Woodlands School

CURRICULUM

#togetherwegrow

Marches Academy Trust

Maths

Our vision

Throughout their Mathematical journey students at Woodlands School learn how to demonstrate their ability in numerous areas as we guide students towards achieving or exceeding their potential. With ever-increasing emphasis being placed on the mathematical content of 'real-life' and functional situations, we endeavour to, where appropriate, use practical and investigative approaches. Students will also have opportunities to communicate their understanding to other students and to use ICT to enhance and improve their own learning and performance.

Marches Academy Trust

Scheme of Learning YEAR OVERVIEW Middle School Year 1

The Big Picture

Mathematics is a challenging transition to the study of secondary Mathematics. The pupils will experience "mastery" alongside more traditional teaching methods to gain a deeper understanding, more confidence and competence in their mathematics

Intent: Mathematics continues to revisit topics within new contexts whilst extending and further developing mathematical thinking and skills.
'Learning Programme' blocks to be covered: Number, algebra, geometry, formulas, statistics and statistical measures, ratio and proportion. Each term is split into three 'bigger picture' questions with a common theme, each half is split into further blocks that ensure students spend enough time to get a deep understanding of the topic covered. Blocks have been designed with interleaving as a key element enabling students to revisit previous work, develop knowledge and understanding and further extend their skills. Number work is emphasized throughout the blocks. Calculator skills have been incorporated throughout the curriculum, thus enabling all students to access the materials presented. Any student will be able to follow the main content of all lessons with differentiation and higher levels being accessed as and when a class/student requires it.

Implementation:

There will be ten units of learning. Each unit will cover different big questions that are explored throughout every subject area.
Independence and study skills will be fostered through challenging questions, group and pair work, modelling, and independent study also understanding and interoperating worded questions. Lessons will be based around multiple representations; Concrete, Pictorial, Abstract to give a deeper understanding of concepts. Reasoning will be developed through the exploration of mathematical patterns and images with a variety of problem-solving methods for just one question. Learning to move forward and uncover mathematical ideas from mistakes and misconceptions via true/false, spot the mistake and other reasoning tasks where students are required to make a judgement and justify their answers
WOW moments will occur when students solve complex problems, when the barrier wall disappears, and they have a moment of satisfying clarity (no matter how brief) or spotting a relationship that was previously unseen
Numeracy skills will be addressed through dedicated numeracy lessons using mymaths and times table rockstars. Numeracy independent learning, looking at mathematical language and key words, which is done throughout all topics.
Calculator skills will also be embedded.

Key assessments:

Assessments, informal, at the end of each unit of study to consolidate learning.

Autumn Term
Assessments with questions covering topics for the term

Spring Term
Assessments with questions covering topics for the term

Summer Term
Assessments with questions covering topics for the term

Impact:

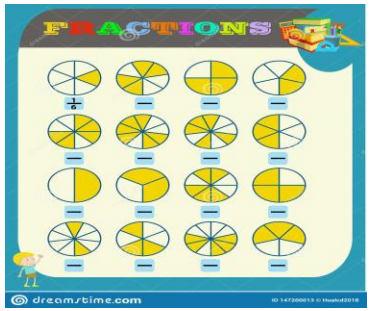
Pupils will have increased understanding and confidence in Maths and be able to apply new skills to a variety of new and challenging mathematical problems. Pupils will know more and remember more. There will be an increase in attainment and attend more lessons. This is evidenced in regular formal and informal assessments

Middle School/Saplings Maths Overview

What is my Learning Journey?

Marches Academy Trust

#RealWorldReady
What is the point of math? How does math reflect our daily lives? What careers utilise math?



