

Design Technology + STEAM Curriculum Map



Intent

The curriculum has been designed to empower students with virtues that enable them to excel academically and spiritually inspiring them to serve humanity selflessly (Nishkam), with an abundance of love, compassion and forgiveness. The curriculum aims to support students to learn about peace, forgiveness, love and faith in the Divine through their academic subjects, faith practice and personal development.

Our curriculum is constructed around our vision to ensure we remain:

Faith-inspired: learning from the wisdom of religion

Our students explore the divine context of humanity and wonder of all creation. They not only learn about, but also learn from, the wisdom of religions and in so doing explore the infinite human potential to do good unconditionally. We support students to develop aspects of their own religious, spiritual or human identities. They learn about serenity through prayer and humility in service and in so doing, they deepen their own respective faith, and respect the common purpose of all religious traditions, as well as respecting the beliefs of those with no faith tradition. They explore the unique divinity of the individual, and our common humanity.

Virtues-led: nurturing compassionate, responsible human beings

We believe that the fostering of human virtues forms the foundation of all goodness. Our curricula are carefully enriched to allow experiences where our students, teachers and parents alike learn to grow through a conscious focus on virtues. Our virtues-led education approach helps to provide guidance to enable students to understand their choices in order to help lead better lives. Our students become self-reflective and flourish; they are able to build strong, meaningful relationships and understand their responsibilities to the global family and all creation, founded in faith. Students learn to experience faith through lived out through righteous living in thought, action and deed.

Aspiring for Excellence: in all that we do.

Our students and staff alike aim to become the best human beings they can possibly be, in all aspects of spiritual, social, intellectual and physical life. We foster a school culture which inspires optimism and confidence, hope and determination for all to achieve their best possible. This is accomplished through a rich and challenging curriculum, along with excellent teaching to nurture awe and wonder. Students gain a breadth and depth of knowledge and a love of learning to achieve their full potential.

Design and Technology

Statement of Intent

Design and Technology education makes a unique and valuable contribution to the education and preparation for students' future lives for work and or leisure. Our Design and Technology curriculum is embedded within our broader STEAM curriculum and provides a broad and balanced range of opportunities to work with a wide range of materials, to develop new skills, experience new technologies and gain new knowledge. Open ended projects allow students to use their imaginations, express their feelings and problem solve as they work towards quality outcomes.

Our Design & Technology curriculum will give the students an opportunity:

- To build up creativity, problem solving, planning, practical and evaluation skills to become independent and resourceful;
- To enable students to feel safe and confident in their learning environment to take risks and learn from mistakes;
- To foster a culture of 'design critique' to produce quality outcomes via peer and group work, respecting other students' opinions;
- To develop resilience when understanding the developments in design and technology, its impact and effect of products on individuals, society and the environment, and the responsibilities of designers, engineers and technologists;
- To enjoy learning in a practical manner having experienced the best possible engaging and challenging lessons which foster and promote interests for later life;
- To support the development of good health and well-being of our students;
- To learn the basics of nutrition and a healthy balanced diet, understand where the food we eat comes from, be able to make informed healthy choices and enjoy the cultural diversity of dishes that international cuisine offers;
- To acquire relevant knowledge from other subjects and apply them to produce successful outcomes;
- To prepare pupils for the next stage of their education by encouraging and inspiring students who wish to take on further study, from selecting this as an option at GCSE, A level, university and the world of work

Our Design & Technology curriculum will give the students an opportunity to:

Research and Design

- Engage in an iterative process of design and making.
- Undergo primary and secondary research techniques into a range of user's needs, wants and values, analysis of existing products, ergonomics and anthropometrics and the work of others.
- Identify and solve their own problems and the problems of specific clients and target market groups.
- Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations.
- Use a variety of design strategies when developing ideas using the iterative design process.
- Develop and communicate their design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.
- Make informed decisions about food and nutrition and allows them to acquire knowledge in order to be able to feed themselves and others affordably and nutritiously, now and later in life.
- Develop knowledge and understanding of the functional properties and chemical characteristics of food as well as a sound knowledge of the nutritional content of food and drinks.

