

**Towngate Primary Academy**

**Design Technology Policy**

**2018/19**

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| **Date** | **Review Date** | **Coordinator** | **Nominated Governor** |
| September 2017 | February 2021 | Miss H Johnson  |  |

**Towngate Primary Academy - Design Technology Policy**

**What is Design Technology?**

*“Design is a funny word. Some people think design means how it looks.*

*But of course, if you look deeper, it’s really how it works.”*

 ***Steve Jobs***

*“Technology makes possibilities. Design makes solutions.”*

***John Maeda***

Design Technology prepares children to deal with tomorrow’s rapidly changing world. It encourages children to become independent, creative problem-solvers and thinkers as individuals and as part of a team - making positive changes to their quality of life. It enables them to identify needs and opportunities and to respond to them by developing a range of ideas and by making products and systems. Through the study of Design and technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and Technology helps all children to become discriminating and informed future consumers and potential innovators.

**Our Curriculum – intentions, implementation and impact**

**Curriculum intentions**

Intention 1: Develop our learner’s learning (Our head and body: what we learn)

To develop the appropriate subject specific knowledge, skills and understanding as set out in the National Curriculum, so that children can flourish, reach and exceed their potential academically, physically and artistically.

Intention 2: Develop the character of our learners (Our heart and character: Who we are when we learn)

To develop learners to have a holistic set of values that prepares them for life in the modern world in a diverse and ever changing community.

Intention 3: Develop behaviours and habits to become effective learners (Our actions and attitudes: How we act when we learn)

To develop the behaviours learners need to succeed in the world such as concentration, perseverance, imagination, co-operation, the enjoyment of learning, self-improvement and curiosity.

Intention 4: Develop the moral compass of our learners (Our place in the community and wider world: Who we are)

To understand spirituality in themselves and others, develop social skills and understand society, build a firm set of personal morality, and to engage in the culture they live in and understand the cultures of others.

**Curriculum Implementation**

Our curriculum will be implemented with our intentions as the **drivers** behind our actions. By ensuring we think about what we learn, who we are when we are learning, how we act when we learn and who we are in the world, we build happy, resilient, successful, good citizens. Our implementation plan ensures our curriculum keeps us focussed on these areas.

Intention 1: Develop our learner’s learning (Our head and body: what we learn)

**Our promise to our learners**: Over and above any of our national curriculum learning, we promise holistic childhood experiences throughout their journey at Towngate. These are our “promises”. Examples include: Learn to light a fire; climb a mountain; build something bigger than myself; learn an instrument; see a play; make my own clothing; run a business and many more. Teachers plan these in every half term.

**Maths** – we use the MathsHub mastery schemes of work, supported by Abacus textbooks for progression. We assess using testbase materials, teacher assessment and MathsHub tests throughout the year. We plan a maths challenge morning each year and invite our parents in to see how we learn.

**Writing** – we use a Book based curriculum. This means each half term we study a new book in each class, and our teachers generate writing opportunities out of this. We look at comprehension skills, grammar skills, writing planning and extended writing each week, to give us a regular routine that helps us build up competency. We assess using Writing assessment grids that we share with the other academies in our Multi Academy Trust. We work hard on handwriting and presentation, and edit our work carefully to improve it.

**Reading** – we read with our teachers in groups, using a progressive reading scheme covering all genres. Our teachers regularly update our in class reading areas with topic themed books and author books boxes from the School Library Service. We visit our own school library each week and choose our own book to read for pleasure, as well as accessing a progressive reading scheme for our families to help us with reading at home. Learners need the space and time to make choices about books, and to discover authors and texts they might not get chance to look at outside of school. Our teachers check we are reading books that will challenge us, and create exciting reading areas around the school.

**Foundation subjects** – Our teachers plan foundation subjects using progressive skills, which show what we should be learning in each year group in each subject. They check our learning against these, and subject leaders check that they are doing this correctly. They keep a record of how each class is doing in each subject, including who is secure in the areas and who is working at age related expectations. We learn from a learning challenge curriculum, which encourages us to develop independent thinking skills and questioning. Our teachers plan a wide variety of educational visits out including residentials, visitors into school such as Wakefield Museum, Local Church Groups, the police, and organise exciting focus weeks and events like Careers week, Art fortnight, Enterprise week and Last Choir Standing competition. Where they can they try to link our maths and English learning into our topic work. Our parents and families are regularly invited in through INSPIRE events, to show us that adults continue to learn even after they have left school.

