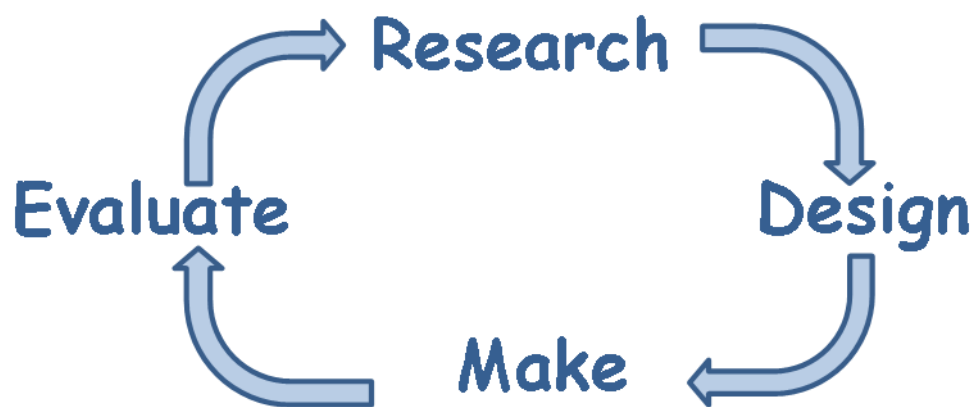


Design & Technology Subject Leaders Resource Pack





Design & Technology SL Resource Pack

This, and subsequent resource packs, have been designed specifically to support the work of subject leaders for the foundation subjects (Art & Design; Computing; Design & Technology; Geography; History; MfL; Music; PE; PSHE and Science) in primary schools.

The structure of each resource pack follows the same format:

Part A: Resources & NC Requirements

This includes:

- a list of key websites, including those of the professional subject association;
- key publications to support the subject leader, and
- a brief statement of curriculum intent

Part B: Best practice as identified by Ofsted

This provides numerous examples of what were 'recently' described as best practice in teaching & learning in Design & Technology in primary schools. They provide excellent examples for sharing out amongst class teachers as well as for subject leaders to audit their own school's provision against.

Part C: Design & Technology - Good (in 'old' money)

This outlines, albeit from 6 years ago, the last time that Ofsted wrote a set of subject specific criteria to complement the 'generic' whole school criteria in the then Inspection Framework. Whilst there is now a new Inspection Framework (May 2019) what was 'good' learning & teaching in design & technology (in this instance) in 2013 is clearly still 'good' design & technology learning & teaching today.

I have taken the criteria for 'good' as a starting point, not as a deficit model, i.e. not using 'outstanding' but, because I make the assumption that all teachers and pupils want to have a good days learning & teaching. If both a subject and senior leaders' evaluation is that provision meets the criteria for 'good' then there is every good reason to refer to the criteria for 'outstanding'. The subject specific criteria for Outstanding (from Dec 2013) are included in Annex 1.

Part D: Design & Technology: Quality of Education

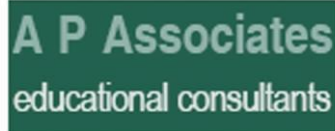
This template includes the current 'good' criteria for the Quality of Education judgement along black columns for the SL / SLT to insert where they perceive is a best-fit with the 'old' subject specific criteria along with their own internal evidence.

As such it serves two purposes, one as a CPD activity to consider the match between the 'old' subject specific criteria and then 'new' criteria and secondly to benchmark / evaluate the school's provision against this.

Part E (exemplar) is my initial interpretation of a best-fit between the old and the new.