START

U1
Number, percentages

What to expect

Content – Use percentages in real life scenarios
Assessment – *End of topic knowledge check*
Bigger Picture Question – *How do we use percentages in life as an adult?*

What to expect…

Content – *Money problems, algebra, balancing equations*
Assessment – End of topic know ledge check
Bigger Picture Question – *Do we understand Betting sites/gambling/county lines?*

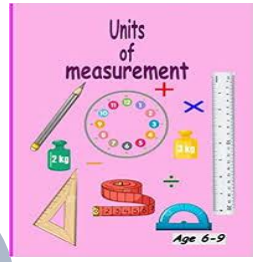
U2
Algebra

U3
Fractions/four operations

What to expect

Content – *Look at and apply the four operations/fractions*
Assessment – *End of topic knowledge check*
Bigger Picture Question – *Do you have faith in yourself in math?*

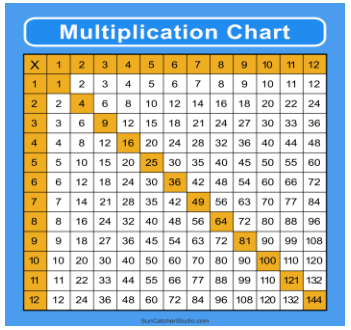
Content – *Use length, area, volume and mass, converting between units*
Assessment – *End of topic knowledge check*
Bigger Picture Question – *How do we use math in a healthy life?*



U4
Geometry and measure

Stretch & Challenge

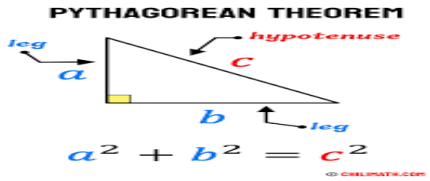
Practice times tables 10 minutes a day

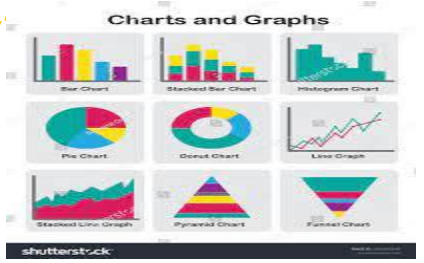


Middle School/Saplings Maths Overview

What is my Learning Journey

What is the point of math? How does math reflect our daily lives? What careers utilise math?





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Maths is everywhere

START

U5
Geometry

What to expect

Content– *Identify, Describe and construct congruent and similar shapes. Considering rotation, reflection, translation.*
Assessment– *End of topic knowledge check.*
Bigger Picture Question– *How can we love math?*

U6
Pythagoras' Theorem

What to expect…

Content– *Know the unique formula for Pythagoras' Theorem*
Assessment– *End of topic knowledge check.*
Bigger Picture Question– *Am I unique?*

U7
Laws of Indices

What to expect

Content– *Use positive integer powers and associated real roots*
Assessment– *End of topic knowledge check*
Bigger Picture Question– *What would make a perfect world? Do we need laws?*

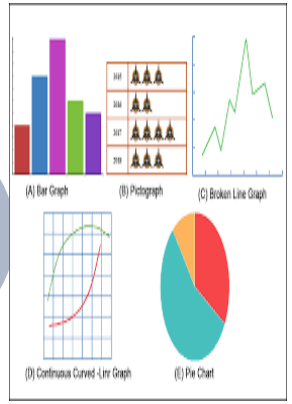
Laws of Indices

$$x^a \times x^b = x^{a+b}$$
$$x^a \div x^b = x^{a-b}$$

U8
Statistics

What to expect

Content– *Interpret charts, graphs and construct them, use frequency tables/bar charts/pie charts and pictograms.*
Assessment– End of topic know ledge check
Bigger Picture Question– *Will life be different in the future, can math effect this?*



Stretch & Challenge

Challenge yourself on Times Table Rockstars, on your own or with a team.

TIMES TABLES ROCK STARS

Middle School/Saplings Maths Overview

What is my Learning Journey?

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MATHS FOR LIFE

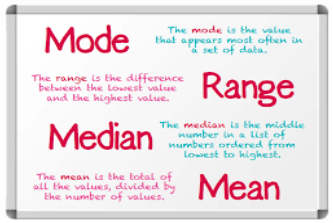
#RealWorldReady

What is the point of math? How does math reflect our daily lives? What careers utilise math?

