

I have the great pleasure of leading Design and Technology. It is a subject I am very passionate about.

At Burton, great emphasis is placed on children thinking technically, designing and evaluating, as well as constructing purposefully. Design Technology within the school inspires a love of possibilities; the children are given many opportunities to 'think outside the box.' They are encouraged to research, test and adjust as they create. As a result, we have begun a drive to enhance our children's love of building.

Our DT curriculum runs under 4 strands of learning: Modelling leading to Woodwork, Construction using toys, Sewing and Textiles and Cooking and Nutrition.

Pupils will be given opportunities in all strands to explore and investigate. The teachers in each key stage area use the progression of skills and key knowledge to establish a base for learning and then the pupil's needs are taken into consideration. The progression can be refined as needed and differentiation is expected to ensure that pupil's skills are built on and new knowledge is learnt.

At Burton C of E Primary School our Design and Technology teaching prepares pupils to participate in tomorrow's rapidly changing world. Children learn to produce practical solutions to real problems, with the ability to reflect on and evaluate design.

Through investigation, exploration and creativity our pupils will develop skills in design and construction, utilising tools effectively.

At Burton CE Primary School we aim to:

- Engage the interest of all children by providing a curriculum that is challenging and enjoyable.
- Develop confidence in all, each pupil will have the knowledge they can solve a technological problem, through design, construction, evaluation and modification.
- Provide all pupils with equal access and opportunity to Design and Technology equipment and its uses in everyday life.
- Ensure pupils have good Health and Safety attitudes and habits.
- Investigate technological advances throughout history and use these to inspire pupils with their creations.
- Ensure progression and differentiation within the process of DT in line with individual needs of the pupils.

All learning will be based on individual needs. DT will be differentiated as appropriate, ideally with the children's interests as key.

I feel this vast experience will equip them for future life. So many jobs require DT as a fundamental skill. Looking at research, it would seem the industry has over 2 million employees and currently generates more than £100 billion a year.

A quote from a National College representative suggests, "The job of a teacher is to develop designers, engineers and technologists and unlock their potential." Teachers have to "instigate a discussion about jobs and skills that design and technology develop."

When you unpick the skills needed for DT, at EYFS, KS1 and KS2, you can see the foundations for many jobs.

The DT curriculum at Burton C of E Primary is engaging and stimulating. Where possible it will be taught as part of cross-curricular learning themes. These topics have been chosen to meet the National Curriculum. We have used our knowledge to select which strand of the DT curriculum is most appropriate at which time and created activities to achieve curricular intent.

Some units will be standalone projects to be taught to ensure appropriate progression and coverage of a range of skills and techniques. Where appropriate outside agencies will also be involved in Design projects. Pupils are encouraged to seek advice and question to gain a greater understanding of the challenge ahead of them.

Currently each year group is also taking part in 6 weeks of Forest Schooling. This has established a great foundation for Modelling leading to Woodwork.

Focussed questions.

Does this subject match or exceed the requirements of the National Curriculum? What expertise has been put in place for the DT curriculum to be formed? Why has the content been chosen?

Burton's Progression of skills has been created in line with the National Curriculum. I have spent a great deal of time researching the expectations of Design Technology, gathering information from many reliable sources. I have overseen Design Technology for over 10 years and have created, adapted and updated the curriculum as required many times over the years.

Over the last few years, the Progression of Skills and Knowledge has been adapted and refined to continuously enhance the expectations of DT within Burton School.

Ten years ago, a list of Key Skills we wanted the children to experience in each key stage was created, these ran alongside The D&T Association Progression Framework ([Design and Technology Progression Framework - D&T Association \(designtechnology.org.uk\)](http://Design and Technology Progression Framework - D&T Association (designtechnology.org.uk))). These were shared with the staff, and other schools in the Christchurch area (as part of the network meetings.) The pupils had a solid foundation for all 4 stands of learning that gradually increased in complexity. We could see that pupils were building on prior skills and exploring many DT experiences.

These skills were very successfully taught; however, I noticed the key knowledge element of the curriculum needed enhancing. So inline with changes to medium term planning across the school I was able to create a Key Knowledge Progression. The more emphasis is now being placed on the research, design and evaluation of projects built. Pupils are expected to recall many facts and be able to explain how to use tools and what each of them are for.

Below is a brief overview of the Design and Technology Curriculum at Burton School.

- Progression of Key Skills
- Key Knowledge Progression
- Progression of the Evaluation process



Progression of Key Skills - Design Technology



	EYFS	KS1 Year 1 and 2	LKS2 Year 3 and 4	UKS2 Year 5 and 6
Modelling leading to woodwork	To join materials using a variety of resources – glue, tape, (with support staplers, treasury tags, split pins).	- To measure out and mark out materials needed for a structure (axel for vehicle and coat hole and arms) - Assemble, join and combine materials – using tape, glue, split pins, axle holders, dowels	- To join materials using permanent and temporary fixings – elastic bands, glue gun, tape, glue - To add mechanical elements to make movement.	- To use mechanical elements such as pneumatics and hydraulics. - To have strong and stable joins in structures – created by holes, dowels and glue
Sewing and Textiles	To add stitches to a piece of fabric.	To sew in a running stitch.	- To use scissors accurately to cut textiles. - To applique fabrics using basic sewing skills.	- To sew in a cross stitch - To sew using a machine.
Construction using toys	To build a model using basic toys- stickle bricks, Lego, Mobilo.	To make a Lego structure with moving components – hinges, turn tables, wheels etc.	- To add a mechanical element to a model following instructions – LEGO WEDO. - To use computer software to control a model made out of toys.	
Cooking and Nutrition	- Mixing – spoon or hands. - Rolling, shaping and cutting dough.	- Cutting using a small knife. - Rubbing in.	- Follow a simple recipe. - Peel, slice, grate, mix, spread, knead and bake. - Weighing – pouring or spooning ingredients into scales.	- Following a simple recipe with several elements. - Using heat on a hob, oven and microwave. - Whisking, using a balloon whisk or handheld mixer



