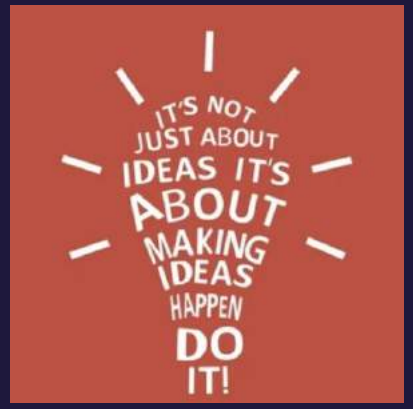
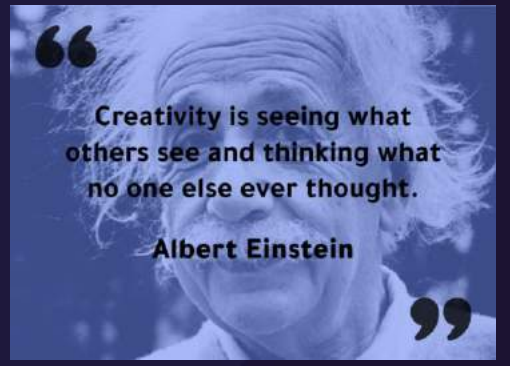
Design Technology Portfolio





Curriculum overview:

Intent

At The Mease Spencer Academy, our children value the importance of considering their own and others' needs, wants and values when designing and making their products. They use creativity and imagination to design and make products that solve problems within a variety of contexts and explore how other significant people have achieved this before them. Detailed technical knowledge is successfully understood so our children can critique existing products effectively and use what they have learnt to develop their own. Our children are healthy and understand how to cook nutritious meals.Articulating the role of design and technology within the world around them is part of our children's learning experience which is enhanced by their experiences with people in the local community.

Curriculum overview:

Implementation

At The Mease Spencer Academy, we have strategically planned our design technology curriculum to enable a clear progression in skills and knowledge which is built upon as the children move through our school. Our half termly projects follow the same structure in every year group which provides consistency for the children and builds their understanding of the design technology process. Our lessons are sequenced using a mastery approach to learning including opportunities to reflect and review prior learning. The children have opportunities to: gain practical, hands on experience of using a range of tools; develop their subject specific vocabulary; work with different media and materials and to create prototypes as part of their design process. Health and safety is a golden thread throughout all our lessons and is tailored to the specific tasks being undertaken to avoid cognitive overload. Our design technology curriculum is closely linked with the wider curriculum such as computing and history and provides opportunities for children to practice their technical drawing skills (art). At The Mease Spencer Academy we are lucky to be surrounded by people and companies which can offer enrichment opportunities for our children. We have enjoyed visits from companies such as Rolls Royce which help to develop a love of learning for design technology.

Curriculum overview:

Impact

- Our pupils are resourceful, innovative, enterprising and capable citizens.
- Pupils develop a critical understanding of the impact of technology on daily life and the wider world.
- Our children have the knowledge and skills to independently design and make their own products
- Expected level of achievement is above national average
- Our children understand and apply the principles of nutrition and how these relate to living a healthy life

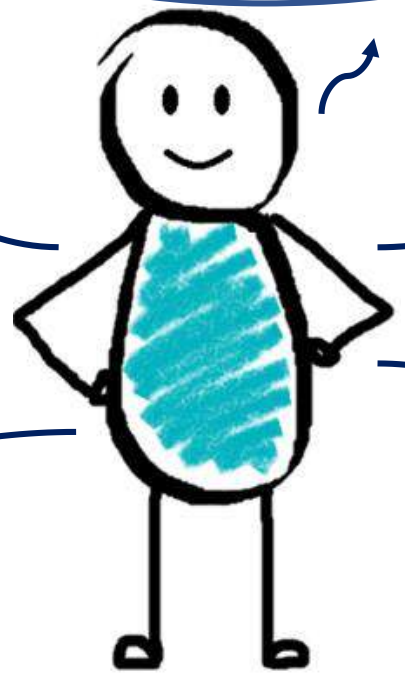
What a successful Design Technology pupil looks like:

Healthy children who can cook nutrious meals

Can consider and solve real life problems, responding to the needs of others in range of contexts.

Passionate about improving the world around them.

