

**Secondary Curriculum Statements** 



## **Curriculum Statement: Art**

Explore. Dream. Discover.

- Mark Twain

Art is not what you see, but what you make others see.

- Edgar Degas

### **Powerful Knowledge in Art**

- Understanding the unique qualities of different materials and processes and being able to exploit these within practical work.
- To engage with the contemporary in art in doing so, seeing beyond the analytical and realistic, and considering /exploring the conceptual.
- How to question visual language and support opinions with credible examples
- An understanding of the main Art theories
- Make connections between art movements and historical/cultural events.
- Explore key Art pieces and develop skills in analysing and expressing opinions using artistic terminology and vocabulary.

### **Curriculum features**

- Developing the use of visual language by seeing, understanding, questioning and practising.
- To develop confidence in oracy and rhetoric, while forming opinions and an understanding of Art and Design throughout history and in today's society.
- The Art curriculum is critical and contextual at its core. Artists, craftspeople and designers are used to underpin practical tasks to support, develop and allow students to question.
- To investigate ideas through visual language
- To explore techniques, materials and ideas
- To develop the ability to draw.

### Co Curriculum enrichment

• Art links with History, English literature, MFL, Geography, Design Technology Beliefs and Values, underpin many of the curriculum projects. Cultural links define many projects and literature is often a key feature.



# **Curriculum Statement: Computing**

In a world that's changing really quickly, the only strategy that is guaranteed to fail is not taking risks.

- Mark Zuckerberg

## **Powerful Knowledge in Computing**

Powerful Knowledge in Computing is based on the ability to abstract and decompose a problem to produce a solution through thorough investigation. Students have opportunities throughout KS3 to produce robust and considered solutions to problems posed in class. Alongside this, it is important students develop an understanding of how the hardware within a computer functions, removing the 'black box' nature of technology.

#### **Curriculum features**

The KS3 curriculum is designed to ensure students studying GCSE Computer Science have a grounding in the fundamental concepts covered at KS4. Students start with the 'big picture', studying Hardware and Algorithms, giving them the skills to access later topics such as Binary and Hexadecimal where students study the mathematical makeup of machines. Over the 3 years, students learn to program in 3 languages, starting with block-based languages before progressing to High-Level Languages. The development of programming skills is also built into physical Computing tasks such as coding thermometers and LED lights to effectively apply the knowledge learnt in earlier Algorithm and Programming units.

#### Co Curriculum enrichment

- Students have the opportunity to enter a range of National Competitions such as game design and development for YGD BAFTA and competing against other secondary schools in CyberGame events.
- Students from the University of Manchester run 'Mini MIT' for KS3 students to learn how to program robots.
- Amaze, a digital marketing agency, support our year 9 female students through web development sessions in Girl:Code.



# **Curriculum Statement: Creative Design**

If you're not prepared to be wrong, you'll never come up with anything original.

- Ken Robinson

## **Powerful Knowledge in Creative Design**

Powerful knowledge is the realisation that most of the items or products we interactive with on a daily basis are designed by humans, for humans for a reason. Students should be made aware that Design and Invention provide solutions for human needs and desires. Students are to know that design is there to aid comfort, transport, physical needs, communication, health and also for aesthetic reasons. Real world problems are used to develop the students understanding of the huge, life-changing role and impact a designer can have:

- A knowledge of some important design movements and their origins from culture.
- Knowledge of materials, their origins, strengths and weaknesses, in subject specific areas to help develop outcomes that are more realistic.
- A good understanding of how environment considerations can impact design decisions, positively and negatively.
- Sustainability in materials and power.
- A knowledge of Biomimicry
- Understanding of ergonomics and anthropometrics.

All students should be able to apply the iterative design process to provide solutions to given problems developing the ability to argue, justify and present with confidence and clarity. Powerful- to discuss, experiment, evaluate, discuss, experiment (and repeat) = the iterative design process

#### **Curriculum features**

Our curriculum is built around problem-based learning. Students are grouped in years 7 & 8 and taught to provide solutions amicably and realistically. In year 9 they are taught to generate initial group solutions which are then further developed on an individual basis.