Make

- Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.
- Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties.
- Demonstrate knowledge and understanding of functional and nutritional properties, sensory qualities and microbiological food safety considerations when preparing, processing, storing, cooking and serving food.
- Explore a range of ingredients and processes from different culinary traditions (traditional British and international) to inspire new ideas or modify existing recipes

Evaluate

- Analyse the work of past and present professionals and others to develop and broaden their understanding.
- Investigate new and emerging technologies.
- Personal project work, analysing how the product fulfils the requirements of the specification and the user's needs, wants and values.
- Recognise how their product can be modified for commercial manufacturing
- Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists

Implementation

	Year 7	Year 8	Year 9
Computer Science	<p>Algorithms- unplugged activity</p> <p>Robot to create shapes: using design, make, test, evaluate cycle</p> <p>Assessment- producing own algorithms based on sequence and problem solving</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>Algorithm, problem-solving using Python Turtle: using design, make, test, evaluate cycle</p> <p>Assessment- practical skills showing Python turtle</p> <p><i>D1, D2, D3, D5, E1, E2, E3, E4, T1, T2</i></p> <p>Programming using Click Team Fusion</p> <p>Assessment- design, make, test, evaluate cycle</p> <p><i>D1, D2, D3, D5, E1, E2, E3, E4, T1, T2</i></p> <p>3D and CAD designing- use of CAD software to design and use 3D printers to create.</p>	<p>Python programming - PRIMM</p> <p>Assessment Python- practical assessment on creating a GUI or Chat bot: design, make, test, evaluate cycle</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>Gaming: design, make, test, evaluate cycle</p> <p>Assessment- producing a game</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>3D and CAD designing- use of CAD software to design and use 3D printers to create.</p> <p>Use Design, create, test evaluate cycle</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>Physically computing: students to build Arduino to create interactive electronic objects: use of breadboards and LED lights. Design, create, test evaluate cycle</p> <p><i>D1, D2, D3, D5, E1, E2, E3, E4, T1, T2, T3, T4</i></p>	<p>Computation thinking using Python: design, make, test, evaluate cycle Assessment-practical Python tasks</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>Data Representation of graphics</p> <p>Assessment- creating a game in Click Team Fusion based on a Retro Theme: design, make, test, evaluate cycle</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>3D and CAD designing- use of CAD software to design and use 3D printers to create.</p> <p>Use Design, create, test evaluate cycle</p> <p><i>D1, D2, M1, E1, E2, E3, E4</i></p> <p>Physically computing: students to build Arduino to create interactive electronic objects: use of breadboards and LED lights. Design, create, test evaluate cycle</p> <p><i>D1, D2, D3, D5, E1, E2, E3, E4, T1, T2, T3, T4</i></p>

	<p>Use Design, create, test evaluate cycle</p> <p><i>D1, D2, D3, D5, E1, E2, E3, E4, T1, T2</i></p> <p>Physically computing: students to build Arduino to create interactive electronic objects: use of breadboards and LED lights. Design, create, test evaluate cycle</p> <p><i>D1, D2, D3, D5, E1, E2, E3, E4, T1, T2, T3, T4</i></p>		
Maths	<p>Geometry:</p> <p>Using mathematical tools to create and evaluate accurate angles.</p> <p>Create Scaled Drawings using appropriate scales</p> <p>Design 3D models and create Plans and Elevations</p> <p>Evaluate the relationship between Volume and 3D models</p> <p>Statistics:</p> <p>Evaluate data using Mathematical Modelling</p>	<p>Geometry:</p> <p>Create nets from 3D Models</p> <p>Create and design Scaled Drawings linking with ratios</p> <p><i>D1, D2, D3, D5, M1, M2, E3, E4, T2</i></p>	<p>Geometry</p> <p>Using mathematical tools to create and evaluate accurate angles.</p> <p>Create accurate mathematical constructions & Loci</p> <p>Create Scaled Drawings using appropriate scales</p> <p>Triangle construction</p> <p>Number:</p> <p>Converting measurements</p> <p><i>D1, D2, D3, D5, M1, M2, E3, E4, T2</i></p>

