# Macmillan Academy

# CURRICULUM


Inspiring every student to succeed

# CONTENTS



# STATEMENT OF INTENT

The aim of the curriculum at Macmillan is to give all pupils the right mixture of knowledge, skills and experiences that they need to be confident, successful learners both now and throughout their future lives.

Macmillan College was set up as a City Technology College in 1989 with the aim to improve the economic prospects and social opportunities for pupils in inner city Middlesbrough.

Our mission statement is represented by our motto 'Inspiring every student to succeed' and is founded on the following key values:

- Pursuit of excellence
- Developing a whole education
- Promoting pupil health and wellbeing
- Inspiring pupils for future employment

These four concepts combined with our aim for an ambitious, coherent, progressive, equitable and engaging curriculum; and knowledge of the local employment market, have driven our plans to create a principled curriculum.

We aim to give all pupils opportunities to gain knowledge, skills and experiences in order to be confident, successful learners both now and throughout their lives. We believe strongly in the transformative power of education and seek to empower young people to meet future challenges and to foster a love of learning.

## PURSUIT OF EXCELLENCE

We intend for pupils to experience an **ambitious, knowledge rich curriculum**. Like the National Curriculum, the academy curriculum is subject based and progression in these subjects is the most reliable way of defining the individual development of our students. Each subject stipulates the core concepts, substantive and disciplinary knowledge that the student will learn. We have taken the National Curriculum as the minimum standard and added elements such as outdoor learning, global perspectives, Mandarin, and immersion weeks to enhance the ambition of our curriculum offer to pupils.

We have recently undertaken a large-scale review of our curriculum; our schemes of work now follow a consistent format with consideration given to threshold concepts, knowledge, skills, prior learning, misconceptions, mastery, key language, and assessment. A yearly cycle of curriculum review meetings has been created to ensure that we have a high-quality curriculum that continues to develop and improve over time.

In our curriculum review meetings, we were keen to explore the **coherence** of the curriculum as a whole and within each subject. We identified a number of opportunities to construct more in-depth, high quality cross-curricular links that are more than a passing refence to learning in other subject areas. We will be working to develop these links over the coming year.

**Literacy** is an important part of our Optic teaching & learning model. As well as giving careful consideration to the development of subject specific vocabulary and use of academic language, we plan to enhance our curriculum with a focus on reading quality texts.

Our **partnerships** with local primary schools have helped us to plan a curriculum that builds on the prior knowledge of our pupils in a progressive way and provide a level of challenge from the start of Year 7. In curriculum review meetings, we explore the sequencing of concepts and progression throughout the curriculum to ensure this is well planned and documented.

We have also benefitted greatly from working with local primary schools, particularly nearby Archibald Primary. Staff meet regularly to share curriculum plans and for collaborative training. Macmillan art, MFL and PE staff deliver lessons and enriching activities to Archibald pupils. Our Greater Depth Maths project has been very successful in engaging Year 6 pupils across the town.

Staff at the academy also work in partnership with local universities, employers and primary schools to strengthen the experiences offered to our pupils. We have strong links with Teesside University, guest speakers regularly augment the delivery of our curriculum, we work with York University through their SHINE programme for gifted and talented pupils, and organise numerous trips to Durham, Newcastle and Sunderland universities.

We aspire to offer a high level of **personalisation**, especially at Key Stage 4 and Key Stage 5 and a responsive curriculum that meets the changing needs of pupils and employers. We believe every pupil has the right to access the full curriculum and support pupils in order to achieve this. A good example of this is our offer in PE and sport to SEND pupils, who contributed to our recognition by School Sports Magazine as being in the top 10% of schools for sporting achievements.

Until this year, pupils and parents had the freedom to choose whether or not they studied the full English Baccalaureate Certificate. Whilst many pupils studied EBacc subjects and followed an ambitious academic curriculum, the percentage of entries for the full Ebacc. Certificate was well below national average. This year in response to this we have identified a cohort of approximately 50% of our Year 9 pupils who must study the full Ebacc. In order to extend our offer, we will offer Mandarin in addition to French and Spanish from September 2021.

## DEVELOPING A WHOLE EDUCATION

Our vision for education is about more than just passing examinations. Our pupils are exposed to diverse and distinctive experiences through a range of curricular and co-curricular activities which help to develop lifelong interests.

Layered on top of Macmillan's timetabled curriculum are a number of features that provide rich experiences for our pupils. These include activity days and immersion weeks, outdoor learning, an enrichment programme, trips and visits, and our own global perspectives programme.

Our global perspectives course combines citizenship with current affairs and global issues to encourage our pupils to be more outward looking and to develop cultural capital. The course is timetabled for 1 hour per week in KS3 and reinforced through the tutorial programme. A regular studio broadcast presented by pupils compliments this course.

All pupils at Macmillan have access to a wide ranging after school enrichment programme that offers a mix of enriching activities such as sports, crafts, music, drama, rock climbing, mountain biking and archery. Macmillan also runs regular subject support sessions that provide extra help for pupils of all abilities on a drop-in basis and through targeted intervention. The enrichment and subject support programmes are very popular with pupils.

The penultimate week of the academic year is given over to a more immersive experience for pupils. Year 9 pupils take part in CaVEs week where they choose from a wide range of cultural and vocational experiences including Adventure CaVE, Carnival CaVE, and documentary filmmaking on Lindisfarne, for example. Pupils in Year 8 take part in Challenge Week, a series of physical and mental challenges such as orienteering, or cryptography completed in tutor groups. Pupils in Year 7 discover more about how we can care for the environment in Decisions Week. Pupils in Year 10 and Year 12 have a week-long work experience placement. Feedback for all these activities is highly positive. Many of the activities have featured as news articles on the academy web site and are still available to be viewed in the news archive section.

