



## **Design and Technology (D+T)**

The Design and Technology curriculum at St Gregory's is currently under comprehensive review and is being actively updated. The revised curriculum will place a strong emphasis on establishing clear substantive and disciplinary knowledge, moving beyond generic skills to embed deeper, more progressive understanding. This approach is designed to provide our students with a higher level of knowledge that builds sequentially through their years at the school, best supporting them on their journey to becoming the innovative designer-makers of the future.

### **Intent**

#### **Vision Statement:**

*We recognise that the Curriculum reaches far wider than the learning that happens in formal lessons in each classroom. It includes everything that a child experiences in their time at our school and develops the very person they are becoming, with their talents, their needs and their aspirations for the future. Each experience provides a learning opportunity to develop and prepare our children for life in modern Britain as global citizens through the lens of Catholic life.*

*At St Gregory's, we are inclusive and recognise that everyone has their own unique God-given talents. Our curriculum is progressive and builds on prior knowledge, understanding and skills so that we develop our whole school community academically, spiritually, emotionally, morally and socially. This enables our children to develop cultural capital and become righteous citizens who give to society. We provide creative and engaging opportunities that inspire and motivate our children to become lifelong learners and have aspirations to be the very best they can be.*

In D+T we aim for all of our children to see themselves as designer makers. We endeavour to inspire a sense of curiosity in our children and develop their enthusiasm for D+T, recognising that the skills and knowledge they learn through D+T can be used to have a positive impact on God's world around them. We provide children with the opportunity to discover how D+T plays a key role in many industries that will impact their lives now and in their futures. Children are introduced to important 'People in Industry' (PII) that link closely with their learning to inspire them both within their lessons and aspirations in adult life.

To be able to be a designer maker, children will need to build up the skills, knowledge, technical vocabulary and understanding of designer makers. They will need to understand and use the language of D+T and apply these skills and knowledge across the curriculum, making connections both within D+T and across other subjects too.

To be a designer maker children need to use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider



world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

## **Implementation**

### **Statement of Implementation:**

The aims of the National Curriculum (2014) for D+T are:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook

The National Curriculum is the part of the St Gregory's curriculum that maps out the knowledge and skills that we want our children to learn and experience in each subject. The wider curriculum includes a number of vehicles to develop the whole child and includes:

- **Inclusion using teaching for mastery** – Our mastery approach ensures that all children are exposed to the same curriculum content by breaking sessions down into small learning intentions and focusing on developing deep understanding, providing support and intervention to address each individual pupil's needs. This enables all children, including those with SEND, from disadvantaged backgrounds and from multi-lingual backgrounds to achieve their true potential through careful support and scaffolding.
- **Oracy, vocabulary and reading for pleasure** – We provide a language-rich environment with a sharp focus on Oracy and the development of rich vocabulary which includes technical vocabulary relevant to the progression of each child's learning. Talk is central to learning and as such, Oracy activities are woven through all activities and experiences to give children plenty of opportunity to develop and practise their speaking and listening skills. Reading is integral to our curriculum design with daily opportunities to hear and read a range of texts – this exposes children to a wider range of vocabulary and develops a love of reading.
- **Catholic Social Teaching** – are the principles to living life through the lens of a Catholic. They are principles that support children to make links from their learning through to the world in which they live and helps them to be givers rather than takers in our society. These are woven carefully through the subject lessons and also used to apply the knowledge of the topics through discreet lessons to help deepen their understanding of the context of their learning in the wider world and empowering them to challenge social injustice.
- **Metacognition and self-regulated learning (including growth mind-set and restorative practice)** – Children are supported to manage emotions, develop a positive sense of self, set themselves aspirational goals and have confidence in their own ability. This is supported by the use of our St Gregory's learning profile and growth mind-set approach giving our children a better awareness



## *The Catholic School of Saint Gregory The Great*



of how they learn, the emotions linked to this and the transferable learning skills needed to be the very best they can be and reach their potential.

- Teachers support pupils to plan, monitor, and evaluate their learning. Developing the children's **metacognitive** knowledge of how they learn and their knowledge of themselves as a learner and strategies that help them – these things support them in becoming independent learners.
  - **Restorative practice** helps our children to develop stronger relationships, and become problem solvers within these relationships, setting firm foundation for learning, so that they are more resilient to overcome adversity within their lives.
  - **Self-regulated learners** are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning.
- **Retrieval opportunities** – enable our learners to embed knowledge by transferring it from their working memory to their long term memory. We make deliberate connections between current and prior learning and recall learning by providing opportunities such as quizzes, oracy activities and challenging discussions based on question stems.
  - **Extracurricular opportunities** – provide a wide range of additional experiences for the children to inspire them within their learning and add a wider context for them. This also enables us to seek out and develop the talents in every child. E.g. trips to the Science festival and STEM days.