Progression of Key Knowledge – Design Technology

	EYFS	KS1 Year 1 and 2	LKS2 Year 3 and 4	UKS2 Year 5 and 6
Modelling leading to woodwork	Tools need to be used safely (Tools to be used: scissors, staplers, hole punches, hammers)	- Saws are used for cutting. - An axle secures the wheel so it can turn. - When designing, you need to meet the requirements of the build - coat	Joins provide strength or movement.	- Sometimes specialist protective wear needs to be used. - Size and accuracy is a key factor when cutting.
Sewing and Textiles	- A needle needs to be pushed in and pulled out to make a stitch. - Stuffing makes a soft toy.	A running stitch is when you sew in a line.	- Applique is when you sew an item onto fabric. - How to thread a needle.	- How to sew a cross with stitches. - How to move fabric through a sewing machine.
Construction using toys	Some toys can be used for building.	Lego can move if you use the correct pieces – hinges, turn tables, wheels etc	- Lego can move using a motor. - Lego instructions are important if you want your Lego to work properly.	
Cooking and Nutrition	- You can make biscuits and cake by mixing food items. - Ice can melt and it turns into water. - Some foods are healthy, some are not so healthy.	- A small knife needs to be used safely – flat for spreading and held by the handle for cutting. - Some ingredients cannot be mixed by using a spoon. - Sometimes you need to <u>grease</u> a tray, especially when baking. - Fruit and vegetables are healthy.	- You can design a pizza to match tastes. - You can peel, slice or grate fruits and vegetables.	- Bread rolls are made by mixing ingredients and kneading the dough. - Cutting with a knife requires the bridge hold. - To make a trifle you need lots of time for colling, heating and setting.



Progression of Evaluations – Design Technology



	EYFS	KS1 Year 1 and 2	LKS2 Year 3 and 4	UKS2 Year 5 and 6
Modelling leading to woodwork	Share their creations, explaining the process they have used.	State what products they are designing and making – Who is it for? Why?	Evaluate how well products have been designed and made – real life products <u>e.g.</u> taste pizza – look at the quantity of cheese/toppings, look at bags – sizes, fabrics etc	Evaluate real life products by the quality of the design, manufacture and fitness for purpose of the products - Using this as an opportunity to develop evaluation vocabulary <u>e.g.</u> refine, critique, assess etc
Sewing and Textiles	Return to and build on their previous learning – <u>e.g.</u> making a build more exciting, decorate a product once it is made etc.	- Make simple judgements about their products and ideas against design criteria <u>e.g.</u> Did the healthy smoothy taste nice? Is the sewing in a running stitch? etc - Evaluate by saying what they like and dislike about products – would they change their design if they were to do it again?	- Discuss how well products work to achieve their purpose – potential questions - How does it work? - Were there any challenges you came across? - Was the product effective? - What would you do next time to be even more successful? - If it didn't work/was not successful why?	- Identify the strengths and areas for development – looking at the products as well as personal skills needed. - Linked to school value of compassion - consider the views of others to improve work – critique rather than judge work - Evaluate products against their original design specification – <u>e.g.</u> Were you able to refine your decoration so it would be a quality product? etc
Construction using toys				
Cooking and Nutrition				

How does teaching in Early Years, Key Stage 1 influence the teaching in KS2?

Our Progression of Skills works alongside the National Curriculum. The key skills 'make' and 'technical knowledge' content and the 'design and evaluate' are extended versions of the underpinning skills. If our pupils experience all of the DT challenges set for them during their journey through Burton School, they will definitely meet and exceed the ambitions of the National Curriculum.

Our provision in EYFS, KS1 and LKS2 establishes a fantastic base for future learning. Within all medium-term plans, previous learning is identified. It is essential that teachers are aware of the journey that the pupils are on.

The 4 Strands of DT learning are created to establish small steps in learning. At each stage there are clear expectations made based on the children's abilities. For example, within the woodwork strand, just looking at the journey of joins.

- In EYFS, pupils experience safer, easier apparatus, e.g. tape, glue, treasury tags, split pins, staplers etc.
- In KS1, we introduce nuts and bolts and screws and screwdrivers.
- In LKS2, pupils continue their understanding of joins, this time glue guns, elastic bands, pin hammers.
- Finally, in UKS2 pupils use saws, drills and vices. They even use a sewing machine to join fabrics.

Each of the 4 strands has little branches of development. The strands have been well thought out and that is why other schools in the Christchurch area were keen to take them on board when they were in their early stages of development.

Early Years

Teaching of DT in Early Years is active and daily. Pupils are always taking part in activities that enhance their DT skills. A typical day will include:

- handling tools such as scissors,
- joining using glue or tape
- using a knife and fork at lunchtime
- peeling or opening fruit or packets of food
- building with construction toys
- creating using large play equipment.

If we were to focus on sewing and textiles. You will see EYFS children have one challenge to complete, making a Sock Thing. However, this is not the only time pupils will experience the skills learning of this strand. Throughout the year, you will see children threading pony beads on string, sewing in template cards, threading on the outdoor weaving tree and weaving paper in and out to make a paper mat (flying carpet for Granny).

The EYFS team use the year to teach the foundations of all subjects. The pupils experience most subjects naturally through play and investigation. Throughout their time in EYFS pupils will begin to be independent, resourceful, resilient and reflective. They will be encouraged to refine, persevere and problem solve. These are skills needed to become a successful designer and creator.

Key Stage 1

Children in KS1 continue to build on the skills and knowledge they have gained in EYFS. Daily practice will continue of handling tools, joining, basic food skills and construction using toys. However, more focus and expectations will be placed on pupils. For example, building for a purpose - the children will not have free use of the Lego, there will always be a challenge e.g. build a brick house for the Three Little Pigs. These challenges will not be included in the official DT plans as they link to other subjects, e.g. science, art, maths etc.

The pupils will complete more complex challenges in official DT lessons. These will be tailored to the pupils' needs and will be based on extending the children's EYFS learning. Medium term plans identify prior learning and set out clear expectations on the learning needed at KS1 level to prepare the pupils for future learning at Burton. Key knowledge is highlighted and the skills needed to complete the challenges are set to develop the pupils' abilities.