- Year 9 Bionics: Focus on problems for others- Solution based project to cover, basic materials and the concept of Bionics- Prototyping throughout.
- Year 8 Sustainable living: Focus on Sustainable living- Solution based project to cover- materials, Biomimicry and sustainable power- Design work in teams with Prototyping throughout
- Year 7 Transport: Focus on modern transport technologies-Solution based project to cover, modern materials and aerodynamics- Individual prototyping- with team decisions made as to the best outcome, oracy and rhetoric an essential feature of year 7 learning.

## Co Curriculum enrichment

We offer subject specific enrichment every lunchtime and after school, trips and visits relating to all areas-galleries. Show, workshops and places of employment, industry, visiting specialists in all fields. STEM specialists, practitioners, designers, ex students to inspire and motivate, mentoring by KS5 student. Competitions take place in all subject areas, accessible to all, furthermore some competitions target specific groups. From September 2018 we will also offer Unit 6- for practical classes in specialist areas, Graphics, Product Design and Textiles, this will enable students to apply extra curricular gained knowledge to timetabled lessons or for use as standalone skills based learning.



## **Curriculum Statement: Drama**

Art is not a mirror held up to reality but a hammer with which to shape it.

- Bertolt Brecht

## **Powerful Knowledge in Drama**

The key concepts in drama are skill driven and aim to build personal skills which can be relied upon to succeed, not only in drama lessons but beyond school life and in future employment. At the heart of drama is the development of these skills in all young people; engagement, communication and oracy, creative imagination, clarity of expression, autonomy, leadership confidence and cooperation. There is more to drama than being able to perform on stage. Opportunities are embedded for students to be able to hone and develop performance talent but equally important is the ability to understand the purpose of the theatre we create. Methodologies of theatrical practitioners are introduced throughout the key stages to enable students not only to 're-enact' but to shape their own unique ideas with a greater understanding of the need for style, intention, theatrical form and to learn to celebrate individual and unique perspectives.

### **Curriculum features**

The curriculum is structured based on the expectations for A Level Drama and Theatre; key concepts and skills required by the end of year 13 are fed down into schemes of work from Year 7 upwards. This is designed to raise expectations and standards from the start of Key Stage 3 and ensure that drama knowledge is being understood both practically and theoretically. A linear curriculum is in place at Key Stage 3. Year 7, 8 and 9 will all study the work of a key theatre practitioner during Autumn term, explore a text through performance during Spring term and put their skills into practice in Summer term, through exploration of a social, historical and cultural topic. This linear structure allows students to return to key concepts throughout the key stage but build on them to advance their knowledge further as the years progress.

#### Co Curriculum enrichment

Co curricular opportunities in Drama are created to allow students to develop and build on expertise learnt in lessons. Clubs and activities are varied to allow all students to participate in an area of interest. Alongside weekly Drama Clubs are opportunities for students to audition to be part of groups with more challenging expectations. The Spotlights and Limelights Academies are for those students who present talent in Drama and wish to develop ability across the performing arts, with an interest in learning about the professional industry. Students are also able to audition for the annual School Production, where the expectation is that all cast members develop performance talent and professionalism. These clubs/events are not only to encourage enjoyment in the arts but also for students to learn about professional expectations and performance discipline. Students are also able to apply to become a Drama Ambassador, taking on a leadership role within the department and developing their own knowledge by planning and delivering Drama Club sessions.



# **Curriculum Statement: English**

Once you learn to read you will be free forever.
- Fredrick Douglass

## **Powerful Knowledge in English**

Our curriculum will provide students with the powerful knowledge that can too often be hidden from view and in doing so help to make the implicit, explicit.