The academy offers a wide range of opportunities for pupils to participate in educational visits, trips, sporting fixtures, industrial visits, fieldwork, conservation and international visits. In many instances the academy subsidises such experiences. Macmillan Academy was the first school in the UK to be awarded the Learning Outside the Classroom Gold Mark for its work in this area.

Macmillan has had a long-standing commitment to widen the horizons of our pupils, our outdoor learning department play a key role in this. Every pupil in Year 7 takes part in a two-day intensive Kick Start programme. Pupils can then choose to get more involved in rock climbing, mountain biking, hill walking, or participate in the Duke of Edinburgh awards scheme. Macmillan pupils make up two thirds of all D of E completions in Middlesbrough, Redcar and Cleveland. In an ambitious development which will be launched in 2022, all Year 9 students will start the Bronze Duke of Edinburgh Award. In Key Stage 4 & 5 opportunities exist for pupils within PE for specific sport-based development.

Pupils at the academy benefit from the opportunity to work in our media studio. Working alongside our studio staff they produce regular interactive broadcasts on topical issues, celebrate achievements of their peers and mark historical events. These broadcasts strengthen our PSHE delivery and provide our community with a window into the diverse activities going on in the academy. Our production on remembrance was a collaboration with our Drama department and pupils of Archibald Primary and can be viewed here.

The academy has an active Eco council made up of staff and pupils who meet regularly to keep this agenda in the minds of all staff and pupils. For example, in recent years the academy has reduced the use of paper by 1.2 million sheets through the introduction of biometric printing. The installation of wind turbines and solar panels has reduced the Academy's energy usage. In 2018 the Academy was awarded the prestigious green flag award for a second time.


## PROMOTING PUPIL HEALTH AND WELLBEING

We want our pupils to be healthy and understand how to stay healthy, so we empower them to make the right choices to achieve this. Our pupils are safe, happy and valued. They feel well supported and have a sense of belonging.

The academy employs a variety of strategies to deliver PSHE. As well as the content delivered in subject lessons, it is a feature of the tutorial programme and the global perspectives course in KS3. In Year 10, Health Day gives pupils a wide variety of experiences while KS3 pupils take part in Sports Day.

We will provide pupils with an education that develops all four aspects of the SMSC agenda. We strive to embed SMSC within our culture and ethos, ensuring that all pupils are treated equally and as individuals. All staff work together to create a happy, challenging, stimulating and caring environment in which pupils can enjoy their time at school and celebrate their achievement. The academy staff and pupils aim to build a community which encourages all its members to develop a healthy respect for each other, whilst providing an environment where there are opportunities, encouragement and stimuli to develop each pupil to their full potential.

We will ensure that every pupil enjoys the life-changing benefits that come from an active lifestyle and introduce them to a variety of sports and activities that improve pupils' physical health and wellbeing, giving them a brighter, healthier future. We will teach young people about healthy lifestyles, including hygiene and nutrition to educate them on how to stay healthy in the modern world.

We will support the mental health and wellbeing of pupils throughout their time at Macmillan by promoting positive mental health. We aim to promote a culture of calm, structure and dignity through having clear behaviour expectations for all pupils. We will also put appropriate support in place for those suffering from mental health problems and work closely with outside agencies to provide specialist advice when required.

We will provide pupils with the opportunity to develop an understanding and appreciation of the diverse community within which they live. Equipping the pupils with the necessary skills and attributes to be able to make a positive contribution towards it. We will also develop their awareness of the wider world through the study of global perspectives and the academy broadcast. We will actively promote fundamental British values and sustainability as part of this agenda.

## INSPIRING PUPILS FOR FUTURE EMPLOYMENT

Our pupils develop essential skills and receive clear guidance to prepare them for their lives beyond school. We ensure that all pupils receive face-to-face careers advice and support throughout their time with us.

We take great care to make sure pupils are given the advice and guidance that allows them to make informed choices about the subjects they study and their future careers. Every pupil in Year 9 and Year 11 has an appointment with a senior member of staff to discuss their future plans. All pupils have access to a full-time careers advisor and a well-stocked careers library.

The principled design of our curriculum offers a wide experience to all pupils and is responsive to their needs as well as those of local employers. The Tees Valley Combined authority published their prediction for future demand in the local employment market in their report titled UKCES-Working-Futures-Summary-Report. The report identifies future demand in the following sectors: Health & Social Care, Professional & Business Service, Culture and Leisure, Construction, Manufacturing, Logistics, and Digital. Our curriculum has been designed to address the skills gap in these sectors.

We are proud of our destination data, which reflects the ambitions of our pupils. We invite former pupils to speak at our annual awards ceremony and share their career paths in order to raise the aspirations of our pupils. We aim to be more than just a school.

Wherever possible we engage with local employers to enhance the delivery of our vocational courses. We organise an annual Jobs Fair to give our pupils direct access to over 50 local employers.

We consider work experience to be highly valuable in providing our pupils with an insight into their future employment. We offer every pupil an internal work experience in Year 9 and all pupils in Year 10 and Year 12 have a work experience week.

# CURRICULUM STRUCTURE

## HOW THE CURRICULUM IS ORGANISED

The academy has a 1-week timetable with 25 1 hour lessons

| Year 7 | DT | PE | Ma | Sc | Ar | Dr | En | MFL | Ge | Gl | Hi | It/Cs | Mu | RS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours | 1 | 3 | 4 | 3 | 1 | 1 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Groups | 14 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

| Year 8 | DT | PE | Ma | Sc | MFL | Ar | Dr | En | Ge | Gl | Hi | It/Cs | Mu | RS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours | 1 | 3 | 4 | 3 | 2 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 |
| Groups | 14 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

| Year 9 | DT | PE | Ma | Sc | En | Li | MFL | Ar | Dr | Ge | Gl | Hi | It/Cs | Mu | RS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours | 1 | 3 | 4 | 3 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Groups | 14 | 10 | 10 | 10 | 10 | 10 | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

| Year 10 | Ma | En | Li | PE | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|
| Hours | 4 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 2 |
| Groups | 12 | 12 | 12 | 10 | | | | | | |

| Year 11 | Ma | En | Li | PE | A | B | C | D | E |
|---|---|---|---|---|---|---|---|---|---|
| Hours | 4 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| Groups | 12 | 12 | 12 | 10 | | | | | |

| Year 12 | A | B | C | D | E |
|---|---|---|---|---|---|
| Hours | 5 | 5 | 5 | 5 | 1 |

| Year 13 | A | B | C | D | E |
|---|---|---|---|---|---|
| Hours | 5 | 5 | 5 | 5 | 1 |