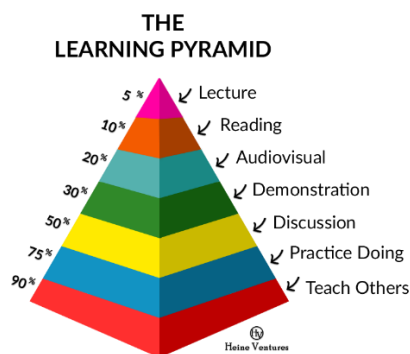
The activities chosen were specifically designed to match the Progression of skills. Over the years, the KS1 team and I have refined and reflected on previous builds and when needed made adjustments to ensure the best provision for the pupils.

How do we ensure key concepts are embedded in the long-term memory? What is the rational for our teaching approaches?

As mentioned before, our DT curriculum runs under 4 strands of learning – Modelling leading to woodwork, Construction using toys, Sewing and textiles and Cooking and nutrition. The Progression of Skills is the order the subject is taught in; however, the strands can be taught at any point in the cycles. The teachers have chosen the strands that best meets their needs and topics.

The key concepts for DT are outlined in the Progression of Skills and Key Knowledge. We ensure they are embedded as each strand of learning build on from the previous stage.

DT provides the pupils with opportunities to learn through experimentation and exploration. Learning by doing is a brilliant way to retain information. Below is the Learning Retention Pyramid by National Teaching Laboratories, you can see that **demonstration, discussion and practice doing** establish a much higher percentage of recall than talking, reading and listening. Obviously, they are a key part of our teaching as well, but we place great emphasis on the pupils experiencing in DT.



We ensure long term learning because pupils are given opportunities to build on previous learning. Key knowledge is repeated, discussed, practices and consolidated.

If we were to just look at sewing.

- In EYFS they begin with a Sock Thing. The pupils are supported to add two beads for his eyes. They help the adult move the needle in and out to secure the bead, we talk about how adding to the sock it is making a change and the bead becomes secure. This is a link to applique in year 3/4.
- The pupils then stuff the sock with support. Snuggle tests happen. This links to year 1/2 learning where they are creating a sea creature toy and will explore the feel of different toys and what might be inside them.
- The EYFS pupils are then given a needed to continue threading, they are shown how to push the needle in and out to make a join. Discussions happen about why a good join needs to be made. Again, this links to year 1/2 learning and year 3/4 learning, both sewing projects involve neat secure stitching. Year 1/2 the stuffing mustn't fall out, year 3/4 the contents of a bag mustn't fall out.

I believe we have established a very strong foundation for all of our DT strands. The activities chosen are purposeful, progressive and consolidating. Many hours of research has gone into their creation and we are now beginning to see pupils who are secure in their knowledge of all 4 strands.

When we think about pupils getting better at DT what does it mean for our school?

Over the years I have been leading DT, I have always been concerned that our pupils would not be ready for the expectations placed on them when they reach year 7. I spent time looking at DT provision in a few local senior schools and was concerned that all the new equipment and expectations would overwhelm our pupils. I was finding cookery rooms and workshops full of tools and I was then reflecting on the provision we had in place. We would never be able to have that kind of provision due to spacing, so I spent time thinking how we could solve it.

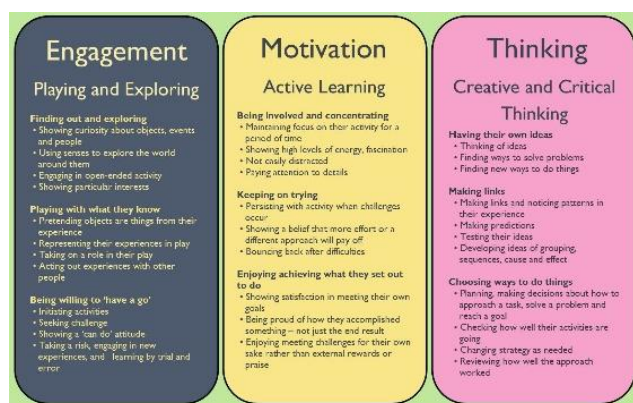
As a result, over the last few years I have tried to up the expectation on our pupils right from the start. The new medium-term plans that I have created should bridge this gap. Now the pupils will have experiences of blenders, sewing machines, drills, saws etc. Not only that, they will have the key knowledge to go with the skills. Our pupils will become more secure learners.

In answer to the question, I would say that the new higher expectations of DT for our pupils means our school will benefit from more confident, able and well-informed pupils. Lessons will have more solid foundations from the start. Pupils will know about design criteria and why important. They will respect tools and their uses and imitations. They will offer knowledgeable solutions to problems.

How does the subject contribute to pupils' personal development?

Design and technology is a brilliant way to enhance pupils' personal development. Pupils have time to: explore and investigate, work in a team or independently, learn questioning skills, problem-solve and reflect. These are skills essential for life.

Pupils are encouraged, even from early years, to have positive characteristics of learning. COL underpins the EYFS learning and these skills are essential for DT learning to be at its most effective. These skills are:



As you can see from the list, these skills are the basis for solid learning and I would encourage teachers in other year groups to reflect on these characteristics when assessing pupils DT skills; it is not always the final product but the personal development that has happened during the process of design, making and evaluation.

Compassion is also a school Christian Value. I believe this also plays a big part within DT at Burton. Our pupils support and encourage each other during all stages of learning: they encourage, model, assist and problem solve. I can confidently say each pupils' well-being is valued. This support continues even within the evaluation process where pupils have been taught to critic rather than criticise.

How do school policies fit into Design Technology?

At Burton pupils follow a strict code of behaviour. The school has created these expectations the pupils are focussed and challenged. Behaviour in DT is essential, so there are a few rules/regulations additional to the Burton Code of Conduct. These are found in the Design and Technology Policy.

