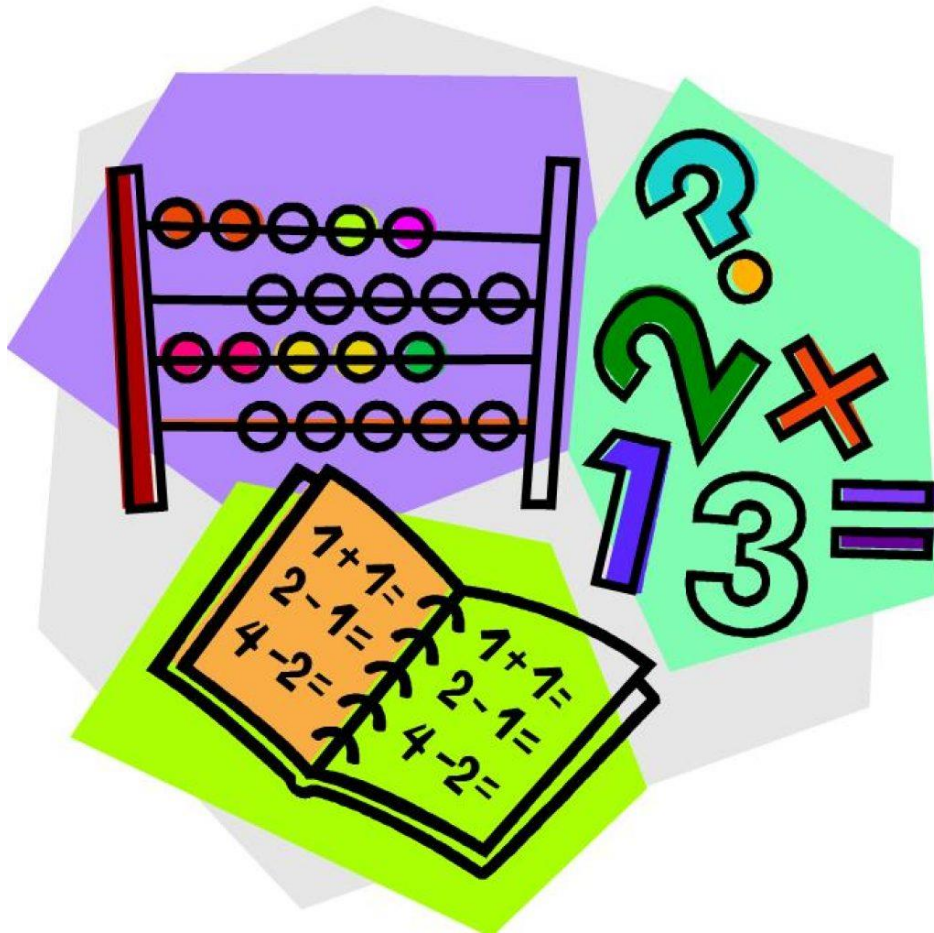
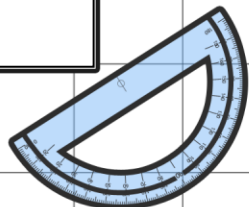


Year 3 Maths Parents' Guide



A guide to developing
your knowledge of year 3
maths to support your
child

2024



National Curriculum Aims

The National Curriculum aims to be engaging and challenging for your child, therefore expectations are especially high! Children have opportunities to develop problem solving, reasoning (explaining and justifying) and fluency (confidence and deeper understanding).

Year 3 specific mathematical aims for each topic are -

Number – Place Value

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)
- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas

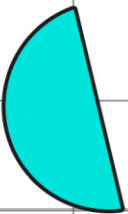
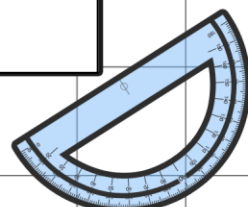
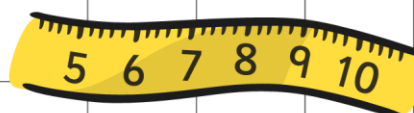
Number – Addition and Subtraction

- add and subtract numbers mentally, including: a three-digit number and 1s, a three-digit number and 10s and a three-digit number and 100s
- add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Number – Multiplication and Division

