Treverbyn Academy

Teaching and Learning Principles
Subject: Design and Technology
Aspiration, Perseverance, Collaboration, Compassion

School Vision:

Our school will be an exciting place to learn!

We will:-

Provide a safe, challenging environment.
Value each individual, to build positive foundations for learning for life.
Promote teamwork, cooperation, and responsibility.
Foster healthy relationships between our pupils.

School Mission Statement:

To work in close partnership with the children, their families, and the wider community to nurture-

- Aspiration
- Perseverance
- Collaboration
- Compassion

Our vision for Treverbyn Academy is one of high standards, achieved through the creative and hands-on aspects of the curriculum. The sense of purpose, relevance and excitement in learning provide children with the opportunities they need to achieve, succeed, and believe.

Design and technology remain central to this vision. We place emphasis on the use of first-hand experience, experimentation and development of ideas and skill based on a wide range of stimuli. The quality of the first-hand experience is extremely important to us.

Design and Technology – Key Aims:

We aim to provide our pupils with hands-on, creative experiences to support the development of a practical identity and a capability for innovation. The subject provides opportunity for collaboration, team working and communication – skills that are essential for future employment.

D&T gives children the opportunity to develop knowledge, skills, and understanding of designing and making functional products. It helps to nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work.

Furthermore, D&T provides pupils with life-long learning opportunities, for example undertaking tasks without all the information necessary to complete them from the outset. Learning to cope with ambiguity is an important characteristic of a well-educated person. It will help to empower pupils and develop their self-confidence holistically.

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In Design and Technology we aim to:

- Develop a love of D&T and its ability to express creativity through the delivery of high-quality teaching and learning.
- Develop pupils' abilities to design, make and evaluate products.
- Develop pupils' abilities to hypothesise, synthesise and reflect upon ideas
- Provide hands-on practical opportunities for pupils to explore working with a range of materials and tools.
- Develop opportunities for pupils to gain a deeper understanding of cooking, nutrition, and safety precautions.
- Develop hands-on practical opportunities for pupils to explore working with a range of materials and tools.
- Further enhance social and emotional wellbeing in all children.
- Provide opportunities to develop children's leadership skills.
- Deliver high quality D&T across the school.
- Provide opportunities for all children to experience teamwork, collaboration, and communication skills.
- Provide pupils with opportunities to combine their design and making skills with knowledge and understanding they learn to create quality products.
- Achieve and exceed the expectations within the National Curriculum.

DT – We are designers:

We are **encouraged to be purposeful** with a range of media.
We **appreciate a range of designers** and their key styles**.**
We **reflect** on and **respect** work created by ourselves and others to enable us to progress.
We are **inspired to work resiliently** to explore and discover **creative individuality**.
We are developing **transferrable life skills**.
We are encouraged to **work collaboratively** and share each other's successes.

Subject Intent

We define curriculum as the totality of a child's experience at Treverbyn Academy. This includes not only what activities and learning they are immersed in but also the processes involved in how the child learns.

At Treverbyn Academy, we have developed an immersive curriculum which fosters: - Aspiration, Perseverance, Collaboration and Compassion.

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To ensure curriculum quality we have addressed the following:

- Developing sequential learning where pupils know more and can do more – developing transferrable life skills.
- Considering depth and breadth and curriculum content.
- Local context and filling the gaps from pupils' backgrounds – studying local artists to make learning real and relevant for the children and develop their aspirations.
- Ensuring exposure and immersion in high quality art both physical and visual including digital, through visits to museums and galleries linked to topics.
- Having clear and focused opportunities for assessment.
- Listening to the pupil voice.
- Reviewing and evaluating curriculum design.
- Clear curriculum leadership and ownership

Subject Implementation:

- Every class will study at least 3 D&T topics per year (at least one per term).
- D&T will be taught in practical ways.
- Pupils will be taught to use a range of media, mediums, and materials safely.
- D&T will be taught through, and link to, topics, where possible.
- Links will be made between prior learning and future learning, work will be recapped throughout the year and used to draw comparisons.
- New topics will begin with a recap of prior knowledge gained/taught.
- Technical terms and vocabulary will be reinforced and demonstrated within the class and will be recorded in topic books (KS1 and KS2) and Tapestry (EYFS).
- Work in partnership with the local community and community events.