- Students to understand that behind every text ever written there is writer intent.
- Students to know that we can and should make predictions about any text both fiction and non-fiction by asking a set of initial questions both of fiction and non-fiction texts.
- There are a set of fundamental universal and timeless themes/ideas that influence the intentions of writers and this spans the 'entire' chronology of literary canon including what will become the canon of the future as these ideas/themes transcend the boundaries of time. E.g. Class divide, abuse of power, gender boundaries and inequality.
- Students to know that they too are connected to these universal and timeless themes/ideas and this can inform their own personal responses to a text.
- To understand and acquire a control over language both written and spoken so that students can discover the potential power it can have and can give.

#### **Curriculum features**

**KS3:** A content rich curriculum, one that spans the 'entire' chronology of the literary canon. The story is chronological in structure to help students construct a sense-making narrative that connects our literary tradition. A structure that will allow them to see, understand and explore the underpinning ideas/themes and intentions of writers from across literary history and a range of cultures.

**KS4:** A curriculum that teachers beyond what is simply required by the exams. Both the Language and Literature curriculums are built around a process of interleaving topics and self-testing. To reflect the linear exam courses material is studied on an ongoing cycle with a focus placed on testing and re-testing to aid the development of long term memory and mastery of both the skills and knowledge required. This curriculum structure aims to; improve student retention of knowledge, build student confidence ahead of assessments and give a clear and consistent routine to lessons. The Language curriculum is built around a thematic approach that allows for purposeful and supportive links to be made between this and the content and context studied through Literature.

**KS5:** Modelled after the English programmes of top universities, our literary and linguistic study focuses on developing breadth, prose style and criticality, exploring a series of thematic and generic foci around which texts are based, with enrichment focused on cultural & academic progression to become competitive for Sixth Form application, UCAS, and the world beyond it.

Running alongside all our Key Stage curriculums is an ongoing focus on developing student's spoken language skills through our Oracy Curriculum and our relentless focus on enabling all our student to be effective and articulate speakers and listeners who know when to lead and when to participate.



### Co Curriculum enrichment

Students will be offered a wide variety of opportunities and experiences that enrich students' understanding of the world around them and how they are connected to it. These will include:

- Theatre and lecture trips help to develop a broader understanding of texts beyond their pages and beyond what is required of the exam specifications across all Key Stages.
- Manchester Actors internal productions of key curriculum texts.
- 'Poetry By Heart' Competition
- 'Shakespeare By Heart' Competition
- Mock Trials
- Year 10 TED Talks in line with the Spoken Language component of the English Language GCSE Specification.
- Cross Curricular London Trip with History
- Carnegie Book Awards.
- Creative writing competitions across the Key Stages.
- RSC Workshop opportunities
- Shakespeare Live Screenings



# **Curriculum Statement: Geography**

The world as we know it is not 'given' and it can and it will change.

- Lambert et al.

## **Powerful Knowledge in Geography**

Geography is a sprawling, hybrid discipline that spans both the natural and social sciences. Powerful knowledge in geography:

- Provides students with new ways of thinking about the world using 'big ideas' such as Place, Space and Interconnection.
- Provides students with powerful ways of analyzing, explaining and understanding the world.
- Gives students power over their own knowledge- students need to know about the discipline and how knowledge has been developed and tested.
- Enables students to follow and participate in debates in significant local, national and global issues.
- Takes students beyond their own experience. This knowledge of the world contributes strongly to students' general knowledge.

#### **Curriculum features**

Geography education within the Laurus Trust aims to equip students with the knowledge and skills to be successful global citizens. Our curriculum is not about students leaving with a long list of facts about the world; we want our students to appreciate the ever-evolving nature of Geography as an academic discipline.

Through our sequences of learning experiences, students will steadily work out how the world works and how it can and will change in the future.

Students will learn about places that are outside of their own experience, they will develop their understanding of the world's diversity of environments, peoples, cultures and economies. Students will develop a global 'open mindness' so that they can challenge stereotypes and understand the fluidity of key ideas and concepts. In their lessons, students will view the world objectively and go beyond their everyday experience.