Innovative creators who can use their technical knowledge to evaluate and critique products



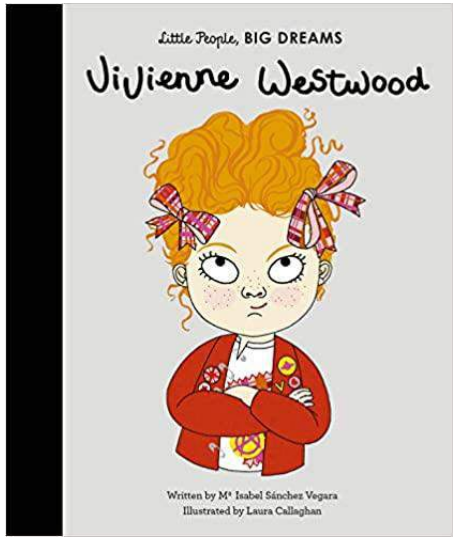
Mindful and thoughtful when ensuring that all tools and equipment are being used safely and effectively.

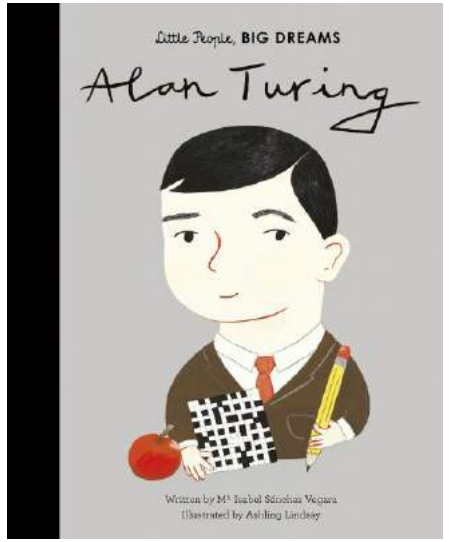
SMSC:

	Spiritual development	Moral development:	Social development:	Cultural development
Definition	Explore beliefs and experiences; respect values; discover oneself and the surrounding world; use imagination and creativity; reflect meaningfully on their own actions and the actions of others.	Recognise right and wrong; understand consequences; investigate moral and ethical issues, offer reasoned views.	Use social skills in different contexts; work well with others; resolve conflicts; understand how communities work.	Appreciate cultural influences; participate in culture opportunities; understand, accept, respect and celebrate diversity.
Examples of SMSC in DT	Spiritual development is of a very high importance in design & technology. The process of creative thinking and innovation inspires children to bring out undiscovered talents, which in turn breeds a self-confidence and belief in their abilities. It also challenges and appeals to the creative instincts that have driven humanity to discover, adapt and overcome.	In design & technology we seek to develop a sense of 'moral conscience' in our children. We teach students to understand the wider impacts on the environment when designing and making new products and expect them to consider carefully the materials & components they will use when designing and making. We encourage sustainable thinking through the active application of the '6 R's' (reinvent, refuse, reduce, recycle, repair, replace) and to highlight the impact on environmentally sensitive areas of the world.	We teach the concept of self-regulation to ensure that children are responsible and safe when using new tools and equipment/appliances. This establishes and maintains a safe, secure, learning environment. We place an emphasis on developing the ability to work with other and to accept each other's unique personality. We encourage effective conversations about the work we do through self & peer evaluation, and to give and accept constructive criticism as a vehicle to improve children's learning outcomes.	We develop wider cultural awareness in design technology through projects that have a connection with our past heritage and how our industrial routes have shaped our nation. We seek to expand children's knowledge of other cultures influences on design and manufacture including an increasing awareness of the influences digital manufacturing developments from other countries is having on the designing and making of products that we use.

Equality and Diversity (including BV):

Children at The Mease are encouraged to explore all aspects of the design technology curriculum and to have opportunities to learn about the industries of which the skills and knowledge they are learning relate to. We aim to teach and raise awareness of diversity in different workplaces and raise all children's aspirations; knowing that people such as themselves contribute to the world of design and technology in a positive way. We engage with STEM Ambassadors, local engineers and parents within the industry who help to raise the profile of Design Technology. Our 'Little People, Big Dreams' assemblies help the children to understand that people from many different backgrounds can achieve big things when they are passionate about an idea. These assemblies act as a vehicle for children to find out more about influential people in the design technology industry and often provoke lots of great questions from the children.





Supporting children with SEND:

To overcome potential barriers within Design Technology, some pupils may need:

- Planning that supports individual needs including scaffolding to support them in achieving the lesson objective. Adjustments may need to being made to support learning
- Time for sensory exploration of materials, images and physical resources/textures.
- Tactile displays and clearly labelled resources
- Real objects related to the topic which they can explore using their senses, having time to examine the detail, bringing out ideas and feelings
- Encouragement through questioning to be creative and experiment with materials
- Visual pictures/images to support their learning of Design Technology and help to expand their vocabulary knowledge
- Specialist equipment, for example; looped scissors, rulers with grips, pencil grips, sellotape holders.
- To be provided with viewfinders and other templates to support learning
- A voice recording device (talking tin) to describe/explain their learning, or having their sentences scribed by an adult/peer.
- Opportunity to explore and learn about Design Technology through stories, videos and role play
- Support from peers and adults- talk partners and mixed ability grouping.

