
- discussing words and phrases that capture the reader's interest and imagination
- recognising some different forms of poetry [for example, free verse, narrative poetry]
- understand what they read, in books they can read independently, by checking that the text makes sense to them, discussing their understanding and explaining the meaning of words in context
- asking questions to improve their understanding of a text
- drawing inferences such as inferring characters' feelings, and motives from their actions, justifying inferences with evidence
- predicting what might happen from details stated and implied
- identifying main ideas drawn from more than one paragraph and summarising these

- identifying how language, structure, and presentation contribute to meaning

Writing

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



Pupils should be taught to:

- use a range of prefixes and suffixes and understand how to add them
- spell further homophones
- place the possessive apostrophe accurately in words with regular plurals [for example, girls', boys'] and in words with irregular plurals [for example, children's]
- use the first 2/3 letters of a word to check spelling in a dictionary
- extend the range of sentences with more than one clause using a wider range of conjunctions, including when, if, because, although
- use the present perfect form of verbs in contrast to the past
- choose nouns or pronouns appropriately for clarity and cohesion and to avoid repetition
- use conjunctions, adverbs and prepositions to express time and cause
- use fronted adverbials using a comma after
- using and punctuating direct speech

plan their writing by:

- draft and write by composing and rehearsing sentences orally progressively building a varied and rich vocabulary and an increasing range of sentence structures
- organising paragraphs around a theme
- in narratives, creating settings, characters and plot
- in non-narrative material, using simple organisational devices [for example, headings and sub-headings]
- evaluate and edit by assessing the effectiveness of their own and others' writing and suggesting improvements
- proposing changes to grammar and
- proof-read for spelling and punctuation errors

- read aloud their own writing using appropriate intonation and controlling the tone and volume

Handwriting

Pupils should be taught to:

- use the diagonal and horizontal strokes that are needed to join letters
- increase consistency and quality of their handwriting for example, by ensuring that the downstrokes of letters are parallel and equidistant; that lines of writing are spaced sufficiently so that the ascenders and descenders of letters do not touch

Reading and Spelling

The follow list is of words over Year 3 and 4 children need to be able to read and spell.



accident(ally)	early	knowledge	purpose
actual(ly)	earth	learn	quarter
address	eight/eighth	length	question
answer	enough	library	recent
appear	exercise	material	regular
arrive	experience	medicine	reign
believe	experiment	mention	remember
bicycle	extreme	minute	sentence
breath	famous	natural	separate
breathe	favourite	naughty	special
build	February	notice	straight
busy/business	forward(s)	occasion(ally)	strange
calendar	fruit	often	strength
caught	grammar	opposite	suppose
centre	group	ordinary	surprise
century	guard	particular	therefore
certain	guide	peculiar	though/although
circle	heard	perhaps	thought
complete	heart	popular	through
consider	height	position	various
continue	history	possess(ion)	weight
decide	imagine	possible	woman/women
describe	increase	potatoes	
different	important	pressure	
difficult	interest	probably	
disappear	island	promise	