Students will be encouraged to develop a deep and descriptive conceptual world knowledge that enables them to explain relationships in both the natural and human realms. Students will then utilize the knowledge and be equipped with the tools to think through alternative social, economic and environmental futures for a range of places.

#### Co Curriculum enrichment

In addition to lessons, students have several opportunities to develop their geographical understanding outside the classroom. Fieldwork promotes geographical knowledge and understanding by bridging the divide between the classroom and the real world. Students will have the opportunity to visit places such as Lyme Park, The Peak District, Salford Quays and Iceland.

Students are also encouraged to partake in additional activities outside of their lessons- this may include taught sessions on geo-literacy, attending drop in sessions for extra support or looking at the accuracy of geography in film and television.



# **Curriculum Statement: History**

Professor Johnston often said that if you didn't know history, you didn't know anything. You were a leaf that didn't know it was part of a tree.

- Michael Crichton

## **Powerful Knowledge in History**

History is an academic subject rich in powerful knowledge. It provides coherent knowledge and understanding of Britain's past and that of the wider world. History helps students to understand the complexity of people's lives, the process of change, the diversity of societies and relationships between different groups, as well as their own identity and the challenges of their time. Powerful knowledge in History:

- Provides students with a broad range of historical knowledge and understanding, including a sense of development over time, and an appreciation of the culture and attitudes of societies other than our own;
- Allows students to gain historical perspective by placing their growing knowledge into different contexts;
- Gives students power over their own knowledge allowing them to evaluate critically the significance and utility of a large body of material, including evidence from contemporary sources and interpretations of historians;
- Enables students to engage directly with questions and present independent opinions about them in arguments that are well-written, clearly expressed, coherently organised and effectively supported by relevant evidence;
- Allows students to gaining the confidence to undertake self-directed learning, making the most effective use of time and resources, and increasingly defining one's own questions and goals.

#### **Curriculum features**

History education within the Laurus Trust aims to equip our students with both powerful knowledge and the skills required to become well-rounded individuals. Our curriculum is structured to nurture a love of History through the development of key historical skills and a depth of knowledge. Students develop the five key concepts using evidence, interpretations, significance, change and continuity and cause and consequence. These concepts are used as tools for students to make sense of, and understand, the volume of knowledge required for the development of expertise. Students study a wide range of historical periods from Roman Britain to modern day terrorism. This enables students to study the past from a variety of standpoints and to make connections and comparisons over time.

#### Co Curriculum enrichment

To further develop capital culture, History offers students a range of experiences outside of the classroom environment. These opportunities are designed to develop students' learning experience and their cultural understanding of the world around them. Past experiences have included a GCSE History trip to Berlin, where students explore the rich and powerful History that is centered around this capital city – the life of Germans under the Nazi regime and throughout the years of the Cold War. KS3 students have had the opportunity to visit London, where they have explored the history of the Tower of London from the Norman Conquest to the present day; the London Dungeons; and the Globe Theatre. Students also get the opportunity to visit various English Historical Environments as part of their GCSE studies.

In addition to out-of-school activities, the History Department runs a History House Ambassadors club for those students with a real passion for the subject. These students have organised various History House Competitions, and introduced National History Competitions, that students across the whole school have the opportunity to enter.



# **Curriculum Statement: Languages**

Without language, one cannot talk to people and understand them; one cannot share their hopes and aspirations, grasp their history, appreciate their poetry or savour their songs.

- Nelson Mandela

## **Powerful Knowledge in Languages**

Modern and Ancient languages provide a way of transcending cultural barriers, allowing students to view their world from a different viewpoint. It prompts them to question what is "normal" and provides them with the ability to embrace that fact that the world is a rich and diverse place filled with different customs, perspectives, history, arts, literature and ways of communicating.

It also affords students the chance to understand the codes which exist behind languages and how these might interplay, or be at odds with English. They will be able to recognise that rules and patterns exist throughout languages and that these may well be influenced by the impact of culture. Students can start to build a more powerful understanding of their own language through questioning how we put together words, sentences and text.