### Key Stage 3 Subjects

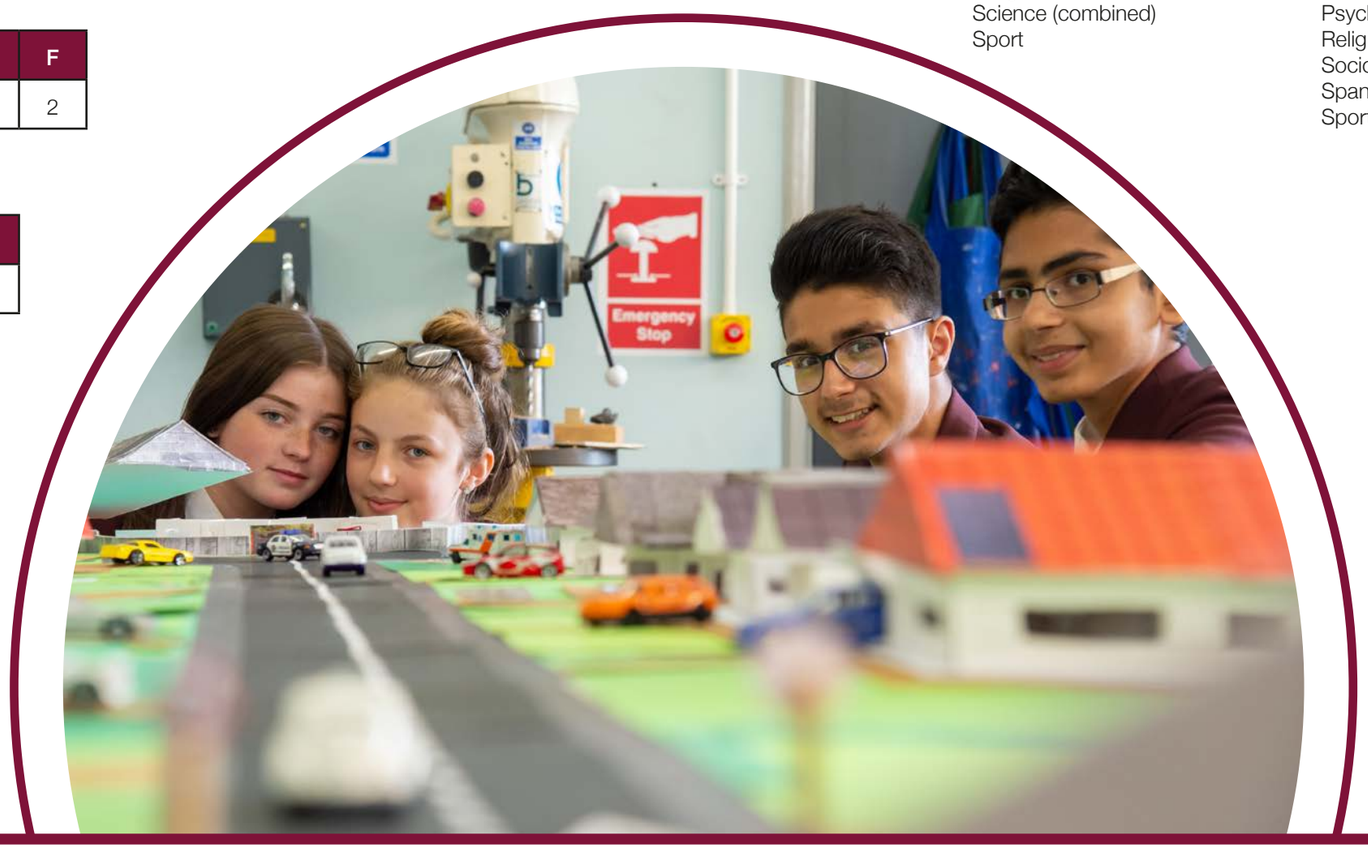
Art
Design Technology
Drama
English
French
Geography
Global Perspectives
History
ICT & Computing
Mandarin
Mathematics
Music
Physical Education
Religious Studies
Science
Spanish

### Key Stage 4 Subjects

English Language
English Literature
Mathematics
Computing
French
Geography
History
Spanish
Art
Biology
Business Studies
Chemistry
Design Technology
Drama
Engineering
Enterprise
Food & Nutrition
Health & Social Care
iMedia
Music
Physical Education
Physics
Religious Studies
Science (combined)
Sport

### Key Stage 5 Subjects

Art, Craft & Design
Biology
Business Studies
Chemistry
Computing
Drama & Theatre
Engineering
English Language
English Literature
French
Geography
Government & Politics
Health & Social Care
History
ICT
Law
Mathematics
Further Mathematics
Media Studies
Music
PE & Sport
Physics
Product Design
Psychology
Religious Studies
Sociology
Spanish
Sport



# PLANNING THE CURRICULUM

We have developed ambitious plans to rewrite the Key Stage 3 curriculum. In order to redesign this fundamental aspect of the curriculum we wanted to stimulate our heads of department/subject leaders to think far more deeply about the curriculum and a range of CPD was delivered around this theme during that academic year. To encourage this thinking we developed a range of tools which would help subject leaders with the curriculum planning process.

# DEPARTMENTAL INTENT STATEMENTS

Before going into the detail of the subject knowledge that will be taught, each department wrote an intent statement which focuses on the purpose of the subject. These statements set out why the subject needs to be taught and the impact that the subject will have on students.