Annex 1: Design & Technology – Outstanding (in 'old' money)

Annex 2: Progression in D&T - exemplar



Part A: Resources & NC Requirements

Links

- The Design & Technology Association
<https://www.data.org.uk/for-education/primary/>

(Membership: School £88 / annum – Individual: £44 / annum)

- The National Association of Educators in Art & Design
<http://www.nsead.org/home/index.aspx>
- The Educational Technology Association
<https://www.naace.co.uk/>

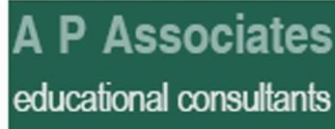
Resources

- Support materials for D&T subject leaders:
<https://www.data.org.uk/resource-shop/primary/subject-leader-support/?o=#pager>
- The Really Useful Primary Design and Technology Book (Routledge)
- Teaching Design and Technology Creatively (Learning to Teach in the Primary School Series) (Routledge)
- Mastering Primary Design and Technology (Mastering Primary Teaching) (Bloomsbury Academic)

Through the study of Design and Technology pupils learn to think and intervene creatively to solve problems. Pupils are expected to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Wherever possible learning in D&T will be linked to other subjects e.g. mathematics, science, (STEM), computing and art. Pupils will also reflect upon and evaluate past and present features of D&T. They will consider its uses and its effectiveness.

Pupils will design, making and evaluate a range of products to solve real and relevant problems. They will be expected to select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.



Design and technology programmes of study: key stages 1 and 2

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/239041/PRIMARY_national_curriculum_-_Design_and_technology.pdf

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 on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

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

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

Subject content

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, pupils 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, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:

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

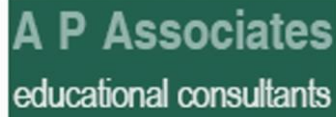
- ♣ select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- ♣ select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their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



Summary self-evaluation

Summary:

The key strengths in:

Teaching, learning & assessment in Design & Technology are:

The Design & Technology curriculum are:

The main areas we need to develop in:

Teaching, learning & assessment in Design & Technology are:

The Design & Technology curriculum are:

Signed:

Date:



Part B: Best practice as identified by Ofsted

The last time Ofsted reported specifically on Design & Technology¹ (2012), they stated that:
Schools should:

- ensure that teachers have regular high-quality training to teach pupils how to use ICT in D&T, particularly control systems, and to enable older pupils to use tools and equipment safely
- improve the use of assessment of pupils' progress in D&T, ensuring that pupils know how well they are doing and what they should do to move on to the next level.

Good teaching was characterised by:

- detailed lesson planning which made good use of available time, met pupils' needs and developed their learning
- adapting work to offer suitable challenge to all groups of pupils, including the more able
- effective use of resources to support learning and particularly to support pupils' investigations, testing and analysis of products
- questioning to challenge pupils' thinking, particularly about the function of products and the needs of users
- well-managed discussion in lessons to include all pupils' views
- teachers' high expectations, and accurate use and modelling of subject specific terms and technical language
- inclusive approaches that met the needs of individual pupils, including those with special educational needs and/or disabilities and those at early stages of learning English as an additional language
- maintaining interest and relevance by linking D&T tasks to pupils' interests, establishing real contexts for their work, and building upon their knowledge and skills in other subjects.

Best Practice examples

A: *Excellent planning by Reception class staff enabled children to work independently to make banana bread. Staff developed a production line and each stage of the recipe was broken down into simple written and visual steps. As children came to each stage, they acted on the instructions: for example weighing ingredients, cracking and mixing eggs, mashing bananas and, finally, ensuring that their mixture was poured carefully into the tray ready for baking. Adult supervision was unobtrusive, but readily available to provide further support if needed, and at critical points in the process.*

B: *There was a strong sense of purpose in the way children worked in the Nursery and in the products they made, although this often evolved as children thought about what they were doing and were influenced by the excellent resources. For example, one girl made a shelter, which became a home, and later evolved into a bat cave to match her Batman outfit. As its purpose changed, she made small adjustments to the structure she had created.*

C: *The brief was simple: 'Provide your animal with a home with food and water, a sleeping area and an area for exercise. There must be a door that opens and closes securely to keep your animal safe.' Pupils' thinking was informed by investigation into the needs of their chosen animal and the technical problem of making the home secure. Their efforts resulted in good homes for snakes, elephants, guinea pigs and*

¹ Meeting technological challenges? Design and technology in schools 2007–10 (2011)
July 2020

rabbits. While the possibility of escape by some animals remained a concern in some models, most children had solved this with an effective fastening device.