One particularly powerful skill which is developed in language learning is the ability to speak and think simultaneously. Students are challenged to respond without preparation in discussions in class and this leads to them forming strong oracy skills.

#### **Curriculum features**

Speak First – Students are learning how to communicate in another language and this begins with speech. Students will build up a level of confidence which allows them to respond naturally to each other and their teacher, being comfortable using the taught language, aiming to achieve excellent pronunciation.

Creative Contexts – We want students to learn a language through a range of compelling contexts which will take them beyond their previous experiences or engage them through creative themes. Topics such as Fairy Tales, The Rainforest, Artists, Architects and Writers, Festivals, Mysteries and Film amongst others.

Scaffolding the Learning – Language does not exist in isolation. Students must understand how language is built, and connected together, and the foundations they do this on must be firm. The curriculum in languages has been carefully devised so that grammar is sequenced according to prior learning so that students are given the ability to master key concepts at every stage of their journey.

#### Co Curriculum enrichment

It is vital that students have the opportunity to experience as many of the different sides to learning a language as possible. In order to support this, we offer a range of enrichment opportunities both within and outside of lessons. These include poetry competitions, opportunities to explore festivals and traditions in other countries, language taster sessions in new languages, visits abroad to the countries where the taught languages are spoken, visiting speakers from universities and the opportunity to mentor and teach younger students.



## **Curriculum Statement: Mathematics**

Mathematics is not about numbers, equations, computations or algorithms: it is about understanding.

- William Paul Thurston

## **Powerful Knowledge in Mathematics**

Our curriculum aims to empower students to develop and apply problem solving skills focusing predominantly on the powerful and overarching mathematical components: proportional reasoning, geometrical reasoning and graphical representations.

Our aim is to encourage students to develop mathematical behaviour and as such our curriculum encourages students to develop deeper understanding to make links across curriculum areas and foster a mastery approach.

#### **Curriculum features**

At all levels, students are provided with opportunities to behave mathematically. The emphasis is on empowering students to notice, make connections, explain, justify, conjecture, prove.

We adopt a Mastery approach with one set of mathematical concepts and big ideas for all. We encourage students to deploy particular models to support their development (ratio tables, area model, graphing) as well as draw a pictorial representation to make sense of a given situation.

Challenge is provided through depth rather than acceleration. These beliefs are in line with the current National College of Excellence in Teaching Mathematics drive on Mastery.

#### Co Curriculum enrichment

Students will be offered a wide variety of opportunities and experiences that widen their appreciation of mathematics and the world around it. These will include:

- Developing an appreciation of some aspects of finance and more creative mathematics
- "Maths society community" leading to taking part in national competitions such as the UK Mathematics Individual Challenge and Team challenges
- Code breaking with opportunities to visit Bletchley Park
- Origami
- Maths in different cultures
- Opportunities to further explore mathematical ideas with key exponents in the mathematics community
- Students will be encouraged to read extracts around mathematics



## **Curriculum Statement: Media Studies**

Digital natives are bombarded with vast volumes of information in today's electronic society, which calls for an even greater emphasis on critical thinking and research skills.

- Timothy Van Slyke

## **Powerful Knowledge in Media Studies**

Powerful knowledge in Media Studies starts from the understanding that everything presented in the Media is a construction. It is from this understanding that learners can analyse and produce Media products. Media Studies empowers students to become critical receivers of the Media and question what they are faced with.

#### **Curriculum features**

Analysis of a wide range of Media products ranging from print productions such as magazines and adverts through to audio visual texts (music videos, TV drama). This analysis is explored through the theoretical framework which includes Media language, audience, representation and industry; students explore a wide range of Media.

The practical component of the curriculum involves research, planning and production of a convincing Media product utilising appropriate conventions and using various software and practical equipment.