	<i>D1, D2, D3, D5, M1, M2, E3, E4, T2</i>		
Science	<p><u>Motion</u></p> <p>Design a vehicle that will travel at high speed.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, E3, E4</i></p> <p><u>Forces</u></p> <p>Design an experiment to test the effects of friction. Evaluate the experimental design.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, E3, E4</i></p> <p><u>Energy Transfers</u></p> <p>Evaluate the effectiveness of different insulating materials.</p> <p>Design an effective insulation system for a house.</p> <p>Make an insulator using materials available to keep a liquid warm.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, T3, E3, E4</i></p>	<p><u>Electricity</u></p> <p>Design a lighting circuit suitable for a house.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, T3, E3, E4</i></p> <p><u>The Digestive System</u></p> <p>Design a nutritious food bar containing the correct percentages of nutrients.</p> <p>Evaluate the likelihood of people purchasing such a bar, considering cost, flavour and alternatives.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, E3, E4</i></p> <p><u>Space</u></p> <p>Design a suitable space habitat for explorers visiting mars.</p> <p>Create an aerodynamic rocket for launch and parachute to land.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, E3, E4</i></p> <p><u>Inheritance and Evolution</u></p>	<p><u>Models of the Atom</u></p> <p>Evaluate the experiment used by Rutherford to disprove the plum pudding model of the atom.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, E3, E4</i></p> <p><u>Electricity</u></p> <p>Design a system to activate a light or heater depending on environmental conditions.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, T3, E3, E4</i></p>

		<p>Evaluate the impact of selective breeding on consumer choice and animal welfare or farming practices.</p> <p><i>D1, D2, D3, M1, M2, T1, T2, E3, E4</i></p>	
Art and Design	<p>Line:</p> <p>Create a range of line drawings using various techniques e.g. continuous, blind, contour, etc.</p> <p>Learn how to create lines with and without intention to develop artistic thinking</p> <p>Develop and evaluate experiments using line.</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p>Tone:</p> <p>Create a range of tonal artworks showing an understanding of what variational and gradual tone is</p> <p>Develop and evaluate experiments using tone</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p>Shape and Form:</p> <p>Develop and evaluate experiments using shape (2D and 3D) Research sculpture</p>	<p>Balance:</p> <p>Create a range of artworks showing an understanding of what balance in art is</p> <p>Develop and evaluate experiments using balance as a theme</p> <p>Recreate 'The Starry Night' by Van Gogh to replicate the balance in the painting</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p>Contrast:</p> <p>Develop and evaluate experiments using a variety of mixed medias and materials</p> <p>Research and create interesting artist sketchbook pages</p> <p>Create final piece inspired by chosen artist</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p>Emphasis:</p> <p>Create a range of artworks showing an understanding of what emphasis in art is (look at 3D drawings/vector drawings of names)</p> <p>Develop and evaluate experiments using a variety of mixed medias and materials</p>	<p>Model-Making:</p> <p>Create observational drawings of various modern, brutalist and futuristic buildings from secondary images</p> <p>Research artists and architects that create highly-detailed 2D images and 3D structures of buildings</p> <p>Create interesting artist research pages that develop understanding of 3D model making and construction</p> <p>Create illustrations and plans for how to build a 3D model building</p> <p>Create final piece using a variety of mixed medias and materials</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p>GCSE Taster:</p> <p>6-week carousel Art& Design Workshops programme</p> <p>Weekly presentation on following 6 arts areas: painting, sculpting, drawing, animation, photography and filmmaking and design</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p>

	<p>artists that create large scale artwork (both in galleries and in public spaces)</p> <p>Create a maquette of your sculpture showing form and evaluate</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p>	<p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p>	
Food and Nutrition	<p>Design, make and evaluate snack products</p> <p><i>D1, D3, D5, M2, E3, C1, C2</i></p> <p>Research, design, make and evaluate traditional British food products</p> <p><i>D1,D3, M1, M3, E1,E3, C3, C4</i></p> <p>Design project-Design, make and evaluate a handheld snack product that could be sold in a school canteen</p> <p><i>D2, D5, M2, E3, C1, C2</i></p>	<p>Design, make and evaluate balanced lunch products</p> <p><i>D3, D5, M2, E3, C1, C2</i></p> <p>Design, make and evaluate cultural food products</p> <p><i>D1, D4, M1, M2, E1,E3, C4,</i></p> <p>Design, make and evaluate seasonal food products</p> <p><i>D1, D3, M2, E4, C4</i></p> <p>Design project-Design, make and evaluate a packed lunch product aimed at Year 6 students</p> <p><i>D1, D3, M2, E3, C1</i></p>	<p>Design, make and evaluate balanced meals for teenagers</p> <p><i>D3, M2, E3, C1</i></p> <p>Design project-Design, make and evaluate a balanced pasta product for a teenager</p> <p><i>D3, M2, E3, C1</i></p>
Music	<p><u>Notation and Program Music</u></p> <p>Students learn and research about the different musical elements and how these are notated. Within this they listen and analyse and evaluate different pieces of Program Music. They then take this</p>	<p><u>Blues Music</u></p> <p>Students learn and research about the origins and characteristics of the Blues. They learn design and compose/improvise their own Blues piece. Students evaluate the work at regular check points</p>	<p><u>Fanfares</u></p> <p>Students research and study fanfares; looking at the meaning and different examples, as well as the musical characteristics. They then design and compose their own fanfare for either a superhero or</p>