Examples of our Design Technology curriculum

Early Year

Designing and building a bridge

Baking together!

Joining paper using glue and scissors to use as party decorations!

Designing and building dinosaurs using sticks!

Making pizza!

Designing a healthy meal to make.

Designing and building a home for the farm animals using magnetic blocks

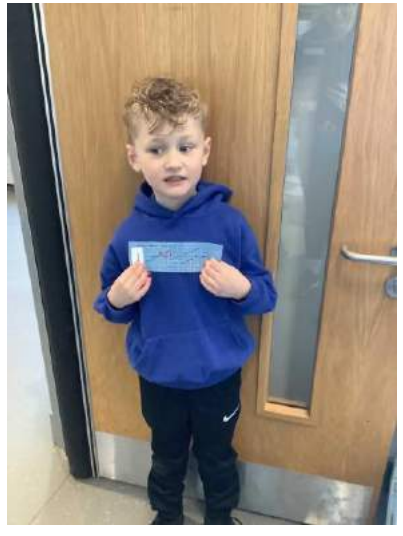
Examples of our Design Technology curriculu

KS1

Designing and making a car using junk modelling

Designing and making a dragon eye using clay and clay tools.

Independently applying a new sewing skill- the running stitch.



Following a recipe and making a delicious meal.

Examples of our D & T curriculu

KS2


Baking and taste testing!






Building, testing, designing and reviewing structures using a range of materials.





Examples of Physical Literacy in our Design Technology curriculum

Early Years

F

Cooking healthy recipe's together.

E

Using tools to join, stick and cut.

R

Using our muscles to stir the mixture

L

Experimenting with different materials to make shapes.

C

Examples of Physical Literacy in our design technology curriculum

KS1 & 2

L

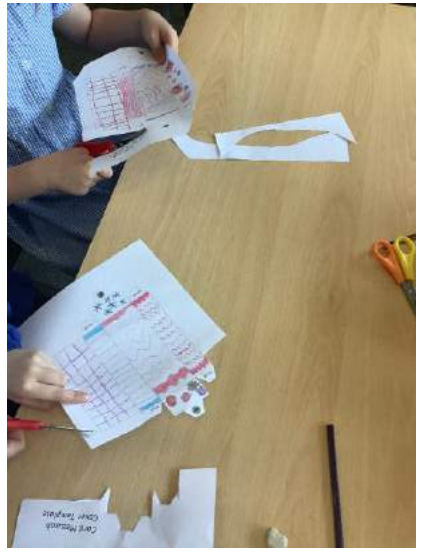
Making healthy choices with fruit kebabs for a royal banquet

R

E

Sewing!

Using scissors for cutting and joining



E

Using clay tools to create patterns and shapes.

What do our pupils say?

B, Year 2 “I loved making and sewing my emblem. I learned how to be really careful with the needle and thread.”

L, Reception “I like cooking at school because we get to make new things and try them!”

P, Year 1 “I love making different things I am always gluing and sticking things together and I draw stuff on it like a decoration!”

E, Reception “I like getting my hands messy in cooking and I like eating the food when I get home. I share it with Mummy and she says it’s all yummy!”

A, Year 1 “I like cooking and making things. My favourite part of cooking is when we can eat it after! I do like using the oven too but my Mummy always help me”

C, Year 2 “I really liked that we got to learn how to thread it in and out when we were sewing. Mine was so neat, it took me ages but I am really proud of it!”

C, Year 2 “The sewing was the best part I already knew how to sew but I hadn’t used felt before I used a different material.

N, Year 2 “I enjoyed colouring in my material with the fabric pens. I did find it tricky making sure the thread didn’t come out of the eye of the needle but I did keep trying!”

How could I support my child at home?

If your child is interested in design technology and you would like to pursue this together you could:

- Visit the Creative Technology Workshop at any Derby based library.
- Visit the Derby Quad and keep up to date with events and showings that are relevant to the industry there.
- Cook and bake together at home, allowing your child to follow a recipe and practice new skills.
- Visit Markeaton Park Pottery Shed to get involved in working with different multimedia.
- Check out the Parents Hub on Twinkl where there are loads of activity ideas that

Useful websites and Apps:

Derby Library Information https://www.inderby.org.uk/libraries/clubs-and-activities/code-club-for-children/

Cooking with Kids website https://cookingwithkids.org/

Interactive projects for children to discover more about food .http://www.foodafactoflife.org.uk/

Design council http://www.design-council.org.uk

STEM Learning https://www.stem.org.uk/home-learning/secondary-design-technology

Investigate ‘How Stuff Works’ http://www.howstuffworks.com

Get creative with the LEGO building activities http://www.lego.com/eng/create/activities