D: *Pupils in Year 5 who create moving toys gain a very clear insight into components such as slider, follower and shaft in cam systems. They understand the functions of circular, eccentric, drop and pear-shaped cams. In Year 6, pupils gain a very good understanding of simple elements of parallel and series circuits and gear ratios. They use kits to model the work before developing their controllable vehicles, some of which have pulleys arranged to give suitable gearing and a parallel circuit to work both motor and lights. They are able to put this work into a wider perspective as they visit the nearby farm tractor museum to study transmission systems.*

E: *Year 2 pupils were making cushion covers using batik and a sewing machine. They were dependent on the adults around them for support because of health and safety issues, but had no previous experience of batik to inform the design of their covers. This meant that they developed intricate pictures drawn in wax that did not work well. Similarly, pupils in Year 3 made puppets using Modroc.³ They were expected to design them having never used Modroc before. In addition, they had no opportunity to practise with it, so the success of the finish was less than it should have been. Pupils and teachers were content with work that did not sufficiently build on past standards. So, for example, the quality of junk modelling in Year 4 had not advanced much further than when the pupils were in the Reception classes. Although measuring skills were encouraged, particularly in Years 4–6, the quality of finish of a lot of the work was undermined by inaccurate measuring. For example, when Year 5 pupils were constructing greenhouses to grow seeds, many of the materials cut to cover the wooden frames were ill-fitting because of simple measuring mistakes.*

F: *A Year 2 class considered how a Roman soldier might move, the situations he might encounter and what this meant in terms of developing the criteria for a fastening device to hold his cloak securely. A wide range of teaching and learning strategies were evident in each classroom. Well focused questioning, imaginative use of role play, and good use of products and collections of artefacts helped pupils analyse how products work and supported their excellent designing and making. Pupils' responses to teachers' efforts were unequivocal as they were securely developing independence and becoming reflective learners: 'It's fun, we enjoy designing and making.' 'It is difficult to get your product just right, like you imagine it to be. I am learning to plan deeply each stage of making. As you get older, you make more decisions about materials.'*

G: *Pupils were provided with an impressive array of bread products from the local bakers and from larger supermarkets which cater for a more culturally diverse population than is present in this rural village community. Breads were selected on the basis of different methods of production. The pupils were exposed to a rich range of tastes, textures, smells and shapes of bread during the tasting session. They used all their senses to support their investigations and produce a very wide range of descriptive words to illustrate their experiences. All pupils accurately used the star chart method (to test and rank in order) to identify the bread with the best characteristics of taste, texture, smell and costs. The experience of a volunteer grandparent was used to extend pupils' learning further. She explained about the range of bread products available when she was their age and her experience more recently. They were amazed that today was the first time in her long life that she had seen such a wide range of breads.*

H: *Working in groups, pupils were challenged to develop and improve the functionality of the bridges they were building. The focus on function arose from the earlier class discussion and evaluation. Pupils applied their earlier knowledge in a focused way to explore, test and answer the following key questions as the lessons proceeded.*

- *What type of mechanism will open and close the bridge?*

- When making the prototype bridge, how you can strengthen the bridge so that it will hold a greater weight?
- What type of support between the two beams will make your bridge sturdier?
- What materials would be used when making a real beam bridge?

I: Key Stage 1 pupils had produced individual plans to support them in making a fruit salad. Working in pairs, they tasted them and analysed the results to find the most popular, flavoursome salad. The teacher's assessment record identified the things that all pupils could do, with annotations next to each pupil's name identifying the strengths demonstrated. They showed for example that: 'Nathan is now confident in planning'; 'Rebecca has a good understanding now of what a pictogram is and how it is constructed'; 'Andrew was very good at talking about where fruits come from and gave excellent instructions when working with a partner'. The lesson plan also set out the next challenge for each of these pupils.