	<p>and can then apply this understanding in composing and designing their own piece of Program Music.</p> <p><i>D1, D3, D4, M1, M2, E1, E3, E4, T1, T2</i></p> <p><u>Band Work.</u></p> <p>Students learn new skills on a range of instruments before developing and performing a piece of music while working as an ensemble. Students evaluate the work at regular check points</p> <p><i>D1, D2, M1, M2, E3, E4, T1, T2</i></p> <p><u>World Music/Fusion</u></p> <p>Students look at musical characteristics from around the world before designing and composing within a chosen style. Students evaluate the work at regular check points</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p>	<p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p><u>Reggae Music</u></p> <p>Students learn and research about the history and characteristics of Reggae music and develop their music reading and performance skills.</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p><u>Film Music</u></p> <p>Students learn about the devices of film music composition before composing, making and evaluating their own piece of music to underscore a film clip.</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T3</i></p> <p><u>Band Work 2.0</u></p> <p>Students build on from their Band Work unit in year 7, developing their chord knowledge, ensemble skills and looking at how to arrange/remix the music to their own chosen style. They then design, make and evaluate their own new group piece.</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p>	<p>the Olympic games. Students evaluate the work at regular check points</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p> <p><u>Game Music</u></p> <p>Students learn and research about the devices of game music composition before composing, designing and evaluating their own piece of music to underscore a game clip.</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T3</i></p> <p><u>Band Work 3.0</u></p> <p>Students build on from their Band Work unit in year 7 and 8, developing their chord knowledge, ensemble skills and looking at how to write their own song. They then design, make and evaluate their own new group piece.</p> <p><i>D1, D2, D3, M1, M2, E3, E4, T1, T2</i></p>
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	Subject codes	Science (Sci), Maths (Ma), Computing (CS), Art (A), Food & Nutrition (F), Music (Mu)
	Subject	Design-
D1	Mu, F, Ma, A, CS, Sci	Research and exploration, such as the study of different cultures, to identify and understand user needs
D2	Mu, F, Ma, A, CS, Sci	Identify and solve their own design problems and understand how to reformulate problems given to them
D3	Mu, F, A, CS, Sci	Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations
D4	F, Mu	Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses
D5	F, Ma, CS	Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools
		Make-
M1	Mu, F, CS, A, Ma, Sci	Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture
M2	Mu, F, CS, A, Ma, Sci	Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties
		Evaluate-
E1	Mu, F, CS	Analyse the work of past and present professionals and others to develop and broaden their understanding
E2	CS	Investigate new and emerging technologies
E3	Mu, F, CS, A, Ma, Sci	Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups
E4	Mu, CS, F, Ma, Sci	Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists
		Technical knowledge-
T1	Mu, A, CS, Sci	Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions

T2	Mu, Sci, Ma, A, CS	Understand how more advanced mechanical systems used in their products enable changes in movement and force
T3	Sci, Mu, CS	Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]
T4	CS, Sci	Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].
		Cooking and nutrition-
C1	F	Understand and apply the principles of nutrition and health
C2	F	Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet
C3	F	Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]
C4	F	Understand the source, seasonality and characteristics of a broad range of ingredients.

Enrichment Opportunities:

Our curriculum extends beyond the National Curriculum and includes a wide range of enriching experiences and opportunities both within and beyond the school day. Students are provided with a rounded, culturally rich education through activities that enhance their learning.