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

2024





Fractions

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above

Measurement

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example, to calculate the time taken by particular events or tasks]

Geometry – properties of shapes

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines

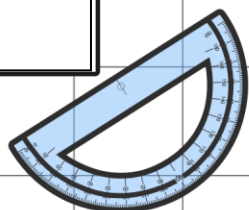
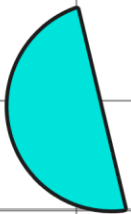
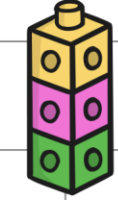
Statistics

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

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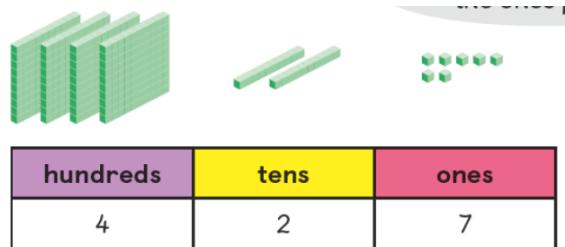
5 6 7 8 9 10



Learning Formal Methods

Place Value

Children build on knowledge of place value from Year 2 to support their learning of formal calculation methods. When working out calculations, we strongly encourage that children identify hundreds, tens and ones. This will support their understanding of each step. For example, this is 427 split into hundreds, tens and ones.



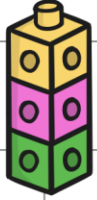
Children are expected to add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.

A good place to start is by writing your numbers under H T O to identify how many hundreds, tens and ones your number has.

Addition Formal Column Method

Step 1

Set out your calculation in the formal method, encouraging children to identify hundreds, tens and ones.



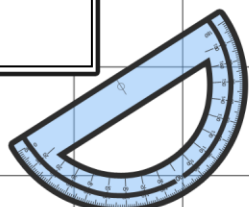
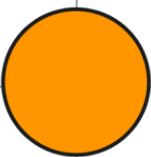
Step 2

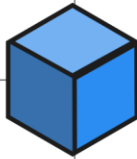

We work from right to left, starting in the **ones** column. $8+9 = 17$...but we can't squeeze **17** into the ones column, so we can carry a ten, writing **7** in the ones column and **1** in the **tens** column beneath the line!

$$\begin{array}{r} \text{h} \quad \text{t} \quad \text{o} \\ 2 \quad 7 \quad 8 \\ + 3 \quad 4 \quad 9 \\ \hline \quad 7 \quad 7 \\ \hline 1 \quad 7 \quad 7 \end{array}$$

Step 3


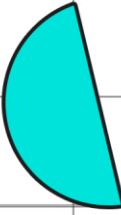
Now, we are in the **tens** column. $7+4=11$...but we can't forget our extra ten beneath the line, so $11+1=12$but we can't fit **12** in our tens column, so we can write our **2** in the tens, but carry our **1** into the **hundreds**!




$$\begin{array}{r} \text{h t o} \\ 278 \\ + 349 \\ \hline 27 \\ \hline 11 \end{array}$$

Step 4

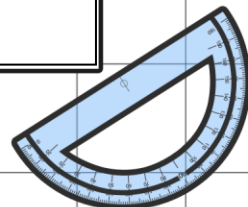
Now we are into the **hundreds** column. $2+3=5$... but we can forget our extra hundred beneath the line, so $5+1=6$.


$$\begin{array}{r} \text{h t o} \\ 278 \\ + 349 \\ \hline 627 \\ \hline 11 \end{array}$$

Super! We have calculated that **$278 + 349 = 627$** !

Have a go using our methods!

1. $45 + 32 =$
2. $37 + 89 =$
3. $123 + 876 =$
4. $467 + 268 =$



Subtraction

Children will be able to subtract numbers with up to three digits, using formal written methods.

Children will begin with simple subtraction using the column method, before progressing to regrouping using column method. Regrouping is where we have to exchange tens and/or hundreds.

Myth Buster! – Children are often told that you cannot subtract a larger number from a smaller number. This is not true and something that they will learn in the future.