<p>Science</p>	<p>Ask & answer questions through practical enquiries & fair tests. Make systematic observations & take accurate measurements. Gather, record, classify & present data. Use results to draw conclusions, make predictions, suggest improvements & raise questions. Use scientific evidence to support findings. Recognise living things are grouped in different ways. Understand environments change & the impact of this. Construct & interpret food chains. Describe the function of the digestive system. Identify teeth & their functions. Group materials e.g. solid, liquid or gas & observe changes when they are heated & cooled. Identify evaporations and condensation in the water cycle. Identify how sounds are made Find pattern between pitch of sound & volume. Identify appliances that use electricity, construct simple circuits. Recognise conductors & insulators.</p>
<p>Art and Design</p>	<p>Explore ideas and collect information in a sketch book. Alter and refine drawings and describe changes using art vocabulary. Can plan and create different effects and textures with paint according to what they need for the task. Show understanding of shape, space and form.</p>
<p>Computing</p>	<p>Explore how multimedia creates atmosphere. Show confidence to create & modify texts & presentation documents. Use programs, online tools and apps to modify photos using a range of effects. Use ICT to create music. Consider reliability of information on the internet, check the owner of images in relation to copyright. Create and edit procedures using Logo, Scratch and Probots. Create an algorithm and program that will use a simple command for a game and begin to correct errors to debug. Use, understand and explain the SMART rules in order to stay safe whilst online. Identify dangers online and say how they would react.</p>
<p>Design and Technology</p>	<p>Generate, develop and explain ideas for products to meet a range of needs. Communicate design ideas in different ways. Join and combine materials and components accurately in temporary and permanent ways. Assemble, join and combine components and materials with increasing accuracy.</p>
<p>Humanities</p>	<p>Geography-Ask and respond to questions. Describe, compare and offer reasons for their views. Use geographical vocabulary in communicating findings. Employ a wide range of field work techniques. Use atlases, globes, maps and plans at a range of scales. Use secondary sources of information to draw plans and maps. Use ICT to help in geographical investigations.</p> <p>History-Place events, change and people on a timeline. Use dates and vocabulary relating to the passing of time, including AD/BC. Identify and describe reasons for and results of historical events, & changes. Identify ways in which the past is represented & interpreted. Use and evaluate sources of information. Ask and answer questions. Communicate knowledge and understanding in a variety of ways.</p>

<p>MFL- French</p>	<p>Oracy- Memorize and present a short spoke text, learn and say several sentences on a topic and finger rhymes. Listen for specific words and phrases with care. Listen for sounds, rhyme and rhythm compare different sounds. Ask and answer questions on several topics devise and perform role plays.</p> <p>Literacy- Reinforce and extend recognition of words classes. Recognise and apply simple agreements for singular and plural. Use question forms. Apply phonics knowledge of French.</p> <p>Intercultural understanding- Learn about festivals and celebrations and how children celebrate special days in France- including similarities and differences with themselves. Learn simple phrases associated with festivals. Know some aspects of everyday life and compare them to their own for example pastimes. Compare traditional stories and learn about ways of travelling to France.</p>
<p>Music</p>	<p>Shows an awareness of tempo & dynamics when singing. Able to use vocabulary to discuss how ideas have been expressed in their own music and that of others. Is able to internalise sounds.</p>
<p>Physical Education</p>	<p>Choose and use a range of ball skills with accuracy. Use a variety of techniques and tactics to attack, keep possession and score. Show control when using a range of basic running, jumping and throwing actions, throwing with accuracy and power. Relate different athletic activities to changes in the body. Perform a range of gymnastic actions with consistency and fluency. Combine actions and show clarity of shape in longer sequences, alone or with a partner. Perform more complex dances that communicate character and narrative. Describe their own and others' work, making simple judgments about the quality suggesting ways they could be improved.</p>
<p>PSHE</p>	<p>Able to explain their views on issues that affect the school environment. Make responsible choices, consider consequences and reflect on their mistakes to make amends. Value the contributions of others in discussions and continue to develop negotiating strategies knowing when to compromise. Recognise why rules are needed. Distinguish between accidental and deliberate actions. Recognise that there are responsibilities as well as rights. Empathise with the lives of people living in other places and times, and people with different values and customs. Realise the nature and consequences of negative behaviours such as bullying, aggressiveness. Be able to identify strategies to respond to negative behaviour constructively.</p>
<p>Religious Education</p>	<p>Describe what a believer might learn from a religious story. Describe some of the things that are the same and different for religious people and use religious words to describe ways in which people show their beliefs. Make links between the beliefs of different religious groups and show how they are connected to believers' lives. Use the right religious words to describe and compare what practices and experiences may be involved in belonging to different religious groups. Compare some of the things that influence themselves with those that influence other people. Ask important questions about life and compare my ideas with those of other people.</p>