## English

We immerse our pupils in challenging texts that act as an introduction to literature. We study texts from a range of time periods to develop the concept of different audiences and to challenge pupils to see the universality of texts and we expect pupils to engage with these texts on a personal level as well as honing their abilities to write about the text as a construct for an audience. Across our Key Stage 3 curriculum pupils will be taught to consider the text as a construct and to consider authorial intentions. Pupils will be supported to independently develop their understanding about **what** the writer's intentions were through judiciously selecting evidence **(how)** and to explain **what** the writer wanted his/her readers to consider this aspect and **why** the evidence is effective in conveying the writer's message.

We see our pupils as writers and, as writers, they need to know the conventions of texts before they can begin to experiment and craft. Our pupils study a variety of quality non-fiction and fiction texts, from the nineteenth century and sixteenth century onwards respectively, exploring the writers' aims and how they have been crafted. Pupils then emulate these style models and become increasingly confident writers ready to embark upon their Key Stage 4 journey.

Our staff have a passion for the subject that they teach; they challenge pupils through quality texts, explicit modelling, questioning, and the creation of risk-taking (partly through utilising approaches from our work with the RSC) and reflective classrooms.

English, as a subject, underpins access to the curriculum across the academy and at every key stage. Equally, studying English allows pupils to develop into independent young people and adults who are empowered in their interactions in daily life. Pupils need to master communication through reading, writing and speaking and listening, but they also deserve to have access to the wealth of learning; the different perspectives on society across different time periods and the personal exploration that the study of literature affords. It is with this in mind that we have crafted our Key Stage 3 curriculum.

The curriculum is designed around three key fundamentals: mastery of core skills; engagement with texts as readers; creating writers who are playful with language. We build on the strong foundations our pupils enter with from Key Stage 2, maximising on the writing skills that they arrive with and helping them to bridge the gap between Key Stage 2 and 4 reading and analysis skills.

We want our pupils to be:

- Reflective and creative planners
- Self-reflective editors of their own work
- Thoughtful language selectors
- Thoughtful readers
- Able to identify how a writer creates meaning
- Able to analyse how meaning is created in texts
- Able to explore how texts might affect different readers.

# DEPARTMENTAL 'BIG PICTURES'

Each department has a 'big picture' or a framework for what is taught. This document constitutes the roadmap, showing the final destination for students and also shows them the way to get there. This big picture shows the big ideas in each subject and the sequence in which they have to be taught has been carefully considered.


# MID-TERM PLANS

The 'big pictures' are then divided into units of around 6-8 lessons and more detailed planning for these units are written into the 'mid term' or unit plans. In this planning document, subjects set out the substantive knowledge that the students will learn as well as the disciplinary knowledge that will be developed alongside this. It also identifies prior learning which will be built upon, the key vocabulary that students will need to acquire to make good progress and will also identify any likely misconceptions which students may develop in their learning of the topic.

These planning documents all cover the following questions:

- What are the big ideas/threshold concepts?
- What knowledge will pupils need to acquire?
- What skills will pupils need to practise/develop?
- What prior learning are we building on?
- What misconceptions may pupils have and how will we expose/deal with these?
- What key language (or literacy activities) will we need to build in?
- What assessment activities will we use to decide if pupils are secure in their knowledge and understanding of key concepts/skills?
- What will mastery look like?

# SUBJECT ON A PAGE (SOAP)

These documents are written for students and parents so that they can understand their curriculum journey and better understand how individual topics fit into the bigger picture of learning. Subjects on a page or 'SOAPs' are stuck into student exercise books and referred to by teachers throughout the course. We think that this is an effective strategy because the detail of a particular lesson is more likely to be remembered by being put into the context of the overall scheme.

## MATHEMATICS - YEAR 7

**Sequences:**
Recognise and categorise different types of sequence. Continue linear and non-linear sequences in different representations. Explain the term-to-term rules of a sequence in words

**Algebraic thinking:**
Use function machines with both numerical and algebraic values. Substitute values into an expression. Use algebraic notation. Generate sequences given an algebraic rule. Represent functions graphically.

**Equality and equivalence:**
Understand the meaning of equality and equivalence. Understand and use fact families.
Solve one step linear equations. Simplify algebraic expressions by collecting like terms.

**Place value and ordering:**
Recognise the place value, write and compare any values up to one billion. Work out intervals on a number line. Round values to the nearest power of 10 and 1 significant figure. Find the median and range of a set of values.

**FDP equivalence:**
Represent fractions as diagrams and on number lines. Convert between fractions, decimals and percentages. Use and interpret pie charts. Identify and use equivalent fractions.

**Addition and subtraction:**
Select and use appropriate mental and formal methods for the addition and subtraction of integers and decimals. Solve perimeter problems. Solve financial maths problems. Solve problems involving timetables. Solve problems involving tables, frequency trees, bar and line charts.

**Multiplication and division**
Use factors and multiples. Multiply and divide by powers of 10. Use formal methods to multiply and divide integers and decimals. Convert metric units. Use BIDMAS. Solve area problems. Solve problems using the mean.

**Fractions/ percentages of amounts**
Find a fraction of a given amount. Use fractions to find the whole or other fractions.
Find percentages of an amount using mental methods and methods that require a calculator

**Operations and equations with directed number:**
Order directed numbers. Add/ subtract/ multiply and divide directed numbers. Use a calculator for directed number calculations. Solve two step equations.

**Addition and subtraction of fractions:**
Convert between mixed numbers and fractions. Add and subtract fractions, integers and mixed numbers. Use fractions in algebraic contexts.

**Constructing, measuring and using geometric notation:**
Understand labelling for geometric figures. Classify, measure and draw angles. Identify parallel and perpendicular lines.
Recognise types of triangle and quadrilateral.
Construct SSS, SAS and ASA triangles. Draw and interpret pie charts using proportion and a protractor.

