Windmill Hill Academy
Subject Key Summary Points

At Windmill Hill Academy, we inspire pupils to be passionate lifelong learners by providing them with an ambitious broad and balanced curriculum, with the inclusion of a variety of enrichments, which will inspire them to have high aspirations. We inspire all learners to have strong desire to know or learn something and questioning their learning experiences to find out more. Throughout each year group and across the curriculum, pupils will make sustained progress, develop excellent knowledge, understanding and skills, regardless of their different starting points and backgrounds.

Subject	Design and Technology
Overall curriculum	An Daras Multi Academy Trust has used the latest pedagogy, research and understanding of local contextual needs to structure the curriculum design to ensure the growth of capability mature children who exhibit a sustained curiosity for learning. The 'lived values and experiences' of pupils are determined by the individual school and should run through all operational elements of curriculum provision. 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. Teachers will help pupils with SEND to overcome any barriers to participating and learning and make any 'reasonable adjustments' needed to include pupils. To make lessons inclusive, teachers will anticipate what barriers to taking part and learning may pose for pupils with SEND. Some modifications or adjustments will be made or smaller steps to achieve the learning goal. Occasionally, pupils with SEND will have to work on different activities, or towards different learning intentions, from their peers
Pedagogy	Design and technology curriculum focuses on developing our pupils through the acquisition of WISDOM, KNOWLEDGE and SKILLS. These have been selected because they ensure the whole development of the child will be prioritised, they enable pupils to meet the expectations of the National Curriculum 14 and have ambitions beyond the NC14. Each theme has a set of curriculum tools which ensure it is fully embedded through the lived experiences of staff, children, and

	stakeholders. Impact scales will measure the effectiveness of curriculum provision on the growth of children within these three equally important themes. **Wisdom** Children's wisdom is developed in the following ways: ▪ Design and technology lessons often involve identifying problems and coming up with creative solutions. This helps children develop critical thinking skills and the wisdom to approach challenges methodically and thoughtfully. ▪ Children learn to consider the broader consequences of their designs, fostering a sense of responsibility and wisdom in making decisions that positively impact society and the environment. **Knowledge** Children's knowledge is developed in the following ways: ▪ With a mixture of individual, group, whole class and whole school practical work. ▪ Children gain knowledge about various materials (e.g., wood, plastic, metal) and tools (e.g., saws, hammers, 3D printers) used in design and technology. They learn how to select appropriate materials and tools for different projects, understanding their properties, uses, and limitations. This hands-on experience builds a practical knowledge base that is essential for designing and creating functional objects. ▪ Design and technology lessons often incorporate scientific and mathematical principles. For example, children learn about forces, energy, and structural integrity when building models or prototypes. They also apply measurements, geometry, and calculations to ensure accuracy and functionality in their designs. This integration of science and math enhances their overall knowledge and helps them see the real-world applications of these subjects. Being taught and practicing: ▪ 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. **Capabilities** Children's capabilities are developed in the following ways: 1. **Creativity:** o Children are encouraged to think creatively and innovate during design projects. They learn to brainstorm, sketch,

	and prototype their ideas, fostering their ability to generate original solutions. This creative process enhances their capability to approach problems with an open mind and think outside the box. 2. **Planning and problem solving:** o Working on design projects requires planning, time management, and organisation. Children learn to break down projects into manageable steps, set goals, and meet deadlines. These project management skills develop their capability to handle complex tasks and manage their time efficiently. 3. **Resilience and determination:** o Design and technology lessons often involve trial and error, where not all ideas work out as planned. Children develop resilience by persevering through challenges and learning from their mistakes. This adaptability helps them become more confident and capable in facing unforeseen difficulties and adjusting their approaches accordingly. 4. **Relationships and Leaderships:** o Many design projects require working in teams, where children collaborate, share responsibilities, and contribute to a collective goal. This experience develops their teamwork skills, communication abilities, and the capability to work effectively with others, preparing them for collaborative environments in the future. We've thought carefully about the purpose of DT. Not just in relation to the purpose of teaching art in school, but the relevance of DT in all our lives. Design and technology education encourages pupils to think creatively and develop innovative solutions to real-world problems. It nurtures their ability to brainstorm, design, and execute original ideas, fostering a culture of creativity and out-of-the-box thinking. Design and technology is taught once per term (split with art each term) and is linked to the main concept of the topic being taught. It is taught practically where pupils are encouraged to design and make products that solve real and relevant problems within a variety of contexts. Pupils are encouraged to take risks, become resourceful, innovative, enterprising and capable members of the school and wider community. They are encouraged to critically evaluate the impact of design and technology on daily life and the wider world. At Windmill Hill Academy, we use the Kapow Design and Technology scheme to support our teaching and learning in Design and Technology. Kapow is based on the six essentials of good practice in D&T. They are consistent with the National Curriculum requirements and should be