START

U9

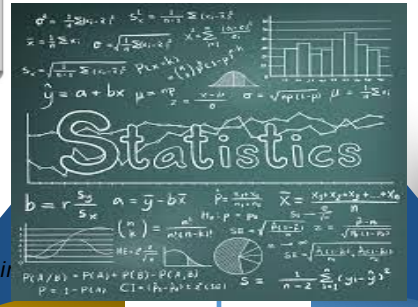
Statisical Measures



Content – *Apply ratio to real life contexts and problems*

Assessment – *End of topic knowledge check*

Bigger Picture Question – *How can math help you succeed in life?*



AQA

What to expect

Oak Courses:

- **Functional Skills Level 1**
- **Functional Skills Level 2**
- **GCSE Foundation Maths**

Pearson | Edexcel

What to expect

Content – *Interpret, Annalise and compare data (mode, median, range and mean)*

Assessment – *End of topic knowledge check*

Bigger Picture Question – *Will life be different in the future, can math effect this?*

U10

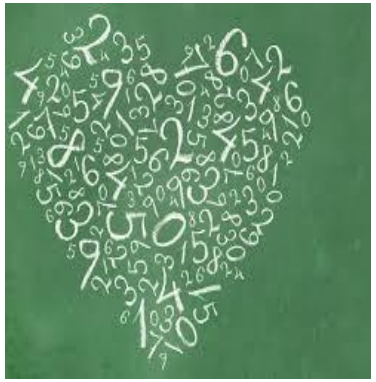
Ratio and Proportion

Upper School

On to Oaks

Stretch & Challenge

MyMaths.co.uk



Scheme of Learning YEAR OVERVIEW Maths GCSE Year 1

The Big Picture

Y10/11 Mathematics is designed to maximise progression and allow flexibility. Each topic presents opportunities to recap on previously covered content whilst also giving students the chance to extend themselves on the journey to achieving their full potential.

Intent:

Students will have increased understanding and confidence in maths and be able to apply new skills to a variety of new and challenging mathematical problems. Students will know more and remember more. Students will have developed their skills enabling them to manipulate familiar and unfamiliar vocabulary and deduce mathematical content. They will be familiar with a variety of exam questions and be suitably prepared to answer examination style questions. There will be an increase in attainment, evidenced in regular knowledge checks .

Students leave Y11 ready for the real world and in a position to continue studying maths if they wish..

There will be ten units of learning. Each unit will cover different big questions that are explored throughout every subject area.

Independence and study skills will be fostered through challenging questions and problems, group and pair work, modelling, knowledge checks after each unit and past paper assessment. Lessons will be based around multiple representations; Concrete, Pictorial, Abstract to give a deeper understanding of concepts. Reasoning will be developed through the exploration of mathematical patterns and images with a variety of problem solving methods for just one question. Formal structure to answering GCSE questions will be embedded. Learning to move forward and uncover mathematical ideas from mistakes and misconceptions via true/ false, spot the mistake and other reasoning tasks where students are required to make a judgement and justify their answers. Revision organisers will be provided to enable students to recall keywords, facts, formulas and/or formal methods. WOW moments will occur when students solve complex problems, when the barrier wall disappears and they have a moment of satisfying clarity (no matter how brief) or spotting a relationship that was previously unseen.

Numeracy and calculator skills will be embedded.

Key assessments:

Students will take mock exams and complete end of unit exam style questions.

Autumn Term
Assessments with questions covering topics for the term
Functional Skills level 1 and 2

Spring Term
Assessments with questions covering topics for the term
Revision.

Summer Term

GCSE AQA Maths Exam

Impact

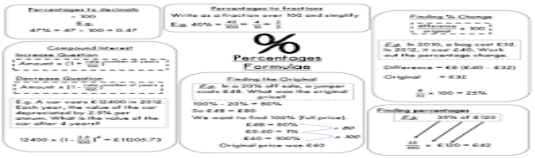
Pupils will have increased understanding and confidence in maths and be able to apply new skills to a variety of new and challenging mathematical problems. Pupils will know more and remember more. Pupils will have developed skills enabling them to manipulate familiar and unfamiliar vocabulary and deduce mathematical content. They will be familiar with a variety of exam questions and be suitably prepared to answer examination style questions. There will be an increase in attainment, evidenced in regular, formal and informal assessments .