**Developing geometric reasoning:**
Understand and use the sum of angles at a point, on a straight line, in a triangle and in a quadrilateral. Understand and use vertically opposite angles. Solve angle problems using such facts.

**Developing number sense:**
Know and use mental strategies for the four operations with calculations for integers and decimals. Use estimation as a method for checking. Know when to use a mental/ formal strategy or a calculator.

**Sets and probability:**
Identify and represent sets. Interpret and create Venn diagrams. Use the interaction and union of sets. Know and use the vocabulary of probability in relation to the probability scale. Generate sample spaces for single events. Calculate the probability of a single event and know the sum of probabilities is 1.

**Prime numbers and proof:**
Recognise and identify prime, square and triangular numbers. Find the HCF and LCM of a set of numbers. Write a number as a product of its prime factors.
Make and test conjectures using counter examples to disprove a conjecture.

SUBJECT ON A PAGE - MATHEMATICS

## MATHEMATICS - YEAR 8

**Ratio and scale:**
Understand and use ratio notation, including simplifying ratios and unitary ratios. Share amounts into a given ratio. Find the proportional link in given scenarios, including between circumference and diameter of a circle.

**Multiplicative change:**
Solve problems involving direct proportion. Use proportion graphs to solve problems, including conversion graphs for currency and unit conversions. Use scale factors and interpret scale diagrams and maps.

**Multiplying and dividing fractions:**
Multiply combinations of integers, fractions and mixed numbers. Divide combinations of integers, fractions and mixed numbers. Understand and use the reciprocal.

**Working in the cartesian plane:**
Work with coordinated in all four quadrants. Plot graphs that are parallel to the axis. Recognise and plot graphs that have positive and negative gradients. Understand the general form of a line, y=mx+c. Explore the link between linear sequences and straight line graphs.

**Representing data:**
Draw and interpret scatter graphs, including identifying correlation. Understand and use grouped frequency tables. Identify different types of data. Use two-way tables to represent data.

**Tables and probability:**
Construct sample space diagrams for multiple events. Find probabilities from sample space diagrams, venn diagrams and two-way tables.

**Brackets, equations and inequalities:**
Form expressions, equations and inequalities. Expand brackets and combinations of brackets, simplifying the outcome where possible. Solve equations and inequalities. Factorise expressions into a single bracket.

**Sequences:**
Generate sequences given in words and with an algebraic rule. Find the nth term rule for a linear sequence.

**Indices:**
Addition and subtraction of expressions involving indices. Simplify expressions involving multiplication and division with indices.

**Fractions and percentages:**
Convert between fractions, decimals and percentages. Find fractions, decimals and percentages of amounts using calculator and non-calculator methods. Increase and decrease amounts by given percentages. Express numbers as fractions or percentages of each other. Find the percentage change between two quantities.

**Standard index form:**
Investigate positive and negative powers of 10. Order numbers that are in standard form. Perform calculations with numbers in standard form.

**Number sense:**
Round numbers and estimate calculations. Converting metric units. Solve problems involving money, time and the calendar.

**Angles in parallel lines and polygons:**
Solve problems involving angles in parallel lines. Investigate properties of quadrilaterals. Find interior and exterior angles of polygons.

**Area of trapezia and circles:**
Calculate the area of a trapezium. Calculate the area of circles and part circles. Find the area and perimeter of compound shapes.

**Line symmetry and reflections:**
Recognise line symmetry. Perform reflection of shapes in horizonal, vertical and diagonal lines.

**The data handling cycle:**
Set up a statistical enquiry. Design and criticise questionnaires. Identify the most appropriate chart to display data. Draw and interpret multiple bar charts and line graphs. Compare distributions using charts. Find and interpret the range. Identify misleading graphs.

**Measures of location:**
Understand the mean, median and mode. Identify outliers. Choose the most appropriate average. Compare distributions using averages and the range.

SUBJECT ON A PAGE - MATHEMATICS

## MATHEMATICS - YEAR 9

**Number:**
Order integers and decimals using correct symbols. Addition, subtraction, multiplication and division. BIDMAS.

Decimal notation and place value. Add, subtract, divide ad multiply decimals. Rounding to decimal places and significant figures. Estimation. Use one answer to find the answer to another.

Square and cube numbers. Recognise powers of 2,3,4 and 5. Roots. Add, subtract, multiply and divide in index form. Using a calculator for roots and power. BIDMAS with powers and roots.

Identify factors, multiples and prime numbers. List all factors of a number systematically. Prime factor decomposition of a umber. Find HCF and LCM using multiple methods including Venn diagrams.

**Algebra:**
Write an expression. Simplify algebraic expressions. Multiply algebraic expressions. Divide algebraic expressions. Use index laws in algebra.

Multiply a single number over a bracket. Simplify expressions involving brackets. Factorise algebraic expressions by taking out common factors.

Write expressions to solve problems representing a situation. Substitute numbers into expressions.

**Data Handling:**
Data collection techniques. Interpret and discuss data. Sort, classify and tabulate data including discrete, continuous, quantitative and qualitative. Averages. Two-way tables. Averages from frequency and grouped frequency tables.

Coordinates. Pictograms. Bar charts. Line graphs. Histograms (equal width). Stem and leaf diagram.

Draw circles and arcs, Measure and draw angles. Construct pie charts. Interpret pie charts.

Draw scatter graphs. Interpret scatter graphs and identify outliers. Draw lines of best fit and use them to make predictions.

**Number:**
Express a given number as a fraction of another. Simplify fractions and recognise equivalent fractions. Order fractions with different denominators. Convert between mixed numbers and improper fractions. Add, subtract, multiply and divide fractions.

Convert between fractions. percentages and decimals. Convert fractions into recurring decimals. Compare and order fractions. percentages and decimals. Percentage as fraction.

Express a given number as a percentage of another. Find percentages without using a calculator. Solve problems with percentages. Work out a percentage increase/ decrease. Use a calculator to find percentages using multipliers.