Students have the opportunity to develop their potential to the maximum in a learning environment that is both challenging and enjoyable. They get involved in a number of cross-curricular activities across the year. After school clubs give students additional time to focus on the subject leading to skills development which can be translated back to classroom. It also gives them the freedom to try new things. Creative homework projects encourage self-expression and builds students' confidence. Design Technology enrichment days provide valuable space where students can continue to develop their own individual programme of work.

STEAM and DT drop-down days.

Students have been involved in a range of STEAM drop down days:

- Whole school year 8 drop down where students took part in:
- **Structural engineering:** students worked in groups to provide a solution to a problem, they all **designed and created** and then **tested** their models. At the end the students **evaluated** what worked and what didn't and what they would do differently next time.
- **Wind turbines-** worked on **designing, creating and testing** their Wind turbines out. Students created their wind turbines, by following instructions.
- **Codebreaking:** students worked on how to crack a code developing **critical thinking and problem solving.**
- Year 7 Robotics Day:
 - **Working in groups** where they **designed, created and tested** their robots based on a problem given to them. After students **evaluated** if the robot met the objectives.
- RAF Youth workshop for year 7s on robotic coding.
 - **Students worked in groups to design** their Lego Spike robots and **created them.** Students then **tested and evaluated the robot.**
- RAF Youth workshop for year 9s on Drone coding.
 - Students worked in groups to code their drone. Students were given scenarios of scenarios where they planned out their drone design, then they coded and tested out the drone.
- SEND and Yr 10 Jewellery making course
- Master Jeweller from the Jewellery Quarter came in to work with Year 10 Students. She also ran a session for our SEND students.
- Zine created it with Year 9 with MAC using the STEAM Lab. Students then went to South Bank, London to showcase what they had created.
- King's College STEM Hub- Design and Technology Lead working together as three school partnership on how we are implementing STEAM in the curriculum and wider school.

STEAM and DT Trips

- #GirlsThatGeek- Art and Computing department took 42, year 10 and 11 girls to 'Girls That Geek', Art & Technology Event at Midlands Art Centre in Birmingham. Included industry providers who spoke about different careers within STEAM.
- GirlTechWM: Girl Tech West Midlands at Millennium Point, where 29 girls from years 8 and 9 went to Millennium point. The girls interacted with different businesses from West Midlands and took part in workshops.
- TECH with Ahead Partnership with Paradise.
- Yearly Year 8 trip to the National Space Centre in Leicester. Students went around the space centre exploring:
 - Rocket Tower which is 42 meters tall! We climbed the stairs to the top of the tower! The iconic Rocket Tower at the National Space Centre is home to Blue Streak and Thor Able rockets, as well as the Gagarin Experience, Apollo Lunar Lander and real Moon Rock.
 - The Home Plant gallery examines how satellites monitor the health of our planet and play an increasingly important part in modern life.
 - Walk through the gallery and stop off at Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune. Take time out of your journey to drive a Martian rover on the red planet, take a bath with Saturn and even see Venus in 3D.
 - We went on a 'Tour of the Night Sky' in the Sir Patrick Moore Planetarium we looked at the stars, visit planets and explore the mysteries of Space!
- Year 7 STEM science trip to Sandwell Valley Country Park, where they employed:
 - A variety of scientific investigation skills, from observations, scientific drawings and sampling
 - To investigate the biodiversity in the park
 - The data they collected on the trip was taken to their Maths and Computer Science lessons to be analysed and represented.
- NEC trip to the Big Bang- all KS3 have the opportunity to attend Big Bang event to see different careers within DT and STEAM.

STEAM Lab

- Students will have the opportunity through STEAM club and curriculum to use the STEAM classroom.
- The classroom has:
 - 3D printer
 - Computers
 - Soldering units
 - Lego design and building
 - Lego robotics
- Students will take part in designing and creating products across the school using the 3D printer.
- Access curriculum time, subjects can use the STEAM Lab.

STEAM Club

- Lego workshop looks at students working as a group to **design and create models**; they look at how they can **improve** those models created.
- Students are designing and **creating/building** robots using specialist computing software.
- Students are learning coding where they are **designing, creating and testing** their codes to see if it **solves the problem given**.
- Students work in **groups** to **solve** 'engineering' problems for example learning structural engineering, for example building a bridge with 6 sheets of A4 paper, and 1-meter sticky tape. The bridge must be free-standing and hold two chocolate Mars bars for 1 minute.
- Students will have the opportunity to develop links with Jewellery Quarter and make jewellery using soldering and metal.
- Creating and developing their Podcast- using technology to work on their podcast.
- Use of 3D printers to create games, students have designed their 3D model using CAD software.
- Each half term students are given a project to work on where they are designing, creating, testing and evaluating.