Formal Column Method (with regrouping)

Step 1

Layout your calculation. Remember that the largest number must be on the top! Identify your hundreds, tens and ones.

Step 2

We are working from right to left, so we must begin with the **ones**, so $8-7=1$. We write the **1** in our **ones** column.

h	t	o
4	4	8
2	6	7
<hr/>		
		1
<hr/>		

Step 3

Now, we move onto the tens...4-6 will not give us a positive number, so we have to borrow from the hundreds.

Therefore, in the hundreds, $4-1=3$ and we now have **14** in the tens. The new problem that we must solve is $14-6=8$.


$$\begin{array}{r} \text{h} \quad \text{t} \quad \text{o} \\ 3 \quad \cancel{4} \quad \cancel{4} \quad 8 \\ \quad \quad 2 \quad 6 \quad 7 \\ \hline \quad \quad 8 \quad 1 \end{array}$$

Step 4

Finally, we are in the hundreds column! $3-2=1$ so we write this in the **hundreds** column.


$$\begin{array}{r} \text{h} \quad \text{t} \quad \text{o} \\ 3 \quad \cancel{4} \quad \cancel{4} \quad 8 \\ \quad \quad 2 \quad 6 \quad 7 \\ \hline \quad \quad 1 \quad 8 \quad 1 \end{array}$$

Super! We have calculated that $278 + 349 = 627$!

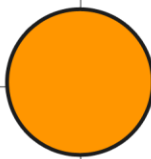
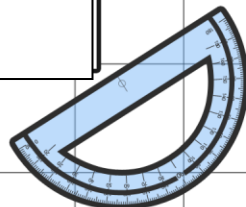
Have a go using our methods!

Without regrouping

1. $279-54=$
2. $549-338=$

With regrouping

3. $172-159=$



Problem Solving

Problem Solving is very relevant in everyday life, particularly in relation to maths!






It is essential that children become resilient problem solvers, willing to take on a challenge!

If children are struggling with homework problems, don't worry! Here are some tips on how to solve them...


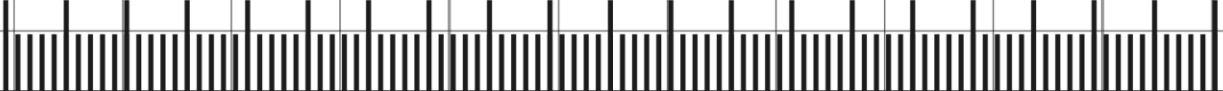
Top Tips

1. Read the problem **carefully**
2. Highlight or circle any key words – these will give you a **BIG** clue on what you have to do!

e.g. Sally has 30 lollipops and **shares** them **equally** with her 5 friends. How many does each friend get?

 add total plus sum altogether	make addition more	 difference between leave subtract minus less take away
multiplication times groups of multiplied by 	multiply multiple of lots of repeated addition	divided by share divided into divide equal groups of share equally 
 balance same as equals		

3. Have you ever solved a **similar** problem before? Is there anything you can **remember** that might help you?



4. What can I **use** to help me solve it? Can I do it **in my head**? Can I **act** it out? Can I **draw** a picture? Can I use some **resources**?

5. Can I complete an **inverse** calculation to check my answer?

e.g. If you have worked out $15 \div 3 = 5$, then check $5 \times 3 = 15$

Have a go at some simple problems using our methods!

- 1) I have 4 cars and my friend has 6 cars. How many cars do we have altogether?
- 2) I have 4 flowers in one plant pot. How many flowers will there be in 5 plant pots?
- 3) I had 10 pencils, then I gave 2 away to my friend. How many pencils do I have left?
- 4) I have 12 pencils and I want to share them equally between two pencil pots. How many pencils will there be in each pot?

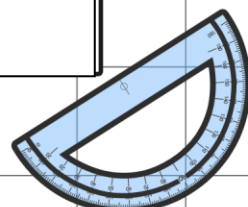
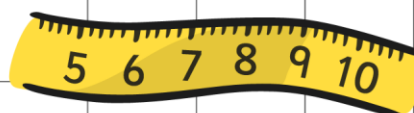
Help at home!