J:

J: Pupils in Years 5 and 6 were commissioned by the company to develop new packaging. As part of an initial investigation, 10 pupils visited the company site with a teaching assistant to find out more about the company and its existing product range. A video conference link between the school and the company was established for the lesson. Pupils in school listened attentively and watched how a mock-up package is scaled up to the actual size. Factory staff explained how CAD and CAM are used. Pupils asked good, well-focused questions: for example 'What training do people have to use the machines?' 'Is the factory designed in a specific way to aid production?' 'Can you give us some examples of products you have made?' A lot of information was given in response and teachers had already wisely planned to record it so that pupils could review it later. Pupils watching in school asked for close-ups of the products, and for digital photographs to be taken. The video conference made a good contribution to pupils' learning.



Part B: Design & Technology - Good (*in 'old' money*²)

Achievement

- Pupils understand the working characteristics and properties of the materials they are using and why one material, ingredient or component is better suited to a job than another.
- Pupils work with increasing independence in developing their work, and demonstrate resilience in solving design problems and technical challenges.
- Pupils understand how to carry out high-quality tests before attempting to improve their products and realise their plans accurately and safely.
- The suitability for users is embedded in all aspects of their designing and making.
- Pupils analyse and use their research effectively to support their designing and to test the effectiveness of their products.
- Pupils apply their knowledge of science and mathematics to inform their designing and making.
- They talk confidently about their technological ideas, and present information and plans effectively by writing, drawing and using annotated sketches.

Teaching

- Teachers are enthusiastic about the subject and communicate the value of D&T to pupils well.
- Pupils with different starting points to make equally good progress, due to teachers having a confident level of specialist expertise and using this effectively to plan purposeful lessons and schemes of work.
- Teachers use questioning and manage discussions skilfully to check pupils' understanding and to challenge their thinking.
- Practical skills and designing strategies are taught effectively to make potentially difficult concepts and skills accessible for all pupils, and promote good learning across all aspects of D&T.
- Pupils take responsibility, persevere with design problems, and are supported and challenged to be innovative and creative.
- Teachers make effective use of support staff and plan and manage time and resources such as tools and CAD/CAM equipment effectively, so that pupils' learning proceeds at a good pace.

² Ofsted. Dec 2013
July 2020

Curriculum

- Opportunities are secure for pupils throughout the school to design and make products in response to real problems for real clients.
- The curriculum is well resourced, coherently planned and is responsive to pupils' prior learning, including for pupils transferring from primary to secondary schools.
- Curriculum planning ensures that pupils have extensive opportunities to develop their understanding of how products are made in industry and to learn how to make more than one product, component or batch of products.
- Links with other subjects in the school strengthen pupils' achievement in D&T.
- Opportunities to promote pupils' SMSC development are planned and delivered systematically.
- A broad range of designing and making clubs, competitions, visits and visitors enriches and enhances pupils' learning.

Leadership & management

- Leaders have a clear vision for the subject that is well informed by current developments in D&T and communicated effectively to staff, pupils and parents.
- Subject reviews, self-evaluation and improvement planning are clearly focused on raising standards and improving the provision for D&T.
- Pupils' and parents'/carers' feedback is used regularly to improve and develop D&T, to keep it relevant and accessible to all.
- There is a shared common purpose among those involved in teaching D&T with good opportunities to share and to refresh practice through regular subject training.
- Good planning ensures that accommodation, resources and safe working practices support learning effectively.
- The subject makes a good contribution to whole- school priorities, including literacy and numeracy policies.



