**Primary 5-11 Design and Technology**

***Post Graduate Programme***

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| **University Curriculum** | | | | | |
| **Session Sequence** | **Session Content Subject Specific Components/s** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment mode** |
| **Session 1**  2 hours  What is Design  and Technology? | To understand there are principles of high quality design and technology teaching: The iterative process of researching,  designing, making and evaluating  products.  To develop a sound knowledge of the four aims of the National Curriculum for Design and Technology- .  To consider subject content within the National Curriculum- Design, make, Evaluate, Technical Knowledge  To understand that there are six key areas of study in the  primary D&T curriculum. | 1.6, 3.1, 3.2, 3.5, 5.1 | 1b,1c, 1e, 3a | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 1.  *The Really Useful Primary Design and Technology Book*  MCCLAIN,M., 2022. Towards a signature pedagogy for design and technology education: a literature review*, International journal of technology and design education,* 32,pp 1629–1648.  MCCLAIN, M, IRVING-BELL, D WOOFF, D & MORRISON-LOVE, D., 2019. How technology makes us human: cultural historical roots for design and technology education, *The Curriculum Journal*, 30:4, Pp 464-483.   DFE., 2021. *Development Matters*    DFE., 2021. *Early Years Foundation Stage Statutory Framework*    EARLY EDUCATION., 2021. *Birth to Five Matters*  BRICE, R,. 2020. Design and Technology: Real World Applications. In: C. FORSTER and R. EPERJESI., ed., 2020. *Teaching the Primary Curriculum.* pp. 45-62.  D.A.TA.., 2023. *Reimagining Design and Technology* D&T Association’s ‘Vision’ for the future of the subject in English Schools  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.*  OFSTED., 2012., *Ofsted’s subject professional development materials: Design and technology A training resource for teachers of design and technology in primary schools*  Coe, R., Aloisi, C., Higgins., & Major, L. E. (2014) What makes great teaching. Review of the underpinning research. Durham  University: UK. Available at: <http://bit.ly/2OvmvKO>  LOtC  [https://onlinelibrary.wiley.com/doi/10.1002/%28SICI%291098-237X%28199711%2981%3A6%3C763%3A%3AAID-SCE11%3E3.0.CO%3B2-O](https://onlinelibrary.wiley.com/doi/10.1002/(SICI)1098-237X(199711)81:6%25252525253C763::AID-SCE11%25252525253E3.0.CO%2525253B2-O) | Mind map – what do you already know about D&T?  Use of reflective journals  Mentimeter quiz  Peer evaluation of mechanisms using set criteria.  Return to mind map – add new knowledge  Complete end of session quiz on Blackboard. |
| **Session 2**  2 hours  Simple mechanisms | To understand how to use a quality picture book as a starting point for a project.  To understand how to develop technical skills and knowledge in children to create a range of simple mechanisms.  To understand how to manage risk and behaviour in when children are using tools and equipment.  To understand the importance of setting a project within a realistic context.  To identify adaptive and inclusive practices when teaching and planning mechanisms. | 3.3, 3.5, 5.1, 5.3, 7.1 | 1b,1c,1e, 1f, 1g, 3a, 3t, 4b | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 6.  *The Really Useful Primary Design and Technology Book*  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.* | Mind map – what do you already know about D&T?  Use of reflective journals  Mentimeter quiz  Peer evaluation of mechanisms using set criteria.  Return to mind map – add new knowledge  Complete end of session quiz on Blackboard. |
| **Session 3**  2 hours  Healthy  Eating  Where Does Food come from? | To develop an understanding of how to provide meaningful and appropriate scenarios for children to design a product with a brief in mind.  To know where to find the programmes of study for Cooking and Nutrition and to understand that these are end of key stage composite knowledge.  To develop an understanding of how to provide opportunities for pupils to research and evaluate existing products.  To know that products are designed using several strategies eg exploded diagrams, annotated drawings.  To understand hygiene and health and safety measures when preparing food with children.  To understand the component knowledge required to achieve the end points of the programmes of study and know how to research this.  To understand that food production and tastes differ across the globe, often due to climate.  To understand that culture and tradition play an important role in diets.  To understand how to plan a lesson about where food comes from using component knowledge.  To identify adaptive and inclusive practices in cooking and nutrition. | 1.2, 1.3, 1.4,1.6, 3.2, 3.6, 4.1,4.2, 6.1, 5.7, 7.4 | 1d, 1e,3t, 8d | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 3.  *The Really Useful Primary Design and Technology Book*  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.