These aspects are expanded further in our [teaching and learning policy](#).

### **How we plan for progression in D+T at St Gregory's:**

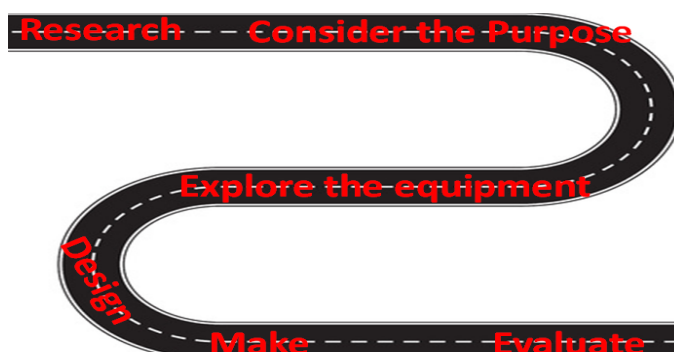
The St Gregory's Curriculum is designed around year group themes. Each has been structured and sequenced in order to engage pupils in purposeful learning by building on prior knowledge and helping connect knowledge, understanding and skills year-on-year both within D+T and across other subjects too.

D+T units are linked to our year group themes, e.g. making bread as part the Great Fire of London topic in Year 1 and making a hunting and gathering bag as part of the Stone Age topic in Year 3.

D+T is taught weekly throughout 3 of the 6 terms with each term focusing on a different aspect of D+T e.g. textiles in autumn term, resistant materials in spring term and food and nutrition in summer term. Each unit introduces a designer maker (PII) from a relevant industry such as a fashion designer, engineer or chef. Units follow the same research, purpose, skill development, design, make and evaluate process in which children evaluate existing products, learn and improve skills, design their own products for a purpose, make their product and evaluate it.



## *The Catholic School of Saint Gregory The Great*



D+T knowledge and vocabulary is revisited through retrieval opportunities within lessons and Oracy sessions. This is further enriched by whole school STEM days and trips to the Cheltenham Science festival with a focus on STEM.

We recognise that foundations for becoming designer makers are laid in the Early Years Foundation Stage through all seven strands of the Early Years Framework, especially Expressive Arts and Design. For children to be ready for the next stage in their education, the National Curriculum starting points that we strive for every child to have upon entry to Y1 in DT are:

| Design and technology      |                                                                                    |                                                                                                                                                                                           |
|----------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical Development       | To use a range of tools                                                            | Painting, mark making, cutting with scissors, using cutlery, mud kitchen, puzzles, playdough tools.                                                                                       |
| Physical Development       | To develop fine motor skills to use tools more accurately                          | Threading, pegs, pegboards, elastic band boards, tweezers, playdough, Lego.                                                                                                               |
| Expressive Arts and Design | To be able to use their imagination to be creative.                                | Role play, small world play, play pod, playdough, painting, mark making, junk modelling, story making.                                                                                    |
| Understanding the World    | To engage with text that foster understanding of our technologically diverse world | ERIC time and reading phonics-levelled books at school and at home. Access to a broad range of fiction and non-fiction texts celebrating creativity and ingenuity. Growth mind-set texts. |
| Mathematics                | To develop special reasoning skills                                                | Using weighing scales, measuring jugs, tape measures, rulers.                                                                                                                             |

Once children enter Y1, they work progressively towards the aims of the National Curriculum. To ensure progression, the teaching teams have worked together to plan out curriculum coverage and then with guidance from the DT subject leader, identified the progression of skills and technical vocabulary required at each stage of learning to prepare children for the next stage in their learning.

### **D+T curriculum coverage**

Coverage is based on the National Curriculum 2014 PoS with objectives allocated across phases and year groups, to ensure a progression of knowledge, skills and understanding.