	applied whenever children are designing and making products: ▪ **User** – children should have a clear idea of who they are designing and making products for, considering their needs, wants, interests or preferences. The user could be themselves, an imaginary character, another person, client, consumer or a specific target audience. ▪ **Purpose** – children should know what the products they design and make are for. Each product should perform a clearly defined task that can be evaluated in use. ▪ **Functionality** – children should design and make products that function in some way to be successful. Products often combine aesthetic qualities with functional characteristics. In D&T, it is insufficient for children to design and make products which are purely aesthetic. ▪ **Design Decisions** – when designing and making, children need opportunities to make informed decisions such as selecting materials, components and techniques and deciding what form the products will take, how they will work, what task they will perform and who they are for. ▪ **Innovation** – when designing and making, children need some scope to be original with their thinking. Projects that encourage innovation lead to a range of design ideas and products being developed, characterised by engaging, open-ended starting points for children's learning. ▪ **Authenticity** – children should design and make products that are believable, real and meaningful to themselves i.e. not replicas or reproductions or models which do not provide opportunities for children to make design decisions with clear users and purposes in mind. The scheme of work has been designed as a spiral curriculum with the following key principles in mind: ✓ Cyclical: Pupils return to the key strands again and again during their time in primary school. ✓ Increasing depth: Each time the key strand is revisited it is covered with greater complexity. ✓ Prior knowledge: Upon returning to each key strand, prior knowledge is utilised so pupils can build upon previous foundations, rather than starting again. Teachers will help pupils with SEND to overcome any barriers to participating and learning and make any 'reasonable adjustments' needed to include pupils. To make lessons inclusive, teachers will anticipate what barriers to taking part and learning may pose for pupils with SEND. Some modifications or adjustments will be made or smaller steps to achieve the learning goal. Occasionally, pupils with SEND will have to work on different activities, or towards different learning intentions, from their peers. In EYFS, all areas of learning and development are important and inter-connected. These are stipulated in the 'Statutory framework for the early years foundation stage'. The most relevant statements for design and technology are taken from the following areas of learning: ▪ Physical Development

	▪ Understanding the World ▪ Expressive Arts and Design
Assessment	Assessment is regarded as an integral part of teaching and learning and is a continuous process. There are planned opportunities within the curriculum plan to revisit learning from the current year but also previous year groups. **Formative** All sessions should begin with a recap/recall of previous learning. Teachers should use skillful questioning to gauge starting points, to assess current understanding and knowledge, to ensure concepts have been acquired, to identify misconceptions. This formative assessment should support the teacher in adapting lessons to ensure pupils are learning new learning, building on prior learning and making links between new and previous learning. At the end of each session, teachers should use assessment tools to ensure that the intent of the lesson has been achieved, to help plan for the following session and to support building a picture of the pupils' progress for final summative assessments. **Summative** It is the responsibility of the class teacher to assess all pupils in their class. Each child is assessed termly, against the criteria outlined in the Kapow units attached to each year group. Thus is set up the formulas in the spread-sheet to allow teacher to see what percentage of lessons a child has been 'Working towards', 'Secure understanding', or 'Greater depth' within the lessons and also gives teacher valuable data about the class as a whole. Teachers may use a range of evidence sources for their assessment including project process and outcomes, floorbooks, pupil voice or photographic/video evidence. End of year assessment is reported on Itrack and features on the annual report to parents. The monitoring of the standards of children's learning and the quality of learning and teaching of computing is the shared responsibility of the Senior Leadership Team and the subject leader. The work of the subject leader also involves supporting colleagues in the teaching of DT, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. A named member of the school governing body is briefed to overview the teaching of the curriculum in the school. When assessing pupils with SEND, there will be carefully planned opportunities in order for them to demonstrate what they know and are