Intention 2: Develop the character of our learners (Our heart and character: Who we are when we learn)

We follow a **Values Based Learning** programme in the Academy, which explores values that are critical for us to understand in modern Britain and beyond. Each month, our teachers teach us about a value that we need to demonstrate in order to become good citizens of the world. We think carefully about the value, explore it in learning and demonstrate this whenever we can. Our values are:

**Respect; Honesty; Love; Appreciation; Responsibility; Co-operation; Tolerance; Patience; Courage; Determination; Equality; Friendship; Optimism; Hope / Freedom; Peace; Humility; Simplicity; Thoughtfulness; Trust; Understanding; Unity; Quality.**

One day each term, our classes focus solely on the value of the month, and display this in and around school through artwork, drama, stories, photographs, posters and research. We have a home learning task at the start of each month that helps us focus on the new value, which is a letter and a story for our families to share with us at home.

Our teachers ask learners to undertake positions of responsibility around the academy, as we believe that children understand values by seeing them in action in others. These include:

**Prefects to role model for each class; Academy council; Corridor helpers at lunch time; Playground buddies; Dining hall helpers; the Eco-Team; the Academy Gardeners; The Academy Newspaper team.**

Intention 3: Develop behaviours and habits to become effective learners (Our actions and attitudes: How we act when we learn)

When our teachers design our learning opportunities, they look for ways for us to develop good learning behaviours. Our Academy understands that learning about learning helps us to be better learners! In our curriculum, we look for ways to develop **concentration, perseverance, imagination, co-operation, the enjoyment of learning, self-improvement and curiosity**. For example, in our curriculum we try to frame our learning around questions: “Where do the leaves go in Winter?”; “Will you ever see the water you drink again?”’; “How do I know I’m being good?”.

Our teachers notice when learners are showing great learning behaviours. They award certificates for this in our weekly celebration assembly and in key stage one we receive personal points. When we work as a team, we collect marbles that earn a prize. Our Principal sends home yearly commendation certificates, and our behaviour officer send secret postcards to parents when she notices great behaviour. Once a term, we are awarded trophies for: Creativity in learning, Progress in learning, Behaviour star, Role model to others.

Intention 4: Develop the moral compass of our learners (Our place in the community and wider world: Who we are)

When our teachers plan the curriculum, they think not just about what we should learn and how we should learn it, but also how they can bring in an understanding of morality and the wider world. They do this through:

* Teaching us the weekly **Social and Emotional Aspects of Learning** curriculum. We learn about new beginnings in life, going for goals, getting on and falling out, changes and relationships. This helps us understand our place in the world.
* They ensure that in our half termly learning, they think about how to **challenge stereotypes**. For example when we learn about toys, our teachers ask leaners “Do we have girl’s and boy’s toys?”; when we learn cooking skills, we think about who prepares the food in our own homes. We learn about slavery, both historical and modern, thinking about why it happens and what motivates this. Our teachers identify positive role models that challenge stereotypes for us to learn about, for example the story of Billy Elliott the ballet dancer, Helen Sharman the astronaut, Harriet Tubman the abolitionist etc.
* Inviting in people from local groups such as the Methodist Church to tell us about their faith and share Christian learning. We work with lots of local religious groups to get a good understanding of the beliefs of others.
* We work with local community groups such as visiting the local residential home, working with local charities, collecting and raising money for charities, working with other schools in Ossett and beyond. We aim to increase our learner’s engagement with activities that benefit other members of the community and beyond.

**Curriculum Impact**

What do we hope will be the impact of our curriculum and how do we measure it?