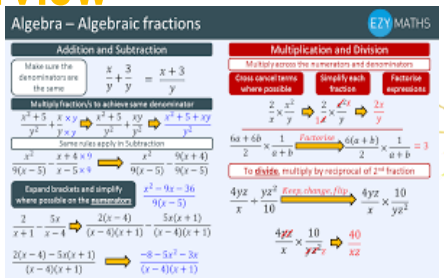
Upper School/Oak Maths Overview

What is my Learning Journey?

Marches Academy Trust

#RealWorldReady
What is the point of math? How does math reflect our daily lives? What careers utilise math?





START

U1

Number, percentages

What to expect

Content – Use percentages in real life scenarios
Assessment – *End of topic knowledge check/GCSE questions*
Bigger Picture Question – *How do we use percentages in life as an adult?*

What to expect…

Content – *Money problems, algebra, balancing equations*
Assessment – End of topic know ledge check
Bigger Picture Question – *Do we understand Betting sites/gambling/county lines?*

U2

Algebra

U3

Fractions/four operations

What to expect

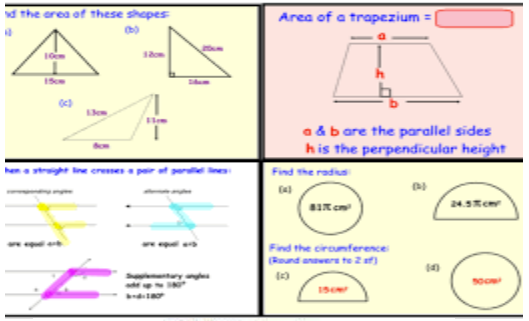
Content – *Look at and apply the four operations/fractions, positive/negative, proper and improper.*
Assessment – *End of topic assessment/past GCSE questions*
Bigger Picture Question – *Do you have faith in yourself in math?*

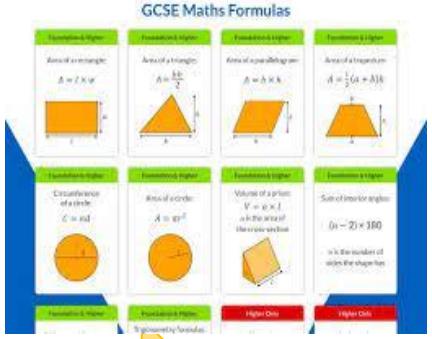
U4

Geometry and measure

What to expect

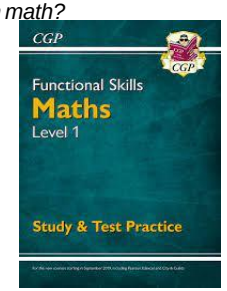
Content – *Use length, area, volume and mass, converting between units*
Assessment – *End of topic assessment/past GCSE questions.*
Bigger Picture Question – *How do we use math in a healthy life?*