Health and Safety

- Children should be given suitable instruction on the operation of all equipment before being allowed to work with it.
- Children should be strictly supervised in their use of equipment at all times
- Children should be taught to respect the equipment they are using and keep it stored safely while not in use.
- Children should be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.
- All jewellery should be removed and hair tied back when using more challenging tools and equipment.
- All safety equipment should be worn during tasks.
- Only Key Stage 2 pupils should use glue guns, craft knives, saws etc. Any use of these items in Key Stage 1 should be completed by an adult.

Burton School ensures all pupils are safe at all points in time. During DT learning this is especially important as tools and equipment are being used by the pupils. Health and Safety is paramount. Staff are fully aware of risks and risk assessments are carried out for every activity that requires a dangerous tool.

Risk assessment – Modelling leading to woodwork

Hazard / Risk e.g. slip/trip hazards, electricity, equipment/activity related hazards	Who is at risk?	Current Controls in Place Are they adequate? Is the risk reduced as far as possible?	Level of Residual Risk Low, medium, high or very high?	Additional measures to control the risks
Woodwork Area – Impact with tools, tripping, cuts, impement, amputation	Pupils, staff	- Locate in observable area - Monitored at all times by staff member (either in vicinity or close proximity) - Locate woodwork area in a position that reduces floor traffic. - Locate away from distractions - Ensure that the floor is clear of obstacles that could cause tripping. - Limit number of children working in small area	Medium	
Tools general – impact to hands or body parts	Pupils, staff	- Walk when transporting tools and hold by side - Instruction on how to use tools safely 1:3 ratio for most tools. Saw 1:1 - Ensure regularly checked – e.g. hammer head not loose - All Equipment to remain in woodwork area - Minuse of tools will not be accepted	Low	
Injury from being caught on a tool or from a tool being dropped	Pupils, staff	- Ensure children wearing suitable clothing to move freely, for example remove gloves and scarves to facilitate coordination. - Shoes to be worn.	Low	
Inhalation/toxicity – chemicals or paints with strong fumes	Pupils, staff	- Avoid using painted or treated wood or chemicals inside e.g. varnish, acrylic paint protector for outside use) - If in doubt the product should not be used.	Low	
Children with SEN	Identified children	- Higher supervision ratio. (1:1 if necessary) - Differentiation to the activity – take into consideration the progression of skills and their abilities. - Take into consideration sensory needs and make adjustments as necessary. - Encourage peer on peer support and trial and error – pupils learn best by doing. Try to encourage independence. - SEND in other curriculum areas does not always mean SEND in DT, please be aware when planning and executing lessons.	Medium	
Hammer – hits	Pupils, staff	- Instruction on how to use hammer safely. - Dangers clearly explained. - Fingers moved away when banging. - Initial adult supervision 1:3. - Eliminate distractions - Adjust the type of hammer for the situation and the age of the children.	Medium	Safety gloves can be worn

Saw – Whittling knives Cuts, slices, amputation impact injury to another child	Pupils, staff	- Instruction on how to use saw and supervised 1:1 at all times. - Sawing – Ensure no children are in front of the saving area - practitioner to stand in this area to prevent children getting close to saw - Child saving to use one hand to move the saw and other hand should be holding bench well away from wood being cut - After being used – saw to immediately be put out of reach. - Wood always clamped in vice when being sawn. - Practitioner to check held firm in vice before saving commences. - Vice to be firmly secured to the tables. - If whittling, ensure moving away from body - Introduce peelers as a first step to whittling. - Ensure no one is in front of child whittling as it is easy for the peeler to slice away from the wood. - Ensure work is clamped (to clamp or vice) before drilling - Pupils to use under high supervision - Palm drills to be used where possible rather than turning handle drill - Any significant amount of cutting/sanding to be done outdoors. - Eye protection – goggles if lot of dust - Children not to cut MDF	High	Safety gloves can be worn
Hand drill – screwdriver injury – impement Twist – whittled and eyes	Pupils, staff	- Any predrilling tools to be made safe (hammered over) or removed - All nail/screws to be collected off floor after session - Do not hold nail/screws in mouth. Many builders do this – do not model this habit! - Ensure high levels of supervision - Children to be given clear instruction for safe use of any new tool. - Emphasise tools are not toys - High levels of supervision	Medium	Safety gloves can be worn
Nail/screws – Pierce skin breakdown	Pupils, staff	- Any predrilling tools to be made safe (hammered over) or removed - All nail/screws to be collected off floor after session - Do not hold nail/screws in mouth. Many builders do this – do not model this habit! - Ensure high levels of supervision	Low	Eye protection can be worn
Miss Tools – impact injuries Cuts, bruises etc.	Pupils, staff	- Children to be given clear instruction for safe use of any new tool. - Emphasise tools are not toys - High levels of supervision	Medium	
Hard wood injury	Pupils, staff	- Avoid – as hard and very difficult for children to work. More chance of nail rebounding. <u>Alto</u> - Children would have to hammer extremely hard increasing risk - Caution with MDF. Do not cut MDF in school due to excessive levels of irritating dust. MDF is hard on dust still irritates.	Medium	
MDF dust	Pupils, staff	Caution with MDF. Do not cut MDF in school due to excessive levels of irritating dust. MDF is hard on dust still irritates.	Medium	
Splinters – infection risk	Pupils, staff	- Avoid working with very splintery wood - Adults to sand very rough edges, if necessary, first before children use wood - Children to initially sand any rough edges, or sand after saving if rough	Low/high	
Injury to eye from nail rebound, debris in eye	Pupils, staff	- Safety glasses <u>always</u> to be worn. - Children that already wear glasses to keep those on and avoid goggles if excessive dust.	High	