Subject Impact:

We aim for every child to be able to:

- Recall some facts and information about key artists.
- Ask questions about artists and their work (fostering curiosity).
- Apply learnt skills into their own artwork and incorporate key techniques.
- Present art into a variety of ways.
- To comment on a variety of artwork and compare their own work to the work of their peers and other artists (collaboration).

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Skills Progression:

At Treverbyn Academy, we use the objectives from the National Curriculum to ensure good coverage and challenge for all. We carefully track the objectives to ensure that new learning builds on prior knowledge and consolidates understanding showing sound progression across the depth and breadth of the subject. Within lessons and topics, we ensure sufficient time is given to recall prior learning so that children are able to see and develop links within their learning. Specific subject related skills will be enhanced and developed during effective teaching and learning experiences; providing children with plentiful practical hands-on experiences.

Contextual example:

For example, when studying "Where will my story take me?" in Year 2, children will look at traditional tales to create moving pictures and moving picture books, before moving on to growing their own food and using this to make healthy wraps for a character.

Here is an example of how progression is developed through the 'Design' aspect of the subject taken from Twinkl Design and Technology Progression document.

	KS1	LKS2	UKS2
Design	**KS1 Design and Technology National Curriculum** 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. 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]. Children design purposeful, functional, appealing products for themselves and other users based on design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Children can: a use their knowledge of existing products and their own experience to help generate their ideas; b design products that have a purpose and are aimed at an intended user; c explain how their products will look and work through talking and simple annotated drawings; d design models using simple computing software; e plan and test ideas using templates and mock-ups; f understand and follow simple design criteria; g work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.	**KS2 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Children can: a identify the design features of their products that will appeal to intended customers; b use their knowledge of a broad range of existing products to help generate their ideas; c design innovative and appealing products that have a clear purpose and are aimed at a specific user; d explain how particular parts of their products work; e use annotated sketches and cross-sectional drawings to develop and communicate their ideas; f when designing, explore different initial ideas before coming up with a final design; g when planning, start to explain their choice of materials and components including function and aesthetics; h test ideas out through using prototypes; i use computer-aided design to develop and communicate their ideas (see note on p. 1); j develop and follow simple design criteria; k work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.	**KS2 Design and Technology National Curriculum** 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. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Children can: a use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; b use their knowledge of a broad range of existing products to help generate their ideas; c design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; d explain how particular parts of their products work; e use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; f generate a range of design ideas and clearly communicate final designs; g consider the availability and costings of resources when planning out designs; h work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.

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Teaching and Learning Expectations:

- Design and Technology will be taught for at least 1 hour a week (or the equivalent, e.g., D&T days) – where necessary, additional morning/afternoon sessions will be allocated.
- All children are able to access Design and Technology.
- Teachers to use skills progression documentation to assess learners.
- All children to have equal opportunities to access tools and resources.
- Children/Teachers who are unable to take part in specific Design and Technology learning experiences (because of severe allergies) will be able to access the specific subject area in other ways.
- One piece of Design and Technology recorded per half-term in back of topic books (if topic related) or in any other subject related books.
- Class blogs and social media to include examples of Design and Technology from Nursery - Year 6.

Working Walls/Displays:

- Key Vocabulary/ words on displays alongside children's work.
- Examples of DT work linked to the current topic.
- Children's quotes and key questions about the topic of learning.
- Display work observations and community events.
- Hall display (main building) promoting children's larger scale projects.
- School Rules on display in all classes/key communal areas of the school to refer to when completing Design and Technology learning (Referring to 'trying my best').

Monitoring/Assessment:

- Exit Points (e.g.: assemblies, large scale projects, visitors, D&T week)
- Use of assessment documentation to identify children, WTS, EXS and GDS
- Pupil Conferencing
- Learning Walk/Lesson Observations
- Work/book Scrutiny.
- Staff meetings to continuously evaluate current practices and reflect upon ideas.
- Appropriate CPD.