Part C: Design & Technology: Quality of Education

INTENT		
NEW HANDBOOK	EVIDENCE	OLD SUBJECT CRITERIA
Leaders adopt or construct a curriculum that is ambitious and designed to give all pupils, particularly disadvantaged pupils and including pupils with SEND, the knowledge and cultural capital they need to succeed in life. This is either the national curriculum or a curriculum of comparable breadth and ambition. <i>[If this is not yet fully the case, it is clear from leaders' actions that they are in the process of bringing this about.]</i>		
The school's curriculum is coherently planned and sequenced towards cumulatively sufficient knowledge and skills for future learning and employment. <i>[If this is not yet fully the case, it is clear from leaders' actions that they are in the process of bringing this about.]</i>		
The curriculum is successfully adapted, designed or developed to be ambitious and meet the needs of pupils with SEND, developing their knowledge, skills and abilities to apply what they know and can do with increasing fluency and independence. <i>[If this is not yet fully the case, it is clear from leaders' actions that they are in the process of bringing this about.]</i>		

IMPLEMENTATION		
NEW HANDBOOK	EVIDENCE	OLD SUBJECT CRITERIA
Teachers have good knowledge of the subject(s) and courses they teach. Leaders provide effective support for those teaching outside their main areas of expertise.		
Teachers present subject matter clearly, promoting appropriate discussion about the subject matter being taught. They check pupils' understanding systematically, identify misconceptions accurately and provide clear, direct feedback. In so doing, they respond and adapt their teaching as necessary without unnecessarily elaborate or individualised approaches.		
Over the course of study, teaching is designed to help pupils to remember long term the content they have been taught and to integrate new knowledge into larger ideas.		
Teachers and leaders use assessment well, for example to help pupils embed and use knowledge fluently, or to check understanding and inform teaching. Leaders understand the limitations of assessment and do not use it in a way that creates unnecessary burdens on staff or pupils.		
Teachers create an environment that focuses on pupils. The textbooks and other teaching materials that teachers select – in a way that does not create unnecessary workload for staff – reflect the school's ambitious intentions for the course of study. These materials clearly support the intent of a coherently planned curriculum, sequenced		

towards cumulatively sufficient knowledge and skills for future learning and employment.		
The work given to pupils is demanding and matches the aims of the curriculum in being coherently planned and sequenced towards cumulatively sufficient knowledge.		
Reading is prioritised to allow pupils to access the full curriculum offer.		
A rigorous and sequential approach to the reading curriculum develops pupils' fluency, confidence and enjoyment in reading. At all stages, reading attainment is assessed and gaps are addressed quickly and effectively for all pupils. Reading books connect closely to the phonics knowledge pupils are taught when they are learning to read.		
The sharp focus on ensuring that younger children gain phonics knowledge and language comprehension necessary to read, and the skills to communicate, gives them the foundations for future learning.		
Teachers ensure that their own speaking, listening, writing and reading of English support pupils in developing their language and vocabulary well.		

<i>IMPACT</i>		
NEW HANDBOOK	EVIDENCE	OLD SUBJECT CRITERIA
Pupils develop detailed knowledge and skills across the curriculum and, as a result, achieve well. This is reflected in results from national tests and examinations that meet government expectations, or in the qualifications obtained.		
Pupils are ready for the next stage of education, employment or training. They have the knowledge and skills they need and, where relevant, they gain qualifications that allow them to go on to destinations that meet their interests and aspirations and the intention of their course of study. Pupils with SEND achieve the best possible outcomes.		
Pupils' work across the curriculum is of good quality.		
Pupils read widely and often, with fluency and comprehension appropriate to their age. They are able to apply mathematical knowledge, concepts and procedures appropriately for their age.		