Risk Assessment for Sewing and Textiles

Hazard / Risk e.g. slip/trip hazards, electricity, equipment/activity related hazards	Who is at risk?	Current Controls in Place Are they adequate? Is the risk reduced as far as possible?	Level of Residual Risk Low, medium, high or very high?	Additional measures to control the risks
Needle stabbing injury during use	Pupils, staff	- Children to be taught to watch the needle carefully and to negotiate their fingers away from the sharp end. - Needles to be placed safely in the fabric when not in use for a brief amount of time. - Number of needles out to be counted, so all can be returned to the pot safely. - Pupils to sit whilst sewing.	High	
Carelessness with needles	Pupils, staff	- Pupils to be explained rules of sewing and risk assessments should be created or shared with the pupils. - Any negative behaviour to be explored following school policies and if necessary, the pupil to be removed from the activity.	Low	
Cut from scissors when snipping fabric or thread	Pupils, staff	- Scissors to be used whilst sitting on a chair with all 4 legs on the floor. - Scissors to be appropriate for the age group using them and should never be sharp enough to slice - Scissors to be held in the correct manner and carried with a closed fist when moving around the room. - Scissors should be used with high levels of supervision. - Appropriate fabric should be used to ensure it is not too tricky to cut and manipulate. - Long lengths of thread should be discouraged. - Pupils told not to thread cotton/wool threads around their fingers/body part as they work, especially if on the sewing machine. - If completing a woolly web, ensure wool is not wrapped around feet whilst stepping around.)	Medium	
Finger or body part trapped in thread	Pupils, staff	- Train the children to point away from the body. - Pupils must sit whilst attempting to unpick and have a clear space in front of them so the unpickers does not catch out.	Low	
Choking or inhaling stuffing	Pupils, staff	- Pupils to use stuffing in an open space - Pupils must always be supervised to ensure there is no consumption of stuffing - Appropriate stuffing must be purchased to ensure it is safe for pupil use. - Inhaling is an issue as tiny fractions of stuffing do fly off, you can feel them as you breath if working with stuffing for a longer period of time.	Low	
Injury from sewing machine	Pupils, staff	- Teach all users how to lift machinery - Train users how to touch the machine safely, ensuring fingers and hair is clear of needles/pedals and moving parts. - Unpick machine when not in use – ensure it is safe to use and there is no damage to cables – ELECTRIC SHOCK RISK.	Medium	Eye protection can be worn

General advice		- One pupil to use a machine at a time with adult supervision. - Site machine with good spacing on no risk of tripping over wires and cords or getting tangled in other classroom apparatus. - Provide a good rest for the pupils and adults to use whilst working – correct height and stability. - Use guard if there is one available. - Flying needle parts – sewing machine may break needles, ensure other pupils are far away and pupils using it are protected as much as possible.		
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Risk Assessment for Cooking and Nutrition

Hazard / Risk e.g. slip/trip hazards, electricity, equipment/activity related hazards	Who is at risk?	Current Controls in Place Are they adequate? Is the risk reduced as far as possible?	Level of Residual Risk Low, medium, high or very high?	Additional measures to control the risks
General hygiene	Pupils, staff	- Pupils taught the need for personal hygiene - Ensure that warm water, soap and towels (disposable) are available. - Cuts etc. are covered with waterproof adhesive dressings. - Tie back long hair. - Aprons are kept clean and washed between use / use of disposable aprons - Nail varnish is removed. - Aprons to be removed when pupils are visiting the toilet during lessons. - Pupils are taught about not sneezing/coughing into food e.g. into a tissue or elbow. - Long varnishes spent for ventilation where possible.	Medium	
Food contamination (food poisoning)	Pupils, staff	- Warn staff member have an up to date food hygiene certificate - Pupils are instructed on the significance of hygiene in the kitchen – e.g. the importance of washing hands with soap and water after handling certain foods like raw meat, or after sneezing, etc. - Different coloured chopping boards for different food types (or if all same colour, use separate boards to avoid cross contamination?) - Store food correctly in the fridge. - Ensure food is clearly labelled. - Separate chopping boards and utensils used for raw and cooked foods. - Chopping boards and utensils used for raw food are washed up last. - Equipment, including cutlery, should be stored in secure, clean conditions and used only for food preparation. - Ensure ovens are the correct temperature. - Check dates on food (use by, best before, etc.) - Once opened, food packaging should be appropriately sealed and kept for the recommended time on the packet.	Medium	
Flammy or hot food coming into contact with raw food	Pupils, staff	Once opened, food packaging should be appropriately sealed and kept for the recommended time on the packet.	Medium	
Burns	Pupils, staff	- First aid kit in kitchen, qualified First Aider on site - Fire blanket/CO2 extinguisher located in kitchen/hearby - COSHH risk assessment in place for cleaning products. - Pupils instructed in how to use oven safely (if applicable) - Ensure correct supervision from a teacher/member of staff. - Check ovens and hobs are correctly turned off at the start and end of all sessions. - Ensure clevers are rolled up when using a hob. - Use a flameless hob where possible.	High	

Cuts	Pupils, staff	- Ensure pupils know how to use heat sources correctly. - Ensure pan handles are turned inwards away from pupils - Ensure correct cooking utensils are used e.g. non-heat conducting - Ensure oven gloves are used. - First aid kit in kitchen, qualified First Aider on site - Pupils should receive correct education and training for age-appropriate knife skills. - Use bridge and claw technique. - Use snapping technique. - Correct size and sharpness of knives are used. - Knives are kept in a locked draw, box or cupboard. - Soft foods are used when learning knife skills. - Use of knives is supervised by an adult if required. - Pupils are aware of how to manage cuts. - Blue plasterers are kept in the first aid box in the cooking room/easily accessible during cooking lessons. - Pupils are aware of how to manage cuts. - Boil graters are use on a flat surface. - Craving is introduced using appropriate tools (e.g. heat or soft). - An ingredients check after has been issued to pupils at the start of each year/term. - Members of staff have a record of pupil allergies or dietary needs. This is accessible during cooking lessons. - Staff have received training on allergens and how to manage allergic reactions. - Allergies and dietary requirements are included in the whole school food policies a stand-alone policy. - Recipes are adapted to ensure they are safe and inclusive. - Lesson plans and recipes have key allergens listed. - Staff check labels and packaging for allergens.	Medium	
Choking, allergies, intolerances	Pupils, staff	- Craving is introduced using appropriate tools (e.g. heat or soft). - An ingredients check after has been issued to pupils at the start of each year/term. - Members of staff have a record of pupil allergies or dietary needs. This is accessible during cooking lessons. - Staff have received training on allergens and how to manage allergic reactions. - Allergies and dietary requirements are included in the whole school food policies a stand-alone policy. - Recipes are adapted to ensure they are safe and inclusive. - Lesson plans and recipes have key allergens listed. - Staff check labels and packaging for allergens.	Low	
Tip, slip, fall	Pupils, staff	- Chairs are safely removed from tables/locked under - Bags and coats are removed from cooking areas. - Splashes are reported to a member of staff and cleaned promptly - Pupils are reminded to move around the classroom safely e.g. walk. - There is a visual check to ensure all walkways are clear, no obstructions, etc. - Well floor signs are available.	Medium	