	able to do, using alternative means where necessary. Where a pupil is unable to use particular types of equipment, assessment of attainment will be based on understanding of the processes used as demonstrated through oral and written responses or, where possible, through the use of alternative equipment. In EYFS, the level of development children should be expected to have attained by the end of the EYFS is defined by the early learning goals (ELGs). These are not used as a curriculum or in any way to limit the wide variety of rich experiences that are crucial to child development. Instead, the ELGs support teachers to make a holistic, best-fit judgement about a child's development, and their readiness for year 1.
Culture	Design and Technology is about providing opportunities for children to develop their capability. By combining their design and making skills with knowledge and understanding, they learn to create quality products. Design and Technology brings learning to life. It is a motivating context for discovering english, mathematics, science, art, PSHE and Computing. Primary Design and Technology also provides a firm basis for later learning in the subject and a platform for developing skills in English and Maths. Collaborative work in DT develops mutual respect for the differing opinions, beliefs and abilities of others. In addition, children develop a respect for the environment, for their own health and safety and that of others. They learn to appreciate the value of similarities and differences and learn to show tolerance. A variety of experiences teaches them to appreciate that all people – and their views – are equally important. Teachers will help pupils with SEND to overcome any barriers to participating and learning and make any 'reasonable adjustments' needed to include pupils. To make lessons inclusive, teachers will anticipate what barriers to taking part and learning may pose for pupils with SEND. Some modifications or adjustments will be made or smaller steps to achieve the learning goal. Occasionally, pupils with SEND will have to work on different activities, or towards different learning intentions, from their peers. For some activities, there may need to be a 'parallel' activity for pupils with SEND, so that they can work towards the same learning intentions as their peers, but in a different way. The use of technology to assist learning can removes barrier e.g. Widget, switches, text readers and speech and communicator devices. Screen filters may help with glare or using coloured backgrounds e.g. yellow background with blue script for dyslexic learners. Because the range of hardware and software is wide and continually expanding, teachers will always seek to collaborate with the SENDCo or colleagues e.g. previous teacher, on removing barriers to learning and

	participation for particular pupils with SEND. Pupils will also be able to advise on the technologies that suit them best.
Systems	In EYFS, the most relevant statements for art are taken from the following areas of learning: ▪ Physical Development ▪ Expressive Arts and Design Reception Physical Development ▪ Progress towards a more fluent style of moving, with developing control and grace. ▪ Develop their small motor skills so that they can use a range of tools competently, safely and confidently. ▪ Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. Expressive Arts and Design ▪ Explore, use and refine a variety of artistic effects to express their ideas and feelings. ▪ Return to and build on their previous learning, refining ideas and developing their ability to represent them. ▪ Create collaboratively, sharing ideas, resources and skills. ELG Physical Development: Fine Motor Skills ▪ Use a range of small tools, including scissors, paintbrushes and cutlery. Expressive Arts and Design: Creating with Materials ▪ Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. ▪ Share their creations, explaining the process they have used. 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. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. The knowledge and skills organiser for design and technology (see below) demonstrates the progression through the year

	groups. It includes regular opportunities to revisit prior learning and build upon this. At Windmill Hill Academy, we use the DT 'Projects on a Page' to support our teaching and learning in Design and Technology.
Policies/key documents	▪ Whole School Long term horizontal curriculum map ▪ ADMAT Trust Skills Progression Map for Design and Technology ▪ Knowledge and Skills organiser for Design and Technology ▪ Kapow scheme of learning and units ▪ EYFS Curriculum overview ▪ SEND Policy *All of these can be found on our website under the curriculum/policies tab.*
Perceptions from viewpoints (e.g. pupils/parents/Governors)	Pupil: ▪ The vast majority of pupils (94%) agree that they are learning a lot at this school. *Pupil Survey Summer 2023.* ▪ "What I like about my school... Mathematics, English, science, Wild Tribe, Physical Education, breaktimes and not to forget the after-school clubs." *Pupils Survey Summer 2023.* ▪ "I like how they try to make lessons more fun or exciting!" *Pupils Survey Summer 2023.* Parent: ▪ The vast majority of parents agree (99%) that the teaching is good. *Parent Survey Summer 2023.* ▪ The vast majority of parents (97%) agree that the school is helping their child to become mature and responsible. *Parent Survey Summer 2023.* ▪ The vast majority of parents (94%) agree that their child is safe at school. *Parent Survey Summer 2023.* ▪ "They always get a warm welcome and the environment seems happy and stimulating for them." *Parent Survey Summer 2023* ▪ "I feel the school offers a friendly, welcoming learning environment, and in my opinion, staff do your utmost to help a child if they are having difficulties, be that with their learning, or well-being." *Parent Survey Summer 2023* ▪ "My child is very happy to go to school and enjoys the activities that she is given." *Survey Summer 2023* Staff: ▪ All staff agree (100%) that leaders are doing all that they can to improve teaching. *Staff survey Summer 2023.* ▪ "It is a wonderful school to work in and I am very proud of all of our achievements!" *Survey Summer 2023* Governors: ▪ "The school has a lovely warm, happy, inclusive feeling about it. The children appear very engaged and enthusiastic,

	which is evident by the work displayed on the walls and how all classes appear to have a learning thread running through, incorporating a number of visible subjects such as Maths, English Writing, Art, History etc." *Governor feedback Spring 2022*