Part D: Design & Technology: Quality of Education (exemplar)

INTENT		
NEW HANDBOOK	EVIDENCE	OLD SUBJECT CRITERIA
Leaders adopt or construct a curriculum that is ambitious and designed to give all pupils, particularly disadvantaged pupils and including pupils with SEND, the knowledge and cultural capital they need to succeed in life. This is either the national curriculum or a curriculum of comparable breadth and ambition. <i>[If this is not yet fully the case, it is clear from leaders' actions that they are in the process of bringing this about.]</i>		<p>The curriculum is well resourced, coherently planned and is responsive to pupils' prior learning, including for pupils transferring from primary to secondary schools.</p> <p>Curriculum planning ensures that pupils have extensive opportunities to develop their understanding of how products are made in industry and to learn how to make more than one product, component or batch of products.</p> <p>Opportunities are secure for pupils throughout the school to design and make products in response to real problems for real clients.</p>
The school's curriculum is coherently planned and sequenced towards cumulatively sufficient knowledge and skills for future learning and employment. <i>[If this is not yet fully the case, it is clear from leaders' actions that they are in the process of bringing this about.]</i>		<p>The curriculum is well resourced, coherently planned and is responsive to pupils' prior learning, including for pupils transferring from primary to secondary schools.</p>
The curriculum is successfully adapted, designed or developed to be ambitious and meet the needs of pupils with SEND, developing their knowledge, skills and abilities to apply what they know and can do with increasing fluency and independence. <i>[If this is not yet fully the case, it is clear from leaders' actions that they are in the process of bringing this about.]</i>		<p>Links with other subjects in the school strengthen pupils' achievement in D&T.</p>

IMPLEMENTATION		
NEW HANDBOOK	EVIDENCE	OLD SUBJECT CRITERIA
Teachers have good knowledge of the subject(s) and courses they teach. Leaders provide effective support for those teaching outside their main areas of expertise.		Teachers are enthusiastic about the subject and communicate the value of D&T to pupils well. Teachers use questioning and manage discussions skilfully to check pupils' understanding and to challenge their thinking.
Teachers present subject matter clearly, promoting appropriate discussion about the subject matter being taught. They check pupils' understanding systematically, identify misconceptions accurately and provide clear, direct feedback. In so doing, they respond and adapt their teaching as necessary without unnecessarily elaborate or individualised approaches.		Teachers are enthusiastic about the subject and communicate the value of D&T to pupils well. Teachers use questioning and manage discussions skilfully to check pupils' understanding and to challenge their thinking.
Over the course of study, teaching is designed to help pupils to remember long term the content they have been taught and to integrate new knowledge into larger ideas.		Pupils with different starting points make equally good progress, due to teachers having a confident level of specialist expertise and using this effectively to plan purposeful lessons and schemes of work.
Teachers and leaders use assessment well, for example to help pupils embed and use knowledge fluently, or to check understanding and inform teaching. Leaders understand the limitations of assessment and do not use it in a way that creates unnecessary burdens on staff or pupils.		Teachers use questioning and manage discussions skilfully to check pupils' understanding and to challenge their thinking. Pupils with different starting points make equally good progress, due to teachers having a confident level of specialist expertise and using this effectively to plan purposeful lessons and schemes of work.
Teachers create an environment that focuses on pupils. The textbooks and other teaching materials that teachers select – in a way that does not create unnecessary workload for staff – reflect the school's ambitious intentions for the course of study. These materials clearly support the intent of a coherently planned curriculum, sequenced		Teachers make effective use of support staff and plan and manage time and resources such as tools and CAD/CAM equipment effectively, so that pupils' learning proceeds at a good pace.

towards cumulatively sufficient knowledge and skills for future learning and employment.		
The work given to pupils is demanding and matches the aims of the curriculum in being coherently planned and sequenced towards cumulatively sufficient knowledge.		Pupils take responsibility, persevere with design problems, and are supported and challenged to be innovative and creative. Teachers make effective use of support staff and plan and manage time and resources such as tools and CAD/CAM equipment effectively, so that pupils' learning proceeds at a good pace.
Reading is prioritised to allow pupils to access the full curriculum offer.		
A rigorous and sequential approach to the reading curriculum develops pupils' fluency, confidence and enjoyment in reading. At all stages, reading attainment is assessed and gaps are addressed quickly and effectively for all pupils. Reading books connect closely to the phonics knowledge pupils are taught when they are learning to read.		
The sharp focus on ensuring that younger children gain phonics knowledge and language comprehension necessary to read, and the skills to communicate, gives them the foundations for future learning.		
Teachers ensure that their own speaking, listening, writing and reading of English support pupils in developing their language and vocabulary well.		