Risk assessment – Construction using toys

Hazard / Risk e.g. slip/trip hazards, electricity, equipment/activity related hazards	Who is at risk?	Current Controls in Place Are they adequate? Is the risk reduced as far as possible?	Level of Residual Risk Low, medium, high or very high?	Additional measures to control the risks
Toys general – impact to hands or body parts	Pupils, staff	- Walk when transporting toy boxes safely - Instruction on how to use toys safely - Ensure toys are regularly checked – e.g. no sharp or broken parts. - All Equipment to remain in dedicated area e.g. not off over the floor having fallen off the table.	Low	
Injury from being caught on a toy or from a toy being dropped	Pupils, staff	- Ensure toys are regularly checked e.g. no sharp or broken parts. - Toys not to be stored too high. - No toy to be too heavy for the children who are intended to use it. - Shoes to be worn.	Low	
Choking	Pupils	- All toys to be checked for choking possibilities - EYF's children in particular to be highly supervised when using smaller toys that could get stuck if swallowed. - Clear expectations for all regarding putting things in mouths - Higher risk with playdough - Staff to be aware of children with potential Pica (Eating Disorder (a need to put things in their mouth)) - Staff to be first aid training to provide emergency assistance if needed.	Low	
Tall from height / injury from toy falling	Pupils	- All outdoor larger DT equipment including construction to be checked prior to session - Long lengths of thread should be discouraged - Children with SEN	Low	
Children with SEN	Identified children	- Higher supervision ratio. (1:1 if necessary) - Differentiation to the activity – take into consideration the progression of skills and their abilities. - Take into consideration sensory needs and make adjustments as necessary. - Encourage peer on peer support and trial and error – pupils learn best by doing. Try to encourage independence. - SEND in other curriculum areas does not always mean SEND in DT, please be aware when planning and executing lessons.	Medium	

It is also worth mentioning that key knowledge for pupils in Modelling leading to Woodwork highlights the use of safety when using tools.

Some DT projects require writing elements. It could be a detailed plan, research or an evaluation. Pupils are encouraged to completed a DT write with the same high expectations as an English lesson. Adults will mark against the success criteria and pupils will be encouraged to reflect on their own written work.

Science and Maths are closely linked with DT. Often pupils will need their science or maths skills to unpick research, to measure or weigh, to experiment or to evaluate. Pupils may also take part in STEM week challenges when we have a specialist focus.

How does Burton enrich pupils DT learning beyond the classroom?

MER shows a really positive picture of the quality of learning. Pupils have been observed fully engaged in the challenges they are being set. They are meeting the learning outcomes and exceeding them at points. Pupils are challenging themselves to enhance their skills and they are taking their learning home with them. One example of this is linked to the current year 5 and 6 cooking, several parents contacted the school after to find out the recipe for the vegetable soup and the bread rolls because the children absolutely loved what they had made.

Pupils are often coming to tell me about the builds they have completed in DT or at home. They know I am the subject lead for DT and when they see me around school they are so excited to share their creations. I have even had pupils bring in photos of home builds.

We are very fortunate Forest Schooling totally enriches our pupils DT experiences. The plans in place currently run alongside our DT curriculum, so pupils are getting two opportunities to experience tools and equipment safely.

Does the DT curriculum equip pupils with the knowledge that they need to succeed in life?

The DT curriculum at Burton is engaging and stimulating. Where possible it will be taught as part of cross-curricular learning themes. However, some units will be standalone projects to be taught to ensure appropriate progression and coverage of a range of skills and techniques.

The pupils will also take part in a six-week programme of Forest Schooling. This will be additional to the school' DT teaching and will over use of many tools, building techniques and outdoor construction.

Where appropriate, outside agencies are involved in design projects. Pupils are encouraged to seek advice and question to gain a greater understanding of the challenge ahead of them.

All learning will be based on individual needs.

I feel the vast experience, the characteristics of learning we encourage and the breadth of study will equip pupils for future life. So many jobs require DT as a fundamental skill. Looking at research, it would seem the industry has over **2 million employees** and currently generates **more than £100 billion a year**.

A quote from the National College representative suggests, **"The job of a teacher us to develop designers, engineers and technologists and unlock their potential."** Teachers have to **"instigate a discussion about jobs and skills that design and technology develop."**

When you unpick the skills needed for DT you can see the foundations for many jobs.

How do we consider the needs of SEND and disadvantaged pupils through DT?

All pupils at Burton take part in all DT projects. There is a differentiation for all subjects and DT is no different. Pupil's abilities are taken into consideration during planning and expectations for the task are set to meet the pupil's needs.

I have observed many one-to-one activities within the school. This has included: sewing, building and sawing. On the other hand, I have also observed pupils being encouraged to take up a challenge independently.

Our provision provides the pupils with opportunities to continually develop Design and Technology skills. Positive teaching and learning of DT runs through every lesson and pupils are encouraged to explore and investigate for themselves. One example of this is Mrs Otton's 'Three before me' policy in her DT lessons. She actively encourages the children to try and solve their own problems or improve / amend their project as necessary.

SEND pupils are highlighted in planning. If additional resources or equipment is needed, this is arranged in advance. An example of this could be when sensory touch needs are taking into consideration for projects. Those children who do not like getting dirty hands or who do not like the feel of substances are given opportunities to work in gloves or use an alternative material e.g. substitute clay for plastercine that does not stick to skin.