Learners are assessed during sessions to identify whether they require support or challenge. Evidence will be captured through photographs or writing design work which will be available in their appropriate subject book. Learners conduct self and peer assessment during sessions, using ICT to photograph and video where appropriate in order to aid progression of learning.

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Planning:

Currently within the planning for D&T, learning objectives are matched to the National Curriculum. Tiered learning outcomes are given to learners in order for pupils challenge themselves yet still be able to achieve as these style learning outcomes are accessible to all. Success criteria is shared with learners through quality modelling, marking of evidence in books (Tickled pink and go green) and re-emphasised throughout the session. Health and safety considerations, equipment lists and SEND considerations are also noted. Allergies to any food substances are also made aware by all to ensure there is a low risk of accident or injury. All Teachers and all staff have had the opportunity to complete Food Safety and Hygiene training through our Academies system iHasco to contribute to the effective delivery and safety of cooking and nutrition.

A typical Medium Term plan of Design and Technology at Treverbyn Academy would aim to look like this following the structure within the National Curriculum:

Design	Make	Evaluate	Technical Knowledge
During the first stages, the essential design process should take place. Children should be shown and taught examples of how to design purposeful, functional, appealing products for themselves and other users. Children should be encouraged to generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, technology. It is vital that teaching and learning experiences are differentiated to enable equal opportunities for all children to achieve throughout.	During the next stage, children should be taught how to select and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children should also gain an understanding of how to select and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics and design plans previously created.	During the next occurring week, children should be provided with opportunities to investigate and analyse a range of existing products; evaluating their ideas and products against their own design criteria and consider the views of others to improve their work. Children should develop an understanding of how key events and individuals in design and technology have helped shape the world.	During the final stage, children should experience building 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. Children should also be able to 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].

EYFS

Addressing D&T in the Early Years can enable children to make sense of the 'made world' in which they live. By making, changing and modifying (or designing) things for themselves, children can come not simply to a greater understanding of their world, but to a sense of agency - of being able to change and modify their environment.

Design and technology enables young children to gain knowledge and understanding of their world. In the EYFS D&T is taught through many aspects of the EYFS Curriculum as the importance of interlinking Prime and Specific areas is essential to providing effective Early Years practice. However, specific curriculum links to D&T in the EYFS are as follows:

- Construct with a purpose in mind, using a variety of resources.
- Use simple tools and techniques competently and appropriately.
- Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary.
- Select the tools and techniques they need to shape, assemble and join materials they are using.

With regards to the Characteristics of Effective Learning, D&T opportunities in the Early Years will encourage children to explore, observe, solve problems, think critically, make decisions and to talk about why they have made their decisions. Children will also contribute to taking risks and engaging in new experiences; enabling them to develop resilience and the ability to bounce back after difficulties or challenges they may face.

In our Nursery and Reception class' aspects of Design and Technology are taught on a daily basis through continuous provision areas, outdoor activities, Understanding of the World, Mathematics, Physical Development and especially through Expressive Arts and Design. In Reception, this is further developed with specifically taught activities through a model teaching approach. A variety of resources are selected and used to supplement our planning, but the focus of learning will always be based upon the curriculum and children's next steps.

At Treverbyn Academy we use Tapestry, our online learning journal, to record and track children's progress and achievements in D&T against the age-related development areas and the Early Learning Goals. Children who need additional help are identified and interventions put in to place when appropriate.

Children's progress within D&T is reported to parents through settling in meetings, sharing learning journals and regular communication. In line with statutory requirements children are assessed against the Early Learning Goals for D&T within the area of Expressive Arts and Design at the end of the reception year and this is reported to the LA and parents.

Area	*Early Learning Goal (2)*	*Exceeding (3)*
Exploring and using media and materials	Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Children develop their own ideas through selecting and using materials and working on processes that interest them. Through their explorations they find out and make decisions about how media and materials can be combined and changed.
Being imaginative	Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.	Children talk about the ideas and processes which have led them to make music, designs, images or products. They can talk about features of their own and others work, recognising the differences between them and the strengths of others.