# The Catholic School of Saint Gregory The Great



## Design and Technology Curriculum coverage

People in Industry highlighted as **EYFS Creative curriculum**, **Resistant Materials unit**, **Textiles & Cookery**

| Year group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Autumn term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                            | Spring term                                                                                                                                                                   |                                                             | Summer term                                                                                         |                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| EYFS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Super Me</b><br><a href="#">Link to people who help us</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Let's Celebrate</b><br><a href="#">Rebecca Connolly</a> | <b>Where are we?</b><br><a href="#">Marks Barfield</a>                                                                                                                        | <b>Food glorious food</b><br><a href="#">Nadiya Hussain</a> | <b>All things wild</b><br><a href="#">Chris Hales &amp; Mark Kingston Jones</a>                     | <b>Wizz, Pop, Bang!</b><br><a href="#">James Dyson</a> |
| <p>In EYFS, children will meet areas of the DT National Curriculum through the <a href="#">EYFS Statutory Framework</a> areas of both Physical Development and Expressive Arts and Design. Through busy learning continuous provision and Finger gym sessions, children are taught skills of how to use tools safely, effectively and accurately and be able to name and begin to choose a range of materials themselves in their own play.</p> <p>PD ELG links- <b>Fine motor Skills</b>: Use a range of small tools, including scissors, paint brushes and cutlery. Children will begin to show accuracy and care when drawing.</p> <p>EAD ELG- <b>Creating with <a href="#">Materials</a></b>: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                            |                                                                                                                                                                               |                                                             |                                                                                                     |                                                        |
| Year 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Stick Man</b><br>How can you make a stickman move?<br>(Resistant materials)<br><a href="#">Sun, Chen-Chieh (AKA Jack Sun)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                            | <b><a href="#">Handa's Surprise</a></b><br>How will you keep your tunic on?<br>Focus on fastenings (Textiles)<br><a href="#">Grace Wales Bonner</a>                           |                                                             | <b>The Great Fire of London</b><br>What's in a Sandwich? (Cooking)<br><a href="#">James Moreton</a> |                                                        |
| Year 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Apollo 11</b><br>How can you design and make a moon buggy move?<br>(Resistant Materials)<br><a href="#">Eduardo San Juan – Moon buggy</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                            | <b>Our Wonderful World</b><br>What recycled materials can you use to make a Flag to take to the South Pole? Focus on simple stitches. (Textiles)<br><a href="#">Jo Carter</a> |                                                             | <b>Deadly 60</b><br>What will you put in your biscuits? (Cooking)<br><a href="#">Cédric Grolet</a>  |                                                        |
| Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>In Year 1 children will build on skills developed in EYFS and begin to engage with the design, make and evaluate process, working towards developing skills which will be built upon in year 2. They will be given opportunities to follow this process in resistant materials, textiles and food technology. In year 2 children will have the opportunity to work towards mastery in skills such as cutting and joining and will be given more opportunities to select tools, materials and ingredients for themselves.</p> <p><a href="#">Textiles</a>: Through textiles in Year 2 children will look at the creation of flags and how they are made and will develop their joining skills further. The children will progress from looking at ways of joining and attaching fabric such as Velcro, to developing sewing skills using a simple running stitch, which they will build on further in Year 3.</p> <p><a href="#">Resistant Materials</a>: In resistant materials they will begin exploring mechanisms, cutting and joining using card in year 1 and progressing to using wood in Year 2 as well as wheels and axels so that they can use a wider range of tools and enable their designs to move in a new way.</p> <p><a href="#">Cooking</a>: In cooking, Year 1 will focus on selecting appropriate tools, taste testing and selecting their own ingredients and develop an understanding of health and safety in the design, make and evaluate process. This will developed in Year 2 and be enhanced by providing children with opportunities to select and use a range of ingredients, learning where different ingredients come from.</p> |                                                            |                                                                                                                                                                               |                                                             |                                                                                                     |                                                        |

In line with our mastery approach, units are designed in a way that builds on prior skills and knowledge ensuring strong progression in D+T as children move through the school. Each year revisits the three areas of D+T so that children have exposure to subject specific vocabulary every year and can master the use of different tools and equipment. Similar skills are revisited, e.g. year 1 use resistance dyeing techniques in their textiles unit and this is revisited and built upon in year 3 so that children strengthen their skills and embed their understanding. Having a clear overview ensures children have opportunities to master a wide range of skills, work with varied materials/ingredients and learn about different people from D+T related industries. We can clearly see the D+T journey the children are on and can celebrate their prior learning and successes.

## D+T Progression of skills

The Skills Progression documents integrate the skills, knowledge and techniques required in each phase, considering age appropriate development and ensures progression is enabled through careful and informed planning.