#### Co Curriculum enrichment

- KS3 Media club
- KS4 and KS5 Media clinic (lunchtime workshops for practical media skills)
- Equipment available for students to borrow for practical productions or for their own creative productions.
- KS4 Media Harry Potter Studios Visit



## **Curriculum Statement: Music**

Music is a more potent instrument than any other for education.
- Plato

## **Powerful Knowledge in Music**

Music can be separated into three different disciplines – Performing Music, Composing Music, Listening & Appraising Music. The three branches of Music are taught and developed together with the aim to build personal skills that students can draw upon to succeed, not only in music lessons but also beyond school life and in future employment. The life skills that are developed, and are at times explicitly taught, are an integral part of the development of the subject specific skills as well as creating well-rounded individuals. The core principles that are developed would include: Problem solving, perseverance, diligence, team work, time management, organisation, responsibility, cultural history, listening skills, confidence, social skills, discipline, self evaluation, interpersonal skills, sense of achievement.

Opportunities are embedded for students to be able to hone and develop the practical aspects of performance and composition, but equally important is the ability to understand how the development of life skills, such as confidence, self awareness, perseverance and discipline give them a holistic experience that they can take beyond their musical studies.

#### **Curriculum features**

The curriculum is structured based on the expectations for GCSE & A Level Music; key concepts and skills required by the end of these courses are fed down into schemes of work from Year 7 upwards. This is designed to raise expectations and standards from the start of Key Stage 3 and ensure that musical knowledge is being understood both practically and theoretically. Year 7, 8 and 9 will study various musical genres, (historical and cultural) and through these different cultures and styles will explore, develop and refine their musical skills. Each project will focus on one of the 3 subject specific skills, so that over the key stage students will return to these concepts enabling them to build and advance their knowledge and skill set further as the progress through the Key Stages.

### Co Curriculum enrichment

The extensive extra-curricular music programme enables and supports musicianship in students of varying abilities, giving opportunities for students to experience a wide variety of genres and musical ensembles. As well as all inclusive ensembles for mixed ability students who want the enjoyment of performing with others and developing their musical skills, such as Pop Choir, Guitar Group and Orchestra, we also offer students the chance to audition for more advanced musical groups such as Senior Choir and Soul Band. These ensembles are able to challenge the students and prepare them for further studies in the field. The annual School Production is another opportunity to stretch and challenge the students; either by performing in the Production Band (for students Grade 5+ on their instrument) or by auditioning to be a member of the cast, where the expectation is that all cast members and musicians develop performance talent and professionalism. These clubs/events are not only to encourage enjoyment in the arts but also for students to learn about professional expectations and performance discipline. Students are also able to apply to become a Music Ambassador, taking on a leadership role within the department and developing their own musical skills as well as supporting younger students with their music making.



## **Curriculum Statement: PE**

I can accept failure, everyone fails at something. But I can't accept not trying. I've failed over and over again in my life and that is why I succeed. Talent wins games, but teamwork and intelligence wins championships.

- Michael Jordan

## Powerful Knowledge in PE

Physical Education combines physiology, psychology and sociology of sport and physical activity and this is taught through practical and theoretical lessons. Powerful knowledge in Physical Education:

- Provides students with analytical skills enabling them to critique training methods and practices in relation to different sports and physical activities.
- Provides students with powerful ways of analyzing, explaining and understanding trends and patterns in data and using this to improve performance.
- Enables students to follow and participate in debates in current sporting issues taking place nationally and globally.
- Allows students to assess and evaluate their own and others work and develop plans to enhance performance and review progress.
- Students will gain a social awareness of the importance of working with students with a variety of different ability levels and enhance their leadership abilities through activities taught.

#### **Curriculum features**

The curriculum will be broad and balanced allowing students to develop the knowledge and skills to be physically active and healthy in later life. Our curriculum will promote a love of physical activity and the confidence to participate. In addition, students will be able to evaluate their own health and fitness levels using data effectively and implement effective programs to further enhance their ability levels. The curriculum will also promote the academic side of the subject closely linking practical and theoretical concepts. Students will learn about worldwide sports, training practices and the global issues associated with these. They will be able to make reasoned arguments about important issues such as performance enhancement, gender stereotypes and use of the media to promote sport and confidently articulate their opinions and challenge their peers' opinions using evidence to support their arguments. Students will be given an opportunity to work with their peers and will be encouraged to demonstrate the trust qualities. Students will develop a knowledge and understanding of how to work with students of variety of different skill levels and strengths. They will be guided to use leadership qualities when working as part of a team and respond to the strengths and weaknesses of those they are working with, with the intention of students taking these skills in to working life. Sportspersonship should be visable in all lessons with students abiding by rules being humble in victory and gracious in defeat.