IMPACT		
NEW HANDBOOK	EVIDENCE	OLD SUBJECT CRITERIA
Pupils develop detailed knowledge and skills across the curriculum and, as a result, achieve well. This is reflected in results from national tests and examinations that meet government expectations, or in the qualifications obtained.		<p>Pupils understand the working characteristics and properties of the materials they are using and why one material, ingredient or component is better suited to a job than another.</p> <p>Pupils work with increasing independence in developing their work, and demonstrate resilience in solving design problems and technical challenges.</p> <p>Pupils understand how to carry out high-quality tests before attempting to improve their products and realise their plans accurately and safely.</p>
Pupils are ready for the next stage of education, employment or training. They have the knowledge and skills they need and, where relevant, they gain qualifications that allow them to go on to destinations that meet their interests and aspirations and the intention of their course of study. Pupils with SEND achieve the best possible outcomes.		<p>They talk confidently about their technological ideas, and present information and plans effectively by writing, drawing and using annotated sketches.</p> <p>Pupils analyse and use their research effectively to support their designing and to test the effectiveness of their products.</p>
Pupils' work across the curriculum is of good quality.		Pupils analyse and use their research effectively to support their designing and to test the effectiveness of their products.
Pupils read widely and often, with fluency and comprehension appropriate to their age. They are able to apply mathematical knowledge, concepts and procedures appropriately for their age.		Pupils apply their knowledge of science and mathematics to inform their designing and making.



Annex 1: Design & Technology – Outstanding (in ‘old’ money³)

Achievement

- Pupils respond ambitiously to an increasingly complex range of designing and making assignments, showing significant levels of originality and take creative risks to produce innovative ideas and prototypes.
- Pupils demonstrate excellent attitudes to learning and independent working. They use time efficiently and work constructively and productively with others. √ Pupils carry out research, show initiative, and ask questions to develop an exceptionally detailed knowledge of users’ needs and the context for their work.
- Pupils know about the responsibilities of designers and makers to work ethically, use finite materials carefully and safely, and use this to inform their own work.
- Pupils have a secure and increasing knowledge of which tools, equipment and materials to use to make their products, building upon their previous experience and understanding of relevant scientific and mathematical concepts.
- They manage risks exceptionally well in order to safely and hygienically manufacture products.
- Pupils have passion for the subject and know of, and keep up to date with, new technological innovations in materials or products or systems.
- In secondary schools, an above-average proportion of students are likely to continue to study D&T at the next stage of their education.

Teaching

- Teachers’ enthusiasm for the subject is infectious. They communicate their high expectations and passion for D&T to pupils extremely effectively.
- Teaching benefits from high levels of expertise both in terms of teachers’ up-to-date specialist knowledge and their understanding of effective learning in D&T.
- Pupils build on earlier concepts to develop a personal understanding of what ‘good design’ means as a result of teachers using their own work and that of professional designers to inspire and challenge pupils to recognise the features of high-quality design and manufacture.
- Pupils explain their ideas and concepts clearly, use technical language confidently and deliver high-quality presentations to clients and team members. This is because teachers employ a very wide range of innovative and imaginative resources and teaching strategies to stimulate pupils’ active participation in their learning.
- Opportunities for pupils to develop and demonstrate their initiative and independence and take responsibility for their learning are thoughtfully planned and, over time, secure outstanding progress across all aspects of D&T.