## The Catholic School of Saint Gregory The Great



| Design and Technology skills and knowledge Key Stage 1 | Themes                                                               |                                                          |                                                         |                                                                                   |                                                                                                       |                                                                       |
|--------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|                                                        | Year 1<br>How can you make a stickman move?<br>(Resistant materials) | Year 1<br>How will you keep your tunic on?<br>(Textiles) | Year 1<br>What's in a sandwich?<br>(Food and nutrition) | Year 2<br>How can you design and make a moon buggy move?<br>(Resistant Materials) | Year 2<br>What recycled materials can you use to make a Flag to take to the South Pole?<br>(Textiles) | Year 2<br>What will you put in your biscuits?<br>(Food and nutrition) |

### Design

|                                                 |   |   |   |   |   |   |
|-------------------------------------------------|---|---|---|---|---|---|
| ➤ Design for a purpose based on design criteria | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ➤ Develop and communicate ideas through:        |   |   |   |   |   |   |
| • drawing                                       | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| • templates                                     | ✓ | ✓ |   |   | ✓ | ✓ |
| • mock-ups                                      |   |   |   | ✓ | ✓ |   |
| • ICT                                           |   |   |   |   | ✓ | ✓ |

### Make

|                                                               |   |   |   |   |   |   |
|---------------------------------------------------------------|---|---|---|---|---|---|
| ➤ Select from a range of equipment                            |   | ✓ | ✓ | ✓ | ✓ | ✓ |
| ➤ Perform practical tasks safely                              | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ➤ Select from a wide range of materials/ingredients           |   | ✓ | ✓ | ✓ | ✓ | ✓ |
| ➤ Use a range of materials according to their characteristics |   | ✓ |   | ✓ | ✓ |   |

### Evaluate

|                                                             |  |   |   |   |   |   |
|-------------------------------------------------------------|--|---|---|---|---|---|
| ➤ Explore a range of existing products                      |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| ➤ Evaluate a range of existing products                     |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| ➤ Evaluate a range of materials                             |  | ✓ |   | ✓ |   |   |
| ➤ Evaluate their ideas and products against design criteria |  | ✓ | ✓ | ✓ | ✓ | ✓ |

### Technical knowledge

|                                                                                       |   |  |  |   |  |  |
|---------------------------------------------------------------------------------------|---|--|--|---|--|--|
| ➤ Build structures, exploring how they can be made stronger, stiffer and more stable  |   |  |  | ✓ |  |  |
| ➤ Explore and use mechanisms in their products (e.g. levers, sliders, wheels, axles). | ✓ |  |  | ✓ |  |  |

### Cooking and Nutrition

|                                                                           |  |  |   |  |  |   |
|---------------------------------------------------------------------------|--|--|---|--|--|---|
| ➤ Use the basic principles of a healthy and varied diet to prepare dishes |  |  | ✓ |  |  | ✓ |
| ➤ Understand where food comes from                                        |  |  | ✓ |  |  | ✓ |

### D+T Progression of Vocabulary

Vocabulary, at an age appropriate level, is paramount to the children's understanding and ability to articulate their intent and enable questioning. It is, therefore, a key consideration in D+T planning. Key subject vocabulary is introduced at the appropriate time, building on prior knowledge.

| Design and Technology |                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EYFS/KS1              | Design and technology, plan, tools, design, purpose, design criteria, diagram, template, mock-up, equipment, measure, joins, fixing, product, folding, hinge, evaluate, textiles, mechanisms, machine, healthy, varied diet, dishes, materials, texture, appearance, model, stiffer, stable, two dimensional, three dimensional, fastening. |
| LKS2                  | Prototype, pattern pieces, assemble, components, weave, finish, combine, modify, technique, annotated sketches, innovative, functional, seasonality, savoury/sweet, processed, reared, prepare (food), resistant materials.                                                                                                                 |
| UKS2                  | Score, aesthetics, cross-sectional, dismantle, exploded diagram, analysis, computer aided design.                                                                                                                                                                                                                                           |

### Planning

Units are planned using our whole school medium term planning format accompanied by similar mastery slides to those used in core subjects. D+T lessons follow a mastery format with opportunities to address misconceptions and Go Deeper planned in. Planning for all units to follow the design, make and evaluate



# The Catholic School of Saint Gregory The Great



process and children become familiar with this as they move through the school. Designing and evaluating resources as well as mastery slide templates are provided for staff to use when planning to support the planning process and to ensure consistency across year groups.