Intention 1: Develop our learner’s learning (Our head and body: what we learn)

We strive to ensure that our children’s attainment in core and foundation subjects is in line with or exceeding their potential when we consider the varied starting points of children. We measure this carefully using a range of materials, but always considering Age Related Expectations. We intend that the impact is that children will be academically and physically prepared for life in high school and in Modern Britain and the world.

Intention 2: Develop the character of our learners (Our heart and character: Who we are when we learn)

The impact will be that our learners will have fully rounded characters with a clear understanding of complex values like equality, friendship, trust and many others. Only by really learning what these mean will our learners be able to develop a character that prepares them for living in the community demonstrating tolerance and equality. We measure this not just by the work our children produce, but in the behaviours we see each and every day in all learners on the playground, in corridors, and in the many roles we give them. The impact of this intention is seen in the daily interaction of all members of our community, including staff and children.

Intention 3: Develop behaviours and habits to become effective learners (Our actions and attitudes: How we act when we learn)

The impact we intend to achieve by developing this intention is seen by how the children approach challenges every day. This could be on the playground, in a game or disagreement, or in class in a complex learning challenge. The impact should be that children don’t give up, are highly motivated to succeed and achieve and are equipped with all the personal skills to do this.

Intention 4: Develop the moral compass of our learners (Our place in the community and wider world: Who we are)

Our learners will be motivated by a strong personal sense of morality. They will make decisions for the right reasons and in the best interests of their community. They will be able to decide what is right and what is wrong, and will be resilient to the influence of others. They will go out into the world and make a difference in their own life and to others. Our learners will be the owners of their own destinies.

**Mission Statement**

Design technology is a crucial part of school life and learning and it is for these reasons that as a school, we are dedicated to teaching a high-quality design technology curriculum through well-planned and resourced projects and experiences. From this approach, we believe children are encouraged to:

* work to a high standard
* problem solve and reason
* observe detail
* provide analytical, critical and yet thoughtful and sensitive responses
* evaluate processes, techniques and skills
* express creativity, imagination and individuality
* apply designing and making techniques, skills, systems and processes to the made world
* use equipment and tools appropriately and safely

**Purpose of Study**

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils 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 in disciplines such as Maths, Science, Engineering, Computing and Art. Pupils learn how to take risks, become resourceful, innovative, enterprising, and capable citizens. Through the evaluation of past and present technology, they develop a critical understanding of its impact on daily life and the wider world. High quality design and technology education an essential contribution to the creativity, culture, wealth and wellbeing of the nation.

**Aims**

The national curriculum for design and technology aims to ensure that all pupils:

* develop the creative, technical and practical expertise need 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.

**National Curriculum - Statutory Requirements**

**EYFS**

Early Years Foundation Stage children are expected to make good progress at the end of Foundation Stage in the areas of ‘Knowledge and Understanding of the World’ and ‘Expressive Art and Design’. Opportunities for developing designing and making skills will be given as set out under this area of learning, preparing children for Design and Technology in Key Stage 1 and consistent with the National Curriculum.

**Key Stage 1**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making children should be taught to:

**Design**

* design purposeful, functional, appealing products for themselves and other users based on design criteria
* generate, develop , model and communicate their ideas through talking, drawing, templates, mock-ups, and, where appropriate, information and communication technology.

**Make**

* select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
* select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

**Evaluate**

* explore and evaluate a range of existing products
* 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 [for example, levers, sliders, wheels and axles], in their products.

**Key Stage 2**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, leisure, culture. enterprise, industry and the wider environment].

**Design**

* use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
* generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

**Make**

* select from and use a wider range of tools and equipment to perform practical tasks[for example, cutting, shaping, joining and finishing], accurately
* select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

**Evaluate**

* investigate and analyse a range of existing products
* evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
* understand how key events and individuals in design and technology have helped shape the world.

**Technical Knowledge**

* apply their understanding of how to strengthen, stiffen, and reinforce more complex structures
* understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
* understand and use electrical systems in their products [for example, series circuits, incorporating switches, bulbs, buzzers and motors]
* apply their understanding of computing to program, monitor and control their products.

**Cooking and Nutrition**

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

**EYFS**

* safely use and explore a variety of materials, tools and techniques.
* recognise that a range of technology is used in places such as homes and schools.
* know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.