Disadvantaged pupils are able to complete all DT challenges alongside their peers. As the curriculum is continuously developing their skills their personal experiences should not impact their learning. However, it must be noted if they were to join in EYFS the pupils would have had the same opportunities to explore DT many times as they travel through the school; although, if a child was to join us half way through their schooling, their potential missing experience would be taken into consideration and more support would be put in place to ensure they were able to meet the expectations of the DT curriculum.

Challenges are set of A&T pupils. With the progression of skills set the way they are, teachers are able to see what comes next in the strand. Pupils are encouraged to think deeply when researching, designing and evaluating. Pupils who are A&T may be given further research challenges or encouraged to add an additional element to their project.

I would like to note a child with SEND or a A&T child may not have the same level of ability at DT. The subject ability often depends on characteristics of learning and love of the subject.

An example of this would be when I witnessed, within a year 3/4 lesson, a very A&T pupil very frustrated by a build she was attempting. The elastic bands would not work the way she wanted them to. The pupil in question found many things easy and her frustration came because she was not used to having to persevere.

Another example would be when I was in a year 6 lesson. A SEND pupil was thriving building a Mayan Mask. She had brought things in from home and was independently adding Modroc to her mask. I witnessed her supporting other pupils, refining her work as she created, problem solving and reflecting on technique.

It also should be noted Design and Technology features highly in Dolphins classroom. The SEND team like to plan in sewing and making projects for their pupils. They say that sewing is very therapeutic and that Lego therapy has been very successful in previous years.

What are the gaps in the pupils' knowledge and skills? How is the curriculum sequenced to address this?

As a subject leader, I felt the research and evaluation element of the DT curriculum needed developing. Pupils experienced a great variety of DT challenges during their journey through school; however, MER suggested that sometimes time pressures meant that the evaluation process was quickly covered or missed completely on occasional projects. Bigger builds and standalone projects were always given the time needed to reflect, however, some quicker projects did not allow for this process.

To rectify this when I revamped the medium-term planning for DT I added in many lessons before the build where the pupils were able to evaluate professional makes. We explore designers from different cultures, countries and backgrounds so the children are experiencing real life DT. The children then use their in-depth knowledge to make their design.

For example, before creating a soup year 5 and 6 tasted many shop brought brands. We ensured we looked at chefs from around the world, tasted food from different cultures and looked at how some brands had had an impact on industry. Pupils also looked closely at ingredients, worked out what often bulked up the soup, spoke about why that happened and even selected the flavours they liked best. By the time they came to create their soup they had a great knowledge of what elements they needed to add to their design. These personalised soups then made the tasting process much nicer as they had only added elements they liked.

MER had suggested that pupils were loving DT when they were able to cover it. There was always a positive focus to all DT lessons and, as mentioned previously, pupils were keen to take their learning home to extend it. However, as a subject lead I was often having to push for DT to be covered in the increasingly busy timetable. Sometimes it would be squashed into a smaller amount of time, just to tick that it had been covered. Pressure on teachers to meet other expectations always has its consequences and sometimes DT was the victim of this.

However, since the introduction of the new medium term plans, I can confidently say DT is getting the quality, time and expertise that it deserves. I have always known and lead with a positive attitude to the importance of my subject. It is lovely to see this has spread to staff who now often approach me to say how effective the learning has been and how keen the pupils are.

The next gap that needs filling is for some elements of DT to be more individualised. In most cases pupils do work alone and create their own products; however, some things lend themselves to be a group challenge. I was thrilled to see Year 3/4 create 90 individual pizzas all made to the pupil's tastes. The children were delighted with their make and thoroughly enjoyed eating them. However, when Year 5/6 were creating trifles, the children were asked to work in 3's or 4's. This meant the designs couldn't individualised. The children all experienced the skills and knowledge section, but not the design part of the expectations. One pupil told me how they were sad that his group would not put Dream Topping on their trifle, so he ended up with sponge fingers, jelly and custard!

To combat this happening again, I have made design and pupil individuality a priority; it is on my action plan for DT 24/25.

How do we ensure assessment is appropriate?

All teachers use the Progression of Skills and Key Knowledge documents of DT to monitor and assess. Evidence should be marked like any other subject. Children should be made aware of the skills they have acquired and key knowledge will be repeated and consolidated.

In the school annual report to parents pupils are assessed on the set criteria and judged emerging, expected or exceeding expectations.

I am not expecting teachers to assess pupils for DT in the way other subjects are assessed. When I ask teachers after each project who needed support and who exceeded expectations they are always able to discuss their pupils.

As mentioned previously, a child with SEND or a A&T child may not have the same level of ability at DT. The subject ability often depends on characteristics of learning and love of the subject.

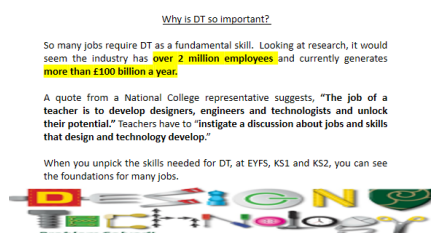
What training and support is available for all staff?

Since being subject lead, I have lead several staff meetings on DT. These have covered the 4 strands of learning, possible ideas to cover them and the National Curriculum expectations of DT related to design, finish and evaluation. Staff completed DT challenges, including building with the Lego Wedo and practicing hammering tasks which are easy to implement as a quick standalone DT skills lesson.

Recently, I was able to lead the staff on the new DT curriculum. I expressed the importance of DT and spoke about the need for our pupils to have a solid foundation in all areas of DT for their future careers.

I began by talking about what programmes we watch on TV as staff. I put up programmes such as: The Great British Bake Off, The Sewing Bee, Scrapheap Challenge, Lego Masters, Master Chef. I highlighted that we spend our free time watching people complete DT challenges. I then mentioned my hobbies, using my sewing machine, baking, Lego and spoke about these things being my favourite thing to do, but I often don't have time to do them.

I then moved onto the new plans for the school. Each team was given an updated copy of their plans. We spoke about the progression of skills and key knowledge. I asked the teams to think about where they plan to add their units and gave time to practice the woodwork element of their build.