The Catholic School of Saint Gregory The Great

believe and Achieve



Design and Technology – Programming a product to monitor and control

Year: 6

Summer Term 2

| WT/MA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A                                                                                                                                                                                                                    | GD                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Starter:</b><br>Review of Learning - Target Practise - Missing Boxes - Convince Me - Tell Me More<br><b>M&amp;M's</b><br>Character Hook - Prove It - Convince Me - Do You Agree?<br>Always/Sometimes/Never - What's the Same? What's Different? - True or False - Spot the Mistake<br><b>Vocabulary:</b><br>Design and technology, purpose, design criteria, product, evaluate, appearance, model, 2D, 3D, prototype, assemble, components, modify, functional, aesthetic, cross sectional, dismantle, exploded diagram, analysis, computer aided design (CAD), programming, monitoring device, sensor, electronic, monitor, control | <b>Teach It:</b><br>Intro - Hook - Model - What It Is/What It's Not - Discussion - Show me and another... and another...<br><b>Guided Practise - Go Deep:</b><br>Class Teacher/Teaching Partner/Independent Activity | <b>Twist It:</b><br>Non-Standard - Missing Boxes - In a Context - Problem Solving - Active Argument - Probing Questions<br><b>Go Deeper:</b><br>Greater Depth |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                      | <b>Skills:</b> (From progression of skills document)                                                                                                          |

| Session | WALT                                                                   | Starter                                                                                                                                                                                                                               | Teach It / Twist It / M&M's                                                                                                                                                                                                                                                                                                                                                                                                                         | Guided practise – Go Deep Go Deeper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Evaluation |
|---------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1       | Carry out research of programmable products to develop design criteria | Screen shot of Scratch programming. How can this link with DT?<br>People in industry Who are these people? (Charles Babbage and Ada Lovelace)<br>Why do you think they are important?<br>What is their role in design and technology? | <b>Teach It</b> Recap key vocabulary previously taught and introduce new vocabulary for topic.<br>Key questions... What is a monitoring device? What is a seismograph?<br><b>Twist It</b> What could these devices be used to monitor? Are these the only devices you could use?<br><b>M&amp;M's</b> Groot has a seismograph in his living room so he has said if there is an earthquake or small tremor, he will be safe. Will the graph save him? | <b>Do It:</b> Investigate 3 different devices that have been programmed.<br>Children name and sketch the device, location, casing and programming aspects<br>Choose from: fire/smoke alarm, Digital thermometer, Outdoor light, Window/door alarm, Eco-thermostat<br><b>Go Deep</b><br>Explain why programming has helped to make these devices effective.<br><b>Go Deeper</b><br>Design brief:<br>For safety reasons, in areas where there are often natural disasters, it would be good to have a warning device.<br>Considering the purpose of these products, can you create a class set of design criteria for an earthquake sensor? |            |

## Support for additional needs in D+T

We recognise that some pupils may require support in particular lessons or tasks. Support is planned mindfully and tailored to the needs of each pupil. Teachers are flexible in their approach to planning support and intervention and recognise that specific SENDs do not necessarily need support across the entirety of the curriculum.

Typical support in place within D+T includes: deliberate talk partner choices and seating arrangements, targeted questioning, oracy and reading opportunities, availability of manipulatives and wider resources, pre-teaching of key vocabulary and concepts. Further support may be in place when using tools to ensure safety.

Where children are withdrawn from D+T for interventions within other subjects, we endeavour for them to be removed from different areas of the curriculum each time so they continue to receive their broad and balanced curriculum.

Children requiring a number of interventions join a group called an 'UP' group – these children have all been interviewed to understand which subjects are their favourite and they are not taken out of these wherever possible. These are often subjects such as D+T where they feel they have a relative strength.

## Planning to challenge in D+T



## *The Catholic School of Saint Gregory The Great*



As a school, we have developed a working descriptor for Greater Depth learning which is used across the curriculum. Through teaching for mastery, all children are exposed to opportunities for greater depth thinking. A child who is learning at Greater Depth can consistently:

- Apply their learning to different contexts, identifying relationships within the subject and between other areas of the curriculum.
- Work independently, showing resilience.
- Apply their skills and knowledge consistently and fluently.
- Explain and reason using accurate vocabulary.
- Show curiosity and take responsibility for deepening their own learning by asking questions.
- Teach others what they have learnt in a sensitive and thoughtful way to enable them to learn too.