**Algebra:**
Use function machines. Set up and solve simple equations. Solve more advanced equations with brackets and unknowns on both sides. Rearrange simple equations. Approximate results of equations using a graph.

Inequalities on number line. Solve inequalities and give integer values that satisfy them. Solve multiple inequalities to find a value that satisfies them all.

Recognise sequences including Fibonacci sequences. Find terms of a sequence. Nth term of a linear sequence. Continue a geometric and quadratic sequence to generate missing terms.

**Shape and Space:**
Estimate sizes of an angle Measure angles using a protractor. Identify perpendicular and parallel lines. Recall properties of quadrilaterals. Angles at a point, straight line, right angle, alternate angles, corresponding angles and vertically opposite angles.

SUBJECT ON A PAGE - MATHEMATICS

# YEAR ON A PAGE (YOAP)

While the integrity of subject disciplines is the foundation of our approach to the curriculum, we think that there are opportunities to enhance student understanding by identifying common links between subjects and ensure that when similar knowledge is taught in different subjects, it is coherently presented to students. 'YOAPs' are a planning document to help subject leaders to develop a better understanding of the curriculum as a whole and how individual subjects fit into this.

**Year 7**

| | Term 1 | | Term 2 | | Term 3 | |
|---|---|---|---|---|---|---|
| **Art** | Identity: The exploration of how realistic and distorted portraits are used to represent identity. | | Concepts: Experimental and expressive drawing | | Dots: Pointilism: Aboriginal and Japanse art | |
| **Drama** | The Orient Express - How do we become a character? | Mime & Melodrama - Does good drama need to rely on words? | Survivor - How far can your imagination take you? | The Haunted School - Can drama teach a moral message? | Scripted Drama - How does an actor go from Page to Stage? | |
| **DT** | The following five projects are completed on a rotation throughout the year. | Block Bot Project: Timber based material (sources & origins); Working with timber; Isometic drawing; Design development; H&S. | Gonk Project: Metals and Alloys (sources & origins); Working with ferrous metals; Design and specification; H&S. | Moisture Sensor Project: Electronic circuits; soldering; Packaging design; Electrical Safety; Research. | Rocket Project: Aerodynamics and pneumatics; Evaluation. | Food & Nutrition: Safety and hygiene in the kitchen environment; Use of the oven, hob and grill. |
| **English** | Presenting the silent voices. How literature and language can affect the world and how writers speak up for marginalised groups within society. Main Text: Oliver Twist. | | Exploring the world we live in. How literature and language can be used to both express and alter our views of different groups in society. Main Texts: Macbeth and Anthology of Poetry | | Informing and commenting on the wider world. Exploring varied perspectives on the world, presented by a range of writers in travel writing pieces. Main text: Anthology of travel writing. | |
| **Geography** | Introduction to the UK: Our Island Home; Our Neighbourhood; The UK in Europe, OS Maps of the UK | Physical Landscapes in the UK: Rivers, Coasts, Uplands and Glacial Landscapes | Weather and Climate in the UK: Recording the Weather; Why it's Changeable; Rain; Microclimates; Extremes in the UK | The People of the UK: Diversity; Measuring Population; Immigration; Comparing Rural Areas | Work, Rest and Play in the UK: Work; Employment; Communications and Transport; Leisure; Geography of Sport | Review of year 7 geography. Assessment. Field trip to Robin Hoods Bay in Bookend Week (and follow up work) |
| **GP** | Globalisation: Is it better to live in a global world? | Poverty & Inequality: How do people get out of poverty? | Education: Should education be free for all? | Trade & Aid: Do we have a responsibility to help others? | Migration: Is Britain a welcoming country? | Health: Are we healthier than ever before? |
| **History** | What was the world like around 1000AD? Theme: wider world | Why did William win the Battle of Hastings?<br>Theme: conflict and conquest | Which group were the biggest threat to a Medieval king's rule?<br>Theme: Power and politics | Which was the most successful area of the Medieval Period?<br>Theme: Expansion, empire and trade | What were the Crusades and what did they do for us?<br>Theme: religion | Was the Black Death or Peasants revolt more significant in Medieval society? Theme: Stability and Instability |
| **ICT** | Introduction to ICT: How to use the Macmillan ICT systems including Onedrive. Efficient and safe use of email and the internet. | Spreadsheets: How to use a range of different funtions to solve problems. | Computer programming: Using Scratch we will explore use of sequencing, selection, Iterations and conditions. | How computers work. Hardware & Software, peripherals, development of skills with MS Office. | Graphic Design: The creation of a product from a client brief. Project planning, digital greaphics, self-evaluation of your work. | Computer Programming: How to code using Microbit and Python. |
| **Maths** | Sequences: Working with arithmetic sequences to find missing numbers and solve problems | Recognising the place value of numbers, use of the number line. Finding the range and median. | Formal and mental methods for addition and subtraction. | Operations and equations with directed numbers | Constructing, measuring and using geometric notation. Drawing and measuring angles. Pie Charts | Developing number sense: Strategies for mental arithmetic and estimation. |
| | Algebraic thinking: the use of letters and symbols to represent unkown numbers. | Working with fractions, decimals and percentages. | Factors and multiples. Formal methods for multiplication and division. Problem solving with area of shapes. | Fractions and mixed numbers. Addition and subtraction of fractions and mixed numbers. | Developing geometric reasoning: use of abgle facts to solve problems | Sets and probability: Venn diagrams, set notation, sample spaces, the probability scale. |
| | Equality and equivalence: Use of fact families. Solving equations | | How to find the fraction of an amount and percentages of an amount. | | | |
| **MFL: French** | How to describe where you live, what languages you speak and your nationality. You will learn to count up to 31; months; dates. Describe f yourself such as hairstyle and eye colour. | Describe your personality, name family members, say who you live with and what they are like. Give opinions of school subjects and talk about friends saying how long you've known them. | How to ask for and give directions. Say where you like to eat out, order food in a café. Name parts of the body and talk about sports injuries and ask for things at the tourist office. | Talk about school and where you live. Talk about leisure activities and personal possessions. Talk about animals using colours and other adjectives. | How to describe clothes, what style you like and what you wear on different occasions. How to describe the weather, activities, music preferences and national events. | You will watch a French movie and compare cultural differences between France and England. You will revise, consolidate, and extend language learnt throughout the year. |
| **MFL: Spanish** | How to greet people and introduce yourself. Numbers 1-31, dates, colours and classroom items. | How to count up to 100 in Spanish, brothers and sisters, describe hair, eyes and facial features. Personailty traits. | Talking about hobbies, sport and giving opinions about it. Discussing weather. Getting to know some famous Spanish-speaking musicians. | Talking about the area where you live, describing types of house and rooms in the house. Describing your dream home and talking about household tasks. | About places in town, where you like to go in town. Giving and understanding directions. Making plans for the weekend. Comparing rural and urban environments. . | To revise, consolidate and extend language from this year through description of films and plots. Film Coco exploring Mexican traditions and famous figures. |
| **Music** | Patterns: Performance of Riptide, ensemble skills, melody, harmony, and tempo. Keyboards, voice, ukulele and percussion. | Music for Occasions: Learn how to play keyboard and decode music through a solo performance of Jingle Bells | Canon: Instruments of the orchestra. Group performance of Pachelbel's Canon. | How pop music is constructed. Performance of Don't Stop Believing. | My Tunes: creative skills and how to use of music notation. | Cycles: A celebration of your musical journey through year 7. As well as learning how to improvise you will perform Intro. |
| **PE** | Gymnastics, rugby, sportshall athletics, hockey & physical activity | | Basketball, handball, football, physical activity | | Netball, cricket, rounders, athletics | |
| **RS** | What do I know about the 6 biggest faiths of the world? | | How is RS relevant to me? | What are the challenges of being part of a religion today? | What does it mean to be chosen? | What is radical about Jesus? |
| **Science** | Physics: Forces (Speed & Gravity) Calculation of speed, acceleration and the effect of forces on motion. | | Physics: Electromagnets (Series and Parallel Circuits) Practical construction of electrical circuits and applying electrical equations. | | Physics: Energy (Costs and Transfers) Advantages and disadvanages of energy options. Concepts of energy stores, transfers and the principle of the conservation of energy. | |
| | Chemistry: Matter (Particle Model & Separation) The three states of matter, behaviours and changes of state. Key chemical separation techniques including filtration, evaporation, chromatography and distillation. | | Chemistry: Reactions (Acids and Alkalis & Metals and Non-metals). The differences between acids and alkalis, use of indicators and neutralisation reactions. Chemical differences between elements, the reactions of metals and non-metals. | | Chemistry: Earth (Structure & Universe) Examine the structure of the Earth, rock formation and cycle. Looking beyond Earth, consideration of the wider Solar system and beyond. | |
| | Biology: Organisms (Cells & Movement). Cell structure and function including those specialised for specific functions. The human skeleton, movement and the role of muscle and joints. | | Biology: Ecosystem (Plant Reproduction & Interdepenendence) Ecosystems and the effects of competition and destructive influences. Plant reproduction and the structure of flowers. | | | |