Impact:

Evidence of work will show a range of strands explored, links across the curriculum and work pitched to support and challenge a range of abilities and starting points. Formative assessment is an integral part of our approach to Teaching and Learning.

Over the course of their study, we will use weekly cumulative, formative diagnostic assessments (in class or for homework) to ensure that students are consistently retrieving their knowledge of different components. The purpose of this is to ensure all knowledge is retained (and any gaps are identified and addressed promptly) and also to inform teachers' planning. Using this style of assessment, we will make use of the advantages of spaced practice as well as allowing students to be able to apply their knowledge to a wide variety of contexts. Curriculum Leaders use the information collated from assessments to inform future planning, support with additional interventions and set changes.

A good percentage of students take Food Technology, Photography, Art and Design and Music Technology at GCSE. Most projects will produce final outcomes or final pieces. Sketchbook work and loose paperwork will allow students to build a body of work and skills which cover all formal elements and ultimately prepare them for the rigour of GCSE and beyond.

Our DT and STEAM careers programme has supported our students in reaching the following destinations. Each year, a careers fair is organised which includes companies, colleges and apprenticeship providers from DT and STEAM workforce.

2022- Destinations

2022- Destinations	
Aston University, Birmingham	Computer Science
University of Birmingham	Computer Science
Coventry University	Computer Science
Birmingham City University	Construction Management with Professional Placement Year
University of Birmingham	Computer Science
Aston University, Birmingham	Cyber Security
University of Birmingham	Artificial Intelligence and Computer Science (with an Industrial Year)
Aston University, Birmingham	Computer Science
Aston University, Birmingham	Cyber Security
University of Nottingham	Aerospace Engineering
Aston University, Birmingham	Engineering and Applied Science Foundation Programme
University of Birmingham	Aerospace Engineering
Aston University, Birmingham	Computer Science with Business (ITMB)
Aston University, Birmingham	Biomedical Engineering
Aston University, Birmingham	Computer Science
University of Birmingham	Computer Science with an Industrial Year
University of Manchester	Adult Nursing
University of Nottingham	Mechanical Engineering

P&O Ferry Masters	IT Apprenticeship
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2023- Destinations

Birmingham City University	Computing and Information Technology
Aberystwyth University	Computer Science (with integrated year studying abroad)
University of Birmingham	Accounting and Finance
Aston University, Birmingham	Accounting and Finance
University of Birmingham	Electronic and Electrical Engineering
Aston University, Birmingham	Business Computing and IT
Aston University, Birmingham	Engineering and Applied Science Foundation Programme
Aston University, Birmingham	Mechanical Engineering
University of Birmingham	Computer Science
Aston University, Birmingham	Business Computing and IT
Aston University, Birmingham	Cyber Security
Aston University, Birmingham	Computer Science
Birmingham City University	Video Game Development
Birmingham City University	Computer Science with Artificial Intelligence
Keele University	Pharmaceutical Science with Foundation Year
Birmingham City University	Computer Science with Artificial Intelligence with Professional Placement
Birmingham City University	Computer Science with Artificial Intelligence with Professional Placement

Destinations- 2024

Birmingham City University	Computer Science
University of Birmingham	Accounting and Finance
Apprenticeship	National Grid- Finance- Apprenticeship
Apprenticeship	KPMG- Finance- Apprenticeship
Apprenticeship	Network Rail- Engineering- Apprenticeship
Aston University, Birmingham	Business Computing and IT
Birmingham City University	Architecture with a Foundation Year
Aston University, Birmingham	Computer Science
Aston University, Birmingham	Mechanical Engineering
University College Birmingham	Aviation and Airport Management
Aston University, Birmingham	Civil Engineering
University of Leeds	Music and Music Psychology
Aston University, Birmingham	Biomedical Engineering
University of Birmingham	Chemical Engineering
Aston University, Birmingham	Mechanical Engineering