We recognise that a child will often show a particular gift or talent in specific subjects rather than across the whole curriculum and therefore in D+T we are specifically looking for children who do this within the knowledge, skills and understanding in D+T. It may be that a Greater Depth designer maker receives support in other areas of the curriculum, for example and therefore in this subject can show greater confidence and will not require support. Because we teach using the teaching for mastery approach, we expect all pupils to meet the objective to a greater or lesser extent (some will require support to do this), with all children being exposed to aspects of greater depth learning and some children able to prove they've learnt at greater depth about a specific objective.

### **How are staff skilled to teach in D+T**

Whole staff training takes account of training in curriculum drivers such as metacognition, retrieval, growth mindset, vocabulary building, oracy, reading, teaching for mastery and how to support and challenge.

Recent training on curriculum updates has been provided through a specific D+T staff meeting as well as specific D+T training that is offered in response to staff needs and based upon staff audits. This is delivered in groups or 1:1 and subject leadership time is given for this to take place.

D+T staff meeting time has been allocated and this is a chance for the subject leader to share their passion with others to inspire the staff team in D+T. A subject leaders network has been set up so that local D+T subject leaders can work together to assess CPD needs and access training. Skills and planning are shared between schools and, where relevant, fed back to the wider staff.

### **Impact**

#### **Statement of Intended Impact and Monitoring of this:**

As a school, we continuously reflect on the impact that our D+T curriculum has on our whole school community, in helping our children to know more and remember more as well as preparing them to be the best they can be as righteous global citizens.

To assess how a child's journey to becoming a designer maker is progressing, we use a range of assessment methods to ensure the intended curriculum and the way it is implemented at St Gregory's is having an impact on their journey.



## *The Catholic School of Saint Gregory The Great*



Our vision for D+T is that each and every child sees themselves as a designer maker. To do this, we use our progression documents which consider what knowledge, skills, technical vocabulary and understanding a child should have at assessment points throughout their St Gregory's journey to becoming a designer maker. For D+T, these formal assessment points are twice a year.

To reflect on the impact that the D+T curriculum is having on each child, we use both qualitative and quantitative means including:

- Teachers evaluate children's knowledge, understanding and learning characteristics through a range of informal and formal means. This informs the further implementation of the curriculum. Foundation subjects are formally assessed twice a year against broad threads from the National Curriculum. These are input into our in house tracker as a broad judgement against the assessment points on the progression documents. This is detailed further in our [assessment, recording, reporting and tracking \(ARRT\) policy](#) and uses observations of practice, work in books, pupil conversations, low stakes testing to make judgements. These judgements are moderated twice a year across the year group during PPA time before data is locked for analysis. Subject leaders are available to support with this and cross phase moderation takes place upon request of the subject leader when analysis has been undertaken and if the need requires it.
- Data in its widest sense forms the strategic direction of each subject. This is detailed in our [subject leader guidance](#) booklet. It helps us to identify areas of strength and areas for development within our subject curriculum and wider curriculum so that CPD can be put in place, support can be structured and gaps can be identified. This also allows for us to identify whether there are particular groups of pupils who have similar strengths and areas for development so that whole school practice can be altered in response to emerging trends and ensure that our curriculum offer continually meets the needs of our pupils.
- We strive for every child to see themselves as a designer maker and be able to talk about the skills and knowledge they have that would help them in that role both now and in the future. They can make links with their learning both within the D+T curriculum and across the wider curriculum.
- Children are self-regulated learners who can talk about their strengths and weaknesses, and can motivate themselves to engage, and improve, their learning by using tools such as the learning pit, self and peer assessments, metacognition strategies. All of these help them to apply their learning both now and in their future lives to satisfy the ambitions that they have for themselves.
- Children are righteous citizens who have high ambitions for themselves, are economically active and give to society in a variety of ways. They value the gifts and talents that everyone brings to the diverse local and global community in which they live. They recognise ways that they can challenge social injustice and are empowered to do this both now and in the future.

Subject leader time is allocated to allow for this monitoring of impact to take place throughout the year. The school leadership team receive headlines and triangulate this with their own monitoring. Members of the governing board attend Key Area Team meetings to understand the implementation and impact of each subject within their KAT and annual formal monitoring by the Curriculum Committee takes place through a report and consequent pupil conferencing to triangulate the information they have received. This allows for the testing of impact and support and challenge about D+T at many levels.