Cooking and Nutrition in Burton School

How do we make and shape biscuits? Christmas biscuits Autumn 1 Cycle A and B	What preparations need to be made to make a good sandwich? Artisanal sandwich Summer 2 Cycle B	What is the most popular pizza topping? Pizza	How can we make soup as healthy as possible? Vegetable soup
What happens when things melt? Easter nests Spring 2 Cycle A and B	What fruits make the best smoothies? Fruit smoothie Autumn 1 Cycle A	Is salad just a plate filler or can we make it delicious? Salad	How do we make a delicious trifle? Summer trifle
	Can you jam on jam or cream on cream? Scones	Golden Time – Microwave Mug cake	
	What makes a good cake? Cupcakes		

Cooking and Nutrition in Burton School

Sewing and Textile in Burton School

How can we make a sock into a snuggly toy? Jock Toting Autumn 1 Cycle A and B	How do I sew and make my work neat? Sea creature toy Summer 2 Cycle B	What is the purpose of a purse? Purse making	How can we manipulate a needle to create neat stitches? Cross stitch river Summer 2 Cycle B
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Modelling leading to Woodwork in Burton School

What can I do to a pumpkin to make it look different? Pumpkin carving Autumn 1 Cycle A and B	How do we stay safe in the dark? Halloween jacket Cycle B	How can we make paper fly? Trebuchet building	What makes Christmas decorations so special? Wooden decoration Autumn 2 Cycle A
Where do splinters come from and how can I make them disappear? Skills reason – sandpaper practice	What skills are needed to join wood? Skills reason – nuts, bolts, screwdrivers	What helps vehicles to move? Junk modelling vehicle Cycle A	Pneumatics or hydraulics to be confirmed
How can we make a caterpillar wiggle? Caterpillar joining Spring 2 Cycle A and B	Junk modelling challenge Cereal box creation Spring 2 Cycle A and B		

Construction using toys in Burton School

How can we get the lady across the river safely? Strong bridge Summer 2 Cycle A and B	What exciting things can my magical machine create? Road car launch	How can we make Lego move all by itself? Lego Vexco	Not Lego Vexco second set. Currently no plans in place
What makes a strong wall? Interlocking Lego bricks Summer 2 Cycle A and B	How do I make a car out of toys? Pneumatics or Lego car Summer 2 Cycle A and B		

Modelling leading to Woodwork in Burton School

Construction using toys in Burton School

Time to reflect on your new plans.

Look for resources to see if everything is here you need for this cycle, especially for cooking or woodwork. Please let me know asap so I can order soon.

Please build your woodwork challenge. See if you feel it is suitable for your children. Do I need to consider any more safety precautions? Are there any specific children you would like me to be aware of that might need different provision.

For staff who need support I am available to lead lessons or attend as an additional adult. The National College provides online training which all Burton Staff can access. I would recommend the 'Primary Design and Technology: A Deep Dive into curriculum intent' training. This provided a solid base for my subject leadership and showed me how important DT really is for our pupil's future life.

What timetabling rational is in place?

Across the school year teams have been given plans to use within their cycles. There is no specific amount of time for DT. However, I have set out a number of lessons for each strand, I expect the children to have all lessons taught with adequate time allocated.

EYFS cover all plans every cycle as they only have their pupils for a year. All strands need to be covered sufficiently with expectations for the pupils increasing as the year develops. As mentioned above DT is a daily occurrence in EYFS.

KS1, LKS2 and UKS2 have plans to fit in within the two-year cycle. Cookery and Nutrition must be covered each year. The other strands are placed within topics where they are most appropriate e.g. sewing a sea creature in Under the Sea, wooden decoration at Christmas, trebuchet building during Roman Rule.

When is the quality of DT discussed by SLT and the Head?

I am supported in Design and Technology by Julia Kolbucaj as an SLT member and Melanie Browning as Governor. I was previously supported by Sarah Steel as Deputy Head.

We meet regularly to discuss DT and its progress. Sarah, Julia and Mel know I have a passion for DT and trust that I am leading my subject with knowledge, confidence and ability. We often discuss action plans, future development and teaching and learning across the school.

Curriculum development has been a focus for the whole school, SLT and Alison Timmings are very involved in the development of all subjects. We are given time to talk about our subjects in staff meetings, time is allocated for us to monitor provision, talk to pupils, visit lessons and liaise with year teams during the school day.

I have had the opportunity to share DT provision within a Governors meeting in the last few years. I was able to show examples of work and discuss provision.

Final thoughts

I feel I have a real grip on Design and Technology as a subject. I have good evidence base of DT carried out within the school and have worked closely with the year teams on the planning.

Teachers at Burton School have high expectations and enthusiasm for DT; an advanced level of skills in construction, planning and evaluation. They are confident in passing on their skills to the pupils. They will allow the pupils opportunities to be independent in their research, design and construction enabling pupils to be imaginative and creative.

The 4 strands of learning were chosen as I felt these were key to the subject and pupils needed to be taught skills in all of the 4 strands to prepare for KS3 and the future. Adding the 'underpinning skills' alongside the 'progression of skills' and 'key knowledge' ensured that research, design and evaluation were as important as making the product itself.

Our whole DT curriculum is based on the children actually practicing skills and techniques. Pupils plan, design and evaluate from EYFS. Our provision map shows diverse and exciting challenges in each key stage.

When reflecting on some of the strands it was clear to see that pupils were naturally going to experience some elements of DT in their experiences. e.g. peeling an orange, slicing and buttering bread, construction within their play; however, some elements need specific skills modelled and practiced. This is where our DT teaching comes into play and must celebrate the importance of creation, with pupils taken into account, any parameters, possible options and finding solutions where necessary.

The evaluation process also needs guidance from us as teachers. Sensitivity and questioning are equally as important in the evaluation process. It is not about finding fault; it is about finding out what works and how it could be even better. The ability to critique with compassion links with the school's Christian values. Pupils will learn to reflect on theirs and others builds.

I am very proud to be the leader of Design and Technology. As I walk around school I can see evidence of many wonderful projects. Pupils are experiencing design in all forms are very proud of what they active.