**Key Stage 1**

* use the basic principles of a healthy and varied diet
* understand where food comes from.

**Key Stage 2**

* understand and apply the principles of a healthy and varied diet
* prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
* understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

\*At Key stage 1 and 2 the programmes of study set out what children should be taught and the standards expected to be reached by the end of each key stage.\*

**Attainment Targets**

By the end of the key stage pupils are expected to know, apply and understand the learning, skills and processes specified in the relevant program of study.

**Equal Opportunities, Special Educational Needs and Differentiation**

Children with Special Educational Needs have equal access to equipment, tools and resources they require. Activities and learning is differentiated to ensure the individual child’s needs are met in order for them to be able to make effective progress in their knowledge and skills.

**Planning and Allocation of Time**

Design technology is an integral part of the school curriculum and is embedded into the planning and may be taught discretely or as part of a wider topic. Teaching and learning time is managed effectively to allow children to work on sustained pieces of work. Each year group will participate in three design technology projects per term that will be thematically and subject linked where possible and appropriate. These are documented on a long term curriculum map.

**Assessment and Recording**

Assessment is viewed as part of the teaching and learning process and is the teacher’s responsibility to assess and monitor the individual progress and development of pupils. Examples of design technology work (written and photographic) taught throughout the year is to be collated by the teacher and placed in the ‘Design Technology Portfolio’ as a catalogue of evidence. At the end of the year, this portfolio is to be handed to the next year group teachers to continue.

**Monitoring and Evaluation**

The subject leader will monitor and evaluate design technology throughout the school in a variety of ways; including checking planning, lesson observations, work scrutiny, monitoring of DT Year Group Portfolios, pupil and staff questionnaires and/or interviews to ensure coverage of the curriculum and quality of teaching and learning is provided. The subject leader will also support fellow colleagues in the planning, teaching and CPD of design technology.

**Role of Design and Technology Subject Leader**

* Support class teachers with the provision for teaching design and technology.
* Monitor the progress of design and technology throughout the school.
* Monitor, stock take, organise and order the design and technology resources required across the school.
* Monitor the portfolios of evidence of DT work in each year group.
* Add to and update the Design Technology page of the school website.
* explore opportunities for outside agency partnerships and experiences
* explore opportunities for staff CPD.

**Spiritual, Moral, Social and Cultural Development**

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to learn with each other. Working in groups allows children to learn together, and give them the opportunity to discuss their ideas and feelings about their own learning and that of others. Through their collaboration and co-operative learning across a range of activities and experiences in Design and Technology, the children learn to develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety that of others.

**Health and Safety - Design Technology**

**Adults must ensure:**

- DT equipment is not to be left out and unsupervised. Floors and surfaces are to be kept clean and tidy and all tools used must be of good quality, in good condition and stored safely.

- Direct safety instructions must be given to children each time they undertake a design technology activity.

- Children should be given suitable instruction on the operation of all equipment before being allowed to use it.

- Children should be strictly supervised when using equipment and tools at all times. Adult to child ratio must be appropriate.

- Children to be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

**Health and Safety - Food Technology**

**When working with food:**

- An adult will be required to supervise activities involving cooking and food handling/preparation.

- When undertaking food activities the appropriate Health and Safety Procedures must be adhered to.

- When working with food all children should follow personal hygiene guidance (tie hair back, wear clean apron, use blue plasters and wash hands).

- Teachers must check the dietary requirements of all the children in their class to identify any food ingredients, which should not be available to specific children or groups of children.

- Any perishable food should be stored in a fridge.

- Only the equipment which is for food use should be used.

- Ensure that all equipment is cleaned and put away.

- Ensure that all children use their own equipment when tasting food.

- Adults participating in cooking and food preparation/handling activities should wear appropriate clothing and adhere to the same personal hygiene procedures as the children.

**Review**

This policy is a working document and is subject to change and amendment when necessary.

Governors will work with the subject leader to ensure this policy is current and relevant and that the design technology curriculum is delivered to a high standard in an effective manner ensuring coverage and quality teaching and learning.