# CURRICULUM TRANSITION POINTS

Transition points within the curriculum can pose a challenge for pupils and the Education Endowment Fund's (EEF) research cites three reasons for this:

1. Lack of curriculum continuity and difficulties adapting to academic challenges
2. Lack of familiarity with school systems, routines and expectations
3. Issues with developing healthy peer networks.

While most of the research applies to the transition from primary to secondary school, many of these principles still apply to the transitions between other key stages. The academy has put in place an extensive range of provision to mitigate these potential challenges.

## YEAR 6 INTO YEAR 7 TRANSITION

Developing curriculum continuity has been a significant part of our strategy in recent years. Key Stage 3 is planned with upper Key Stage 2 in mind and our cross-phase Multi Academy Trust has given those who design the Key Stage 3 curriculum opportunities for co-construction with Year 6 teachers at Archibald Primary School.

Our annual Teaching and Learning Conference gives Year 5-Year 8 teachers the opportunity for collaboration. As a result, Year 7 and Year 8 teachers are much more aware of 'where the pupils have come from' in curriculum terms.

To further this collaboration even more, several departments (maths, English, PE, MFL, music) have sent teachers to teach in Key Stage 2 at a range of Middlesbrough schools – Archibald Primary, Acklam Whin Primary, Park End Primary. This has had a significant benefit to the primary school as well as improving the sense of curriculum continuity between Key Stage 2 and 3.

The academy has led a Year 6 maths programme across 18 Middlesbrough schools – The Greater Depth Project. This involves a Key Stage 3 maths teacher teaching challenging content to Year 6 pupils who have the ability to achieve Greater Depth Standard in Year 6. Again, this has increased curriculum continuity for more able mathematics in Year 6 and provided a valuable opportunity for cross-phase collaboration.

In the summer term the academy co-ordinates a Middlesbrough wide transition project. This was developed in response to the difficulty of running in-person Year 6 induction programmes due to COVID restrictions in 2019 and 2020. This programme delivers 'secondary ready' sessions to all Middlesbrough primary schools in English, maths, science and MFL, once again with the aim of building curriculum continuity.

## SUMMER SCHOOLS

For many years, the academy has operated a summer school in August. This is designed specifically for Year 6 pupils about to enter Year 7. The aims of the programme address concerns 2 and 3 of the EEF research, providing our prospective pupils with familiarity with school systems and helping them to develop friendships prior to the start of the term in September. The summer school focuses on pupil personal development and is based on sport, outdoor learning and the arts.