Curriculum

³ Ofsted, Dec 2013
July 2020

- The imaginative and stimulating D&T curriculum is skillfully designed to match the full range of pupils' needs and goes beyond the limits of the National Curriculum or examination specification. The curriculum is enriched and enhanced in meaningful ways through excellent links forged with other agencies, industry and the wider community.
- Pupils are extremely well informed about their current work, future projects and courses. In secondary schools, they are helped to understand the value of the subject to future careers in STEM or creative industries.
- Where appropriate, curriculum plans promote pupils' knowledge of current and new technologies and speculate about the issues and moral aspects that need to be considered when designing and making.
- Access to, and use of, resources are exceptionally well planned and enable pupils to create innovative functional solutions to real problems.
- Links with other subjects in the school are highly productive in strengthening pupils' learning in D&T.
- Rigorous curriculum planning ensures that the subject makes an outstanding contribution to pupils' social, moral, spiritual and cultural development.

Leadership & management

- Leadership is informed by a high level of subject expertise and vision. There is a strong track record of initiating educational innovation in the subject.
- Subject reviews, self-evaluation and improvement planning promote continuous development in D&T and wider school improvement.
- D&T leaders, and a widely shared subject vision, inspire confidence and whole-hearted commitment from pupils, parents and colleagues.
- The subject makes an excellent contribution to whole-school priorities, including consistent application of literacy and numeracy policies.
- Leadership and teaching benefit from high-quality professional development in D&T. The subject has a high profile and is at the cutting edge of initiatives within the school.
- Accommodation, resources and working practices are well planned, safe and significantly support learning.
- Partnerships with the wider community and communication with parents about how they can support their children's learning in D&T are excellent.



Annex 2: Progression in Design & Technology - exemplar

Aims	Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world	Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users	Critique, evaluate and test their ideas and products and the work of others	Understand and apply the principles of nutrition and learn how to cook.
a	Pupils generate ideas for purposeful designs and recognise characteristics of familiar products. They explain what they are making and which tools they are using.	They show that, with help, they can create products for a use and purpose, using their practical ideas. They use models, pictures and words to describe what they want to do. They use tools and manipulate materials with help, where needed.	They talk about their own and other people's work in simple terms and describe how a product works.	
b	Pupils generate ideas based on their investigations of products. They use models, pictures and words to describe their designs.	They plan what to do next based on their experience of working with materials and components. They select appropriate tools, techniques and materials, explaining their choices. They assemble, join and combine materials and components in a variety of ways to make functional products.	They recognise what they have done well and suggest things they could do better in the future.	
c	Pupils generate ideas and recognise that their designs have to meet a range of different needs and users. They clarify ideas when asked and use words, labelled sketches and models to communicate the details of their designs.	They think ahead about the order of their work and make realistic plans for achieving their aims. They choose appropriate tools, equipment, components and techniques to make their functional products. They apply their knowledge and understanding of the nature of materials to cut, shape and join them with some accuracy.	After reflecting on the design and make process and their products, they identify some improvements.	
d	Pupils generate ideas by collecting and using	They use some ideas from others' designing to inform	They identify what is working well and what	

	information. They take users' views about aesthetic and technical issues into account as they respond to briefs. They communicate alternative ideas using words, labelled sketches and models, showing that they are aware of constraints.	their own work. They produce step-by-step plans and then select and work with a range of tools and equipment. They apply their knowledge and understanding of materials, ingredients and components, and work with them with some accuracy, paying attention to quality of finish and to function.	could be improved to overcome technical problems. They reflect on their designs as they develop, recognising the significance of knowledge and previous experience.	
e	Pupils develop ideas by drawing on and using various sources of information. They clarify their ideas through discussion, drawing and modelling, showing understanding of aesthetic and economic dimensions. They respond to briefs showing understanding of how culture and society are reflected in familiar products when developing and communicating their own ideas.	They show that they are aware of constraints as they apply knowledge and understanding of materials, ingredients and techniques. They use understanding of others' designing as they develop their work. They work from their own detailed plans, modifying them where appropriate. They work with a range of tools, materials, ingredients, equipment, components and processes with some precision.	They check their work as it develops, solve technical problems and show some evidence of creativity as they modify their approach in the light of progress. They test and evaluate their products, showing that they understand the situations in which the products will function.	