

Guidance for Observation and Target Setting in Secondary Design and Technology

National Curriculum 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.

6 Key Questions to ask when observing Design and Technology lessons

	Question	Additional Information
1	Is the learning intention/outcome clear and subject specific? ...what the pupils will be learning in the lesson?	<i>The learning outcome is connected to prior learning, or previously encountered knowledge and skills linked to the learning that is taking place in the lesson. Classroom, activities are clear about what children will learn</i>
1	Practical knowledge and work: ? Are pupils able to develop the creative, technical and practical expertise in the lesson? Design and Make What technical knowledge is being developed?	<i>For example: what practical knowledge is explored and how is this developed (Knowledge and skills) What technical knowledge is being developed?</i>
2.	Are pupils able to critique, evaluate and test their ideas?	<i>For example: Theoretical - When cooking pupils will make connections to practical work through theoretical knowledge e.g. nutrition – the eatwell plate. (Knowledge and skills)</i>
3	Lesson design and delivery , including sequencing and appropriate choice of teaching methods. Is there knowledge, skills and understanding evident because of pedagogical choices?	<i>What teaching approaches support pupil progress. Modelling, explanations, worked examples, guides and scaffolds. Instructional practice. Pedagogy is aligned with the types of knowledge taught – practical, theoretical, or disciplinary. Have misconceptions been addressed.</i>
4	Is the lesson successfully adapted to the pupils' stage of creative development?	<i>Careful planning considers pupil expertise, and subject specific adaptations are made through pupils who need new content further broken down. Formative assessment supports adaptations.</i>
5.	Questioning/Feedback/formative assessment Does feedback address how to build on strengths and review and refine work?	<i>(Understanding) Can pupils recall previous information and build upon this with new learning? Can pupils reflect on their own skills?</i>

6.	Literacy, vocabulary, and high-quality classroom talk. Are skills, techniques and practices underpinned by specialist subject specific vocabulary, is this modelled and used well.	<i>Have the children been given an opportunity to engage in design thinking and talking regarding work. How is theoretical or disciplinary understanding being developed or secured? Does the lesson allow pupils to articulate their technological understanding more confidently. Can pupils explain their design process</i>
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Potential **Design & Technology Specific** Targets on Lesson Analysis Forms.*

Lesson design and delivery, including sequencing and choice of teaching methods (CCF curriculum & pedagogy) Next Steps:
Identify and make explicit the key practical, theoretical or disciplinary knowledge and specialist art and design vocabulary you want the children to know and remember from this lesson/sequence.
Use visual images and high quality worked examples, models to support understanding of difficult key concepts e.g. joining wood.
When planning a lesson introduce new material in steps , explicitly linking new ideas to what has been previously studied and learned. Providing sufficient opportunity for pupils to consolidate and practise applying new knowledge and skills in the lesson.

Pupil progress in this lesson and use of assessment (including questioning) (CCF assessment) Next Steps:
Plan formative assessment tasks linked to lesson objectives and think ahead about what would indicate understanding in a practical response or analysis of a product
When using questions prompt pupils to elaborate when responding to questioning to check that a correct answer stems from secure understanding of ... a process or retrieval of knowledge.
High-quality feedback can be written or verbal; encourage further effort, and provide specific guidance on how to improve in coursework.

Comments about student teacher's developing Subject Knowledge and Pedagogy (CCF curriculum & pedagogy) Next Steps
Develop your understanding further of the essential components/concepts/ knowledge/ skills and practices of the topic (e.g. plastics) this will enable you to be more confident to motivate pupils and teach effectively from a secure understanding .
When planning anticipate what children might find difficult developing your awareness of common misconceptions how to help pupils master important concepts (e.g. raising agents in baking, soldering)
Situate the learning in the sequence or schema - remembering pupils are likely to struggle to transfer what has been learnt in one discipline to a new or unfamiliar context support pupils' to make clearer connections to

prior learning or where they may have encountered something before (e.g. ideation) Where prior knowledge is weak, pupils are more likely to develop misconceptions, particularly if new ideas are introduced too quickly.

When planning, consider the **role of modelling**, instruction and explanations to acknowledge novices need more structure early in the sequence e.g. drawing in 3D

How could you support the next lesson with **guides, scaffolds and worked examples** to help pupils apply new ideas?

Think about the **types of questions** you would ask in class discussions to extend and challenge pupils (e.g. by modelling new vocabulary or asking pupils to justify answers when analysing the work of other).

The role of memory: Breaking complex material into smaller steps will support pupils (e.g., using partially completed drawing to focus pupils on the specific steps rather than a refined finished example) Working memory capacity is limited and can be overloaded.