A unique feature of the induction programme from Year 6 into Year 7 is the curriculum booklet. This extends the three day induction experience and gives pupils an exposure to different areas of the curriculum in the form of an independent learning booklet which is completed over the summer break.

Requiring pupils to complete this over the summer sets the high expectations we have for pupils in Key Stage 3.

## KEY STAGE 4

The transition between Key Stage 3 and 4 is an important one as pupils gain a significant amount of autonomy in shaping their own curriculum. Our focus at this transition point is to ensure that pupils, with the support of their families, can make the right curriculum choices. We have developed a Key Stage 4 prospectus – Routes, which gives a detailed explanation of each available course. All Year 9 pupils receive a personal interview with a senior leader to make sure that student make choices which are an initial step to prepare pupils for further study and ultimately employment.

## KEY STAGE 5

The Key Stage 4 into 5 transition aims to prepare student for the greater academic rigour of Post 16 study and also the need for pupils to show significantly greater levels of independence in their approach to study. The Post 16 Bridging Course in July introduces pupils to Post 16 courses but also requires pupils to complete Post 16 transition units over the summer. These give pupils an opportunity to try out new subjects before September to ensure that they have chosen courses wisely. There are also challenging independent projects which prepare pupils for the increase in academic challenge the pupils will likely face in Year 12.

# CURRICULUM ADAPTATIONS

We believe that every student has the right to fully access our curriculum as well as the activities and experiences we offer. We have a team of learning mentors who work with students in class to support learning and where appropriate, adapt learning resources or lead small group intervention.

We adapt our curriculum for a number of students that need special consideration with the aim of supporting them to make good progress and engage more with their education. This adaptation of our provision is based on the individual needs of the students and is done in partnership with parents and carers.

## SUPPORTING LITERACY

Intervention for these students is needs led. For students with low levels of literacy we identify mutually agreeable times to run small group interventions with a literacy specialist. These sessions run for a half term and are reviewed regularly for progress in reading and spelling ages as well as improvement in English assessment.

## SUPPORTING NUMERACY

Student attainment in numeracy is monitored both through White Rose assessments and GL Assessment data. Intervention strategies include subject support, small group and 1:1 tuition.

## ALTERNATIVE PATHWAYS

At Key Stage 4 we adapt the curriculum for a small number of students. For example, we offer a more practical and engaging approach to BTEC Enterprise & Marketing to a small group of students who might find accessing the suite of qualifications too challenging. As part of this offer students run an enterprise project and attain certificates in Food Hygiene and Health & Safety at work. A small number of students access learning support in one of their option blocks to help support their studies.  We relax our rules regarding the study of Ebacc. subjects for these students.

We have created alternate provision for both KS3 and KS4 on site for students who have experienced challenges in accessing the mainstream curriculum due to social emotional and mental health difficulties. Access to alternate provision is the last option used when all other strategies to modify behaviour have been unsuccessful. Specialist English and maths teachers work in our alternative provision to ensure students have access to these key subjects. In addition these students experience opportunities to develop leadership and communication through PiXL Edge. We occasionally offer off-site provision with the aim to re-engaging students with education.  Again, this adaptation of our provision is based on the individual needs of the students and is done in partnership with parents and carers.

## SUPPORTING STUDENTS WHO HAVE ENGLISH AS AN ADDITIONAL LANGUAGE (EAL)

The academy is supported by Ethnic Minority Achievement Team (EMAT) in order to support the transition of new entrants to the UK into education. The curriculum for these students is personalised based on their individual needs. Assistive technology is used to help EAL students access the curriculum.

# REVIEWING THE CURRICULUM

An integral part of the curriculum design process is a 'review phase'. We have developed a self assessment document for heads of department to use which will identify strengths and weaknesses of the curriculum. This involves a discussion of the self assessment and then a report which identifies strengths, weaknesses and areas of development for the curriculum. These areas of development are particularly important, emphasising the constantly evolving nature of the curriculum design.

- Mastery – This aspect of the curriculum is fully embedded within the department and there are some examples of exceptional practice.
- Secure – Coverage is secure and consistent. There are only minor points of development which leaders are taking action to remedy.
- Developing – Coverage is present but with limitations and/or weaknesses. Leaders have identified this but there have been limited attempts to remedy it.
- Beginning – This aspect is either absent or very limited in scope. Leaders have not yet started to remedy any weakness in this area.

## CURRICULUM REVIEW

| | | 4 Mastery | 3 Secure | 2 Developing | 1 Beginning |
|---|---|---|---|---|---|
| 1 | There is a clear and coherent rationale for the curriculum design | | | | |
| 2 | The rationale and aims of the curriculum design are shared across the department and understood by all | | | | |
| 3 | The sequencing of concepts and knowledge progression are built into the design of the curriculum | | | | |
| 4 | Curriculum coverage allows all pupils to access the content and make progress through the curriculum | | | | |
| 5 | Curriculum provides a high degree of challenge for the most able pupils | | | | |
| 6 | The curriculum is built on the prior learning of the previous key stage | | | | |
| 7 | Literacy is prioritised and there is a shared approach to the teaching of this | | | | |
| 8 | The curriculum is at least as ambitious as the standards set by the national curriculum/external qualifications | | | | |
| 9 | The curriculum is ambitious in the way it links to other subjects | | | | |
| 10 | The curriculum prepares pupils for the next key stage of learning in that subject | | | | |
| 11 | Home learning is planned coherently and is integrated into the curriculum plan | | | | |
| 12 | Teachers have opportunities to develop their own subject knowledge to ensure that the requirements of an ambitious curriculum can be met | | | | |
| 13 | Curriculum resources serve the subject's curricular intentions | | | | |
| 14 | Assessment is designed thoughtfully and fully integrated into curriculum planning | | | | |
| 15 | There is a mechanism to ensure that teachers review the curriculum | | | | |
| 16 | Pupil engagement with the curriculum is monitored | | | | |
| 17 | *The curriculum develops the skills required for employment* | | | | |

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