



Maths

How do things change
from KS2 to KS3?



Sets

In year 6 the year group is split and in each half there are sets 1 - 4. In upper school, the whole year group is set in groups 1 - 7



What's changed?

The focus shifts more from arithmetic based to prove and 'solve' based questions, asking pupils to use more reasoning skills.

For example

Ben sees these adverts to hire the same car.



Hire Deal

No charge for mileage
Normal price £78 each day
Offer Now 1/3 off
Price includes VAT
£36 each day
15p for each mile
Prices exclude VAT
VAT is 20%

Best Cars

Ben wants to hire the car for 10 days.
He expects to drive 600 miles.
Should he choose Hire Deal or Best Cars to get the cheaper deal?
You must show your working.

.....
.....
.....
.....
.....
.....
.....

Answer.....
(Total 6 marks)

Here pupils need to work out the best value and use their workings to prove why/how their answer is correct



What's changed?

In KS3 pupils will use a calculator more and will sit papers that require them to use a calculator. Guidance on using a calculator effectively will be given.

Pupils having their own calculator is important so that they know how to use theirs effectively as this can vary between brands.

A scientific calculator is ideal, especially for those pupils in the upper sets.





What's changed?

The biggest change is the introduction of algebra.

Pupils will focus on the basics first making sure they are secure so that they can tackle some of the more challenging concepts.

$$x + y = ?$$



What's changed?

Our assessments have changed from KS2 standardised tests to assessments created from previous GCSE questions.

All of the questions (whilst coming from previous GCSE papers) are all based around the KS3 learning objectives.

Topic overview of the year



Autumn

Algebra 1

- Describe patterns
- Construct formulae
- Solve simple equations
- Simplify expressions and expand brackets

Number 1

- Add and subtract including decimals
- Estimate answers
- Multiply and divide by 10, 100, 1000
- Add and subtract with positive and negative numbers
- Solve problems

Geometry and Measures 1

- Name and draw 2D shapes
- Find area and perimeter of 2D shapes
- Use geometrical properties of 2D shapes
- Draw and construct 3D shapes
- Calculate the surface area of cuboids

Statistics 1

- Collect data in a frequency table
- Read and interpret statistical diagrams
- Find the mean and median
- Interpret pie charts
- Calculate probability

Algebra 2

- Recognise square and triangle numbers
- Find square roots using a calculator
- Generate co-ordinates from a linear rule
- Plot graphs from functions



Topic overview of the year

Spring

Number 2

- Convert between fractions, decimals and %
- Add and subtract fractions
- Calculate % and fractions of an amount
- Use ratio and proportion

Geometry and measures 2

- Read and plot co-ordinates
- Name and recognise angles
- Calculate missing angle

Statistics 2

- Collect and record data, group where appropriate
- Compare 2 simple distributions
- Interpret graphs and diagrams

Algebra 3

- Solve problems involving algebra
- Construct and use simple formulae
- Express problems algebraically



Topic overview of the year

Summer

Number and measures 3

- BODMAS
- Round to nearest 10, 100, 1000 and 1 decimal place
- Solve problems involving measures
- Multiply and divide 3 digit by 2 digit numbers
- Estimate

Algebra 4

- Solve equations
- Construct and use formulae
- Interpret co-ordinates from real-life situations
- Solve problems involving algebra

Number 4

- Solve problems and present results in a clear and organised way
- Use simple % and fractions to describe proportions of a whole
- Calculate fractions and % of a quantity

Statistics 3

- Understand and use the range to describe data
- Interpret pie charts
- Compare 2 distributions using mean and range then draw conclusions
- Calculate probabilities based on experimental evidence

Geometry and measures 3

- Name triangles and quadrilateral
- Draw and measure lines and angles
- Construct triangles
- Rotate shapes and find order of rotational symmetry
- Translate shapes
- Identify all the symmetries of 2D shapes



Topic overview of the year

As you can see the topics are repeated over the year, this is so that pupils can reflect upon previous learning and build upon existing knowledge and skills as the year progresses.

Year 7 Maths Learning Journal (Books 2 & 3)



Progress tracking grid

Stage	EOY 6 stage	November assessment	March assessment	June (End of year) assessment	GL (Summer term)	End of year target
7 Mastered						
7 Secure						
7 Developing						
7 Emerging						
6 Mastered						
6 Secure						
6 Developing						
6 Emerging						
5 Secure						
5 Developing						
5 Emerging						

GL assessment results

	Standard age score (100=National expectation)	Stage
Year 5 baseline		
End of year 5		
End of year 6 (June)		
End of year 7 (June)		

Assessment Results

	Overall score	Stage
November assessment	/49	
March assessment	/49	
June assessment	/47	

Learning Journals

In the front of pupil books they have a learning journal. This helps pupils to keep track of where they are and show the progress they are making throughout the year.



How did I do on my tests?

(November assessment)

Number

Percentages	Q7	
Estimation	Q10	Q12
Finding the best deal (including fractions and %)	Q16	

Algebra

Sequences	Q1	
Function machines	Q4	
Algebraic expressions	Q11	Q15
Expand and simplify	Q13	Q15
Simplify	Q14	
Solve equations	Q15	

Statistics

Bar charts	Q2
Probability	Q6
Pie charts	Q7
Averages	Q8

Geometry and measure

Shapes	Q3	Q9
Dimensions of a cuboid	Q5	

QLA sheets
We use the QLA
(Question Level
Analysis) sheets to
help pupils identify
areas of weakness.

3 areas that I need to work on are:

-
-
-



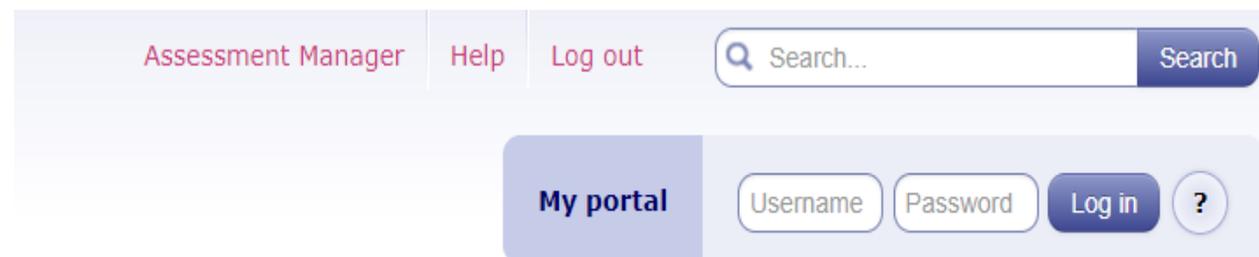
Using MyMaths to support areas of weakness

MyMaths is a helpful tool for pupils.

Once they have identified areas they need to work on, they can search

MyMaths for help on those areas, using the search bar at the top right of the screen once pupils have logged on.

There is a huge range of topics covered at different levels.



<https://www.mymaths.co.uk/>



Useful books and websites

- My Maths
- Maths is fun
- Transum
- You tube
- CGP books aimed at ks3