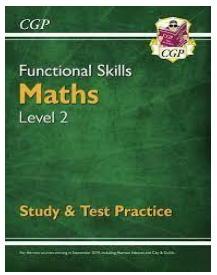


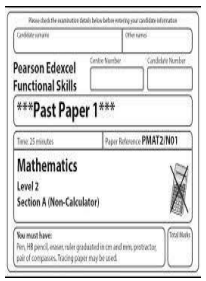


Stretch & Challenge

Practise for Functional Skills exams



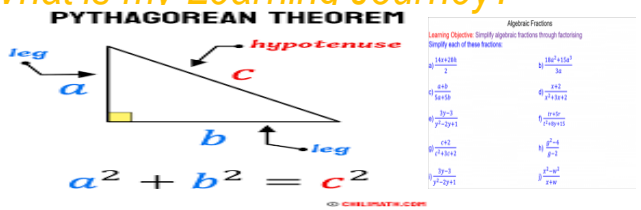


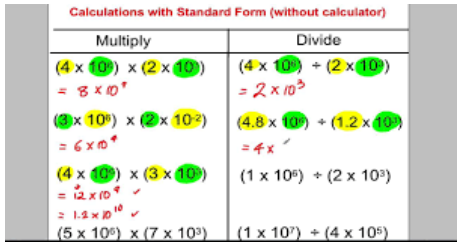


Upper School/Oak Maths Overview

What is my Learning Journey?

What is the point of math? How does math reflect our daily lives? What careers utilise math?





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Maths is everywhere

START

U5

Geometry/Revision

What to expect

Content– *Identify, Describe and construct congruent and similar shapes. Considering rotation, reflection, translation.*

Assessment– *End of topic knowledge check.*

Bigger Picture Question– *How can we love math?*

U6

Pythagoras' Theorem/Revision

What to expect…

Content– *Know the unique formula for Pythagoras' Theorem*

Assessment– *End of topic knowledge check.*

Bigger Picture Question– *Am I unique?*

U7

Laws of Indices/Revision

What to expect

Content– *Use positive integer powers and associated real roots/standard form.*

Assessment– *End of topic knowledge check*

Bigger Picture Question– *What would make a perfect world? Do we need laws?*

U8

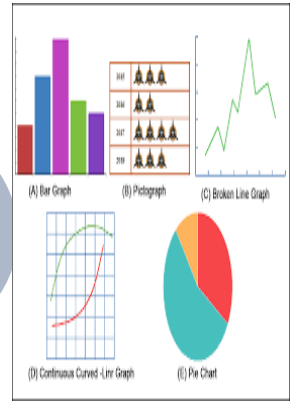
tistics/Revision year 11 lea

What to expect

Content– *Interpret charts, graphs and construct them, use frequency tables/bar charts/pie charts and pictograms.*

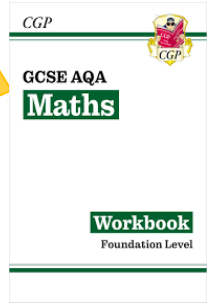
Assessment– End of topic know ledge check

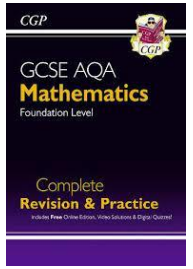
Bigger Picture Question– *Will life be different in the future, can math effect this?*



Stretch & Challenge

Do pages of your revision book.





Laws of Indices

$x^a \times x^b = x^{a+b}$

$x^a \div x^b = x^{a-b}$

Upper School/Oak Maths Overview

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#RealWorldReady

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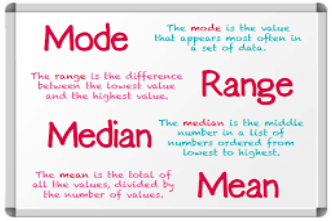


AQA

MATHS FOR LIFE

START

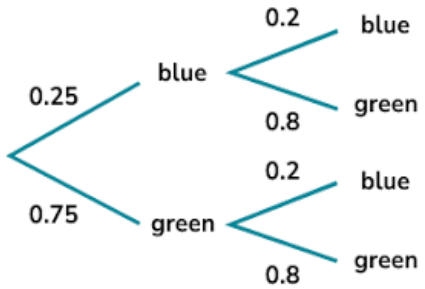
U9

Statisical Measures

Content – *Apply ratio to real life contexts and problems*

Assessment – *End of topic assessment*

Bigger Picture Question – *How can math help you succeed in life?*



What to expect

Content – *Interpret, Annalise and compare data (mode, median, range and mean) primary and secondary data.*

Assessment – *End of topic assessment*

Bigger Picture Question – *Will life be different in the future, can math effect this?*

U10

Ratio and Proportion

Move to year 11/Exams

Stretch & Challenge

Practice exam style questions