Particularly when shopping or feeding a family, adults come across maths problems every day! Why not share these with your children?

e.g. I need to make a sandwich every weekday for two children. How many slices of bread do you need?

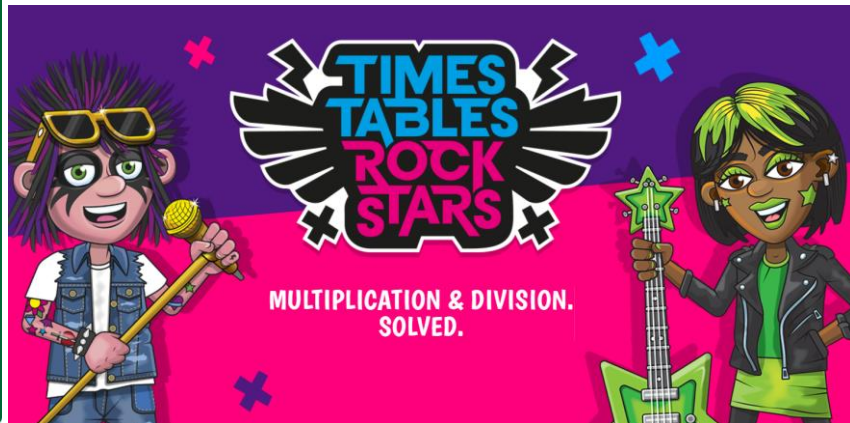
e.g. The multipack crisps have 20 bags. I eat 5 bags a week. How many weeks will the multipack last?

Can your child create their own maths problems? They could look at the maths vocabulary grid to help them and challenge you at home to solve them!



Maths Apps

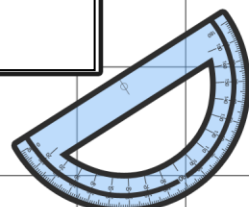
One Minute Maths is a fantastic app for basic arithmetic skills. A year 3 child working at expected will find many things on this app 'easy', though we would like to continue to build their fluency (improving recall speed).



Times table knowledge is essential to provide the basis for more complex multiplication and division calculation, therefore it is important that your child is regularly practicing their times tables.

School have provided every child with a Times Table Rockstars login. This is a website/app where children can practice their multiplication and division facts. Here at Newlathes Junior School, certificates are given out to celebrate the child who has played the most correct answers in each class every week.

Children can find their login for Times Table Rockstars in their reading record. Please let us know if you need any support in accessing this.



Maths is everywhere!

Getting your child to recognise that maths is all around them gives learning a purpose.

While there are many structured activities you can do with your child, there are so many other opportunities for learning maths!

Counting – how many dogs/red cars/children can you see?, how many more/less?

Money – earning/spending pocket money, shopping, calculating change

Time – bus/train timetables, use of an analogue watch/clock

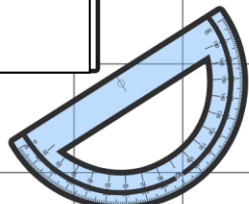
Shape – spot different shapes around the room

Measurement – family's heights, length of furniture

Statistics – tally or graph of family's favourite food

Maths in the kitchen – baking!

- Weighing out ingredients using scales
- Finding fractions, e.g. $\frac{1}{2}$ or $\frac{1}{4}$ cup of sugar
- Timings of baking/cooling down
- Adapting recipes to make less/more cakes
- How many/what fraction of cakes are pink?
- Cookie cutter shapes





Learning when shopping!

Give your child some coins. Ask them:

How much do you have to spend?

Can you find something you can buy with this amount?

How much change will you get if you buy this with the money in your hand?

If I buy *this* and *this*, how much would I need?

Go to a real shop or set up a pretend shop at home!

Do not worry if you do not understand anything in this booklet. Please do not hesitate to contact us for further help and information.

Useful websites for you

- For maths topic explanations and more!

<https://www.bbc.com/bitesize/subjects/z826n39>

Ultimately, your interest and enthusiasm towards your child's mathematical education can have a **huge** positive impact on their progress.

We are so excited to see what your child can achieve in maths this year!

2024

5 6 7 8 9 10