#### Co Curriculum enrichment

Students will be given the opportunity to experience competitive sport by representing their house in regular house events once a half term. All students have the opportunity to engage in our Competition and Physical Endeavor Cornerstone by engaging in a multitude of extra-curricular physical activities that are delivered by our PE staff and specialist sports coaches. In addition to this, students have the opportunity to attend bi-annual Football & Netball Sports Tours to play competitively against students from different countries. Year 10 student are able to participate in the Bronze Duke of Edinburgh Award which promotes leadership & service, competition & physical endeavor and culture & creativity through the completion of different sections of the Award.



## **Curriculum Statement: Science**

Genius is 1% talent and 99% hard work.

- Thomas Edison

## **Powerful Knowledge in Science**

#### **Physics:**

- Manipulation of equations. units etc.
- Force arrows and what they represent (and so motion and newton's laws)
- Models of voltage and current. (electricity)
- What a wave is (wavelength, frequency amplitude etc.)
- Conservation of energy (linking to stores and formula).

#### Chemistry:

- Particle model: How particles behave in solids, liquids and gases. How particles behave in chemical and physical changes.
- Law of conservation of mass, including balancing equations.
- General Equations
- Atomic Structure, including sub-atomic particles.
- RAM/RFM
- The Periodic Table. How it links to atomic structure.
- Types of mixtures and separating techniques theory
- Collision Theory
- Opposites attract (KS4)
- Moles (KS4)

#### Biology:

- Cells & the cell cycle plant cells, animal cells, bacterial cells. Mitosis & Meiosis
- Movement across membranes including osmosis diffusion and active transport
- Biological Systems mass transport in animals (incl. the heart, lungs, circulatory system) in plants (including transpiration & translocation), nervous system, reproductive system, endocrine system, respiratory system)
- Biochemistry and cycling of elements Monomers and polymers of lipids, carbohydrates and proteins
- Maintenance of a constant internal environment homeostasis (blood glucose levels, temperature, water regulation)
- Genes/inheritance DNA structure, Monohybrid inheritance, Uses of DNA in protein synthesis
- Reproduction hormones involved, contraception, infertility and treating infertility
- Chemical reactions in Biology -Photosynthesis and respiration



### **Curriculum features**

- Taught in specialisms; Biology, Chemistry and Physics.
- Covers the national curriculum but focuses on identified *threshold concepts / powerful knowledge* (see above). More time is devoted to these concepts and a mastery learning philosophy is promoted.

Formative assessment / questioning

- There is a large focus on understanding concepts through;
  - Testing prior knowledge,
  - Explanation,
  - o Practice,
  - o Feedback.
- Interleaving and self-testing are a feature of the curriculum and independent study.

#### **Practical Work**

- There is always a focus to practical work;
  - o Knowledge,
  - o Procedure and techniques,
  - Scientific enquiry.

#### Marking

- Marking of threshold concepts identified within individual schemes of work (Approx. 1 in 6 lessons).
   May take the form of:
  - Low stake testing,
  - 6-mark Questions,
  - o Practical/Data Questions,
  - o Other.
- Tests;
  - o Periodic Tests for Assessment.
  - Ad hoc Tests for Learning

## Co Curriculum enrichment

We provide a variety of enrichment for a number of reasons;

- To promote a love of the subject.
- Increase at uptake at KS4, 5 and beyond.
- Narrow attainment gaps.
- Promoting STEM Careers.
- Stretch / Challenge / Aspirations.
- Promote oracy / rhetoric.



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