*  BALLAM, R.,2018, Where next for food education?. Nutrition Bulletin, 43: 7-9    BRITISH NUTRITION FOUNDATION., 2022. *Characteristics of good*  *practice in teaching food*  *and nutrition education*  *in primary schools*    CLAMP, J. 2021., *Nutrition education in UK primary schools* NNEdPro Global Institute  DRUMMOND, C., 2011. Using nutrition education and cooking classes in primary schools to encourage healthy eating. *Journal of Student Wellbeing* 4.  LAWSON, C and WOOD-GRIFFITHS, S., 2017. Chapter 9 Creativity in Food in eds BENSON AND LAWSON, *Teaching design and technology creatively*. pp114-127.    SMITH, K, WELLS, K AND HAWKES, C,. 2022. How Primary School Curriculums in 11 Countries Around the World Deliver Food Education and Address Food Literacy: A Policy Analysis, *International Journal of Environmental Research and Public Health* 19, pp. 2019–2019 | Mind map – what do you already know about D&T?  Use of reflective journals  Mentimeter quiz  Peer evaluation of mechanisms using set criteria.  Return to mind map – add new knowledge  Complete end of session quiz on Blackboard. |
| **Session 4**  2 hours  IT Control and Monitoring | To understand that Primary Design and Technology should be taught in relevant contexts.  To understand that control mechanisms are used in robotics, manufacturing and in situations when it is too dangerous for humans to work.  To understand that the UK has a growing shortage of engineers, mainly because candidates for jobs lack technical skills.  To understand how technical equipment such as Lego and 3D printers can enhance children’s technical skills.  To be familiar with CAD, digital representations, and how it can be incorporated into Design Technology planning.  To identify adaptive and inclusive practices in IT control and monitoring. | 1.2,1.3,1.4, 1.6,2.2, 2.3, 2.6,2.7,2.9, 3.2, 3.3, 3.4, 3.5, 4.2, 4.3, 4.4, 4.6, 4.8, 4.9, 4.10, 5.2, 5.4, 5.5, 5.7, 6.1, 6.5, 6.7, 7.1, 8.5 | 1b,1c,1d,2d,2e,  3c,3e,3g,3j,4b, 4k | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 8.  *The Really Useful Primary Design and Technology Book*  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.* | Mind map – what do you already know about D&T?  Use of reflective journals  Mentimeter quiz  Peer evaluation of mechanisms using set criteria.  Return to mind map – add new knowledge  Complete end of session quiz on Blackboard. |
| **Session 5**  2 hours  Inventors and inventions | To understand that across KS2 pupils should know about inventors, designers, engineers, chefs, and manufacturers who have developed ground-breaking products.  To understand how to provide creative opportunities for children to achieve the above learning outcome.  To understand how to plan a short unit of work for this learning outcome. | 3.2, 3.6 |  | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016.  *The Really Useful Primary Design and Technology Book*  MCLAIN, M, IRVING-BELL, D WOOFF, D & MORRISON-LOVE, D., 2019. How technology makes us human: cultural historical roots for design and technology education, *The Curriculum Journal*, 30:4, Pp 464-483.   THE JAMES DYSON FOUNDATION. Available from  [www.jamesdysonfoundation.com](http://www.jamesdysonfoundation.com)  BRICE, R,. 2020. Design and Technology: Real World Applications. In: C. FORSTER and R. EPERJESI., ed., 2020. *Teaching the Primary Curriculum.* pp. 45-62.  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.* | Mind map – what do you already know about D&T?  Use of reflective journals  Mentimeter quiz  Peer evaluation of mechanisms using set criteria.  Return to mind map – add new knowledge  Complete end of session quiz on Blackboard. |

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| **School Based Curriculum – Introductory Phase** | | | | |
| **Observing :** Observe how expert colleagues use and deconstruct approaches, in this subject, in at least one lesson throughout school.  **Planning :** Observe how expert colleagues break tasks down into constituent components, in this subject, for at least one lesson.  **Teaching :** Rehearse and refine particular approaches in this subject for a group/whole class. Deliver group/whole class teaching.  **Assessment :** Check prior knowledge and understanding during lessons.  **Subject Knowledge :** Discuss and analyse subject specific components with expert colleagues | | | | |
| **Subject Specific Components/s (know, understand, can do)** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment** |
| Observe a Design and Technology lesson in school to develop understanding of how schools plan and teach the subject.    To develop an understanding of risk and how to manage this in a Design and Technology lesson.    To develop an understanding of how behaviour is managed in line with the school’s behaviour policy.  Speak to the Design and Technology lead in school to further develop subject knowledge and to have the opportunity for professional dialogue.    Develop an awareness of how schools plan for subjects in the long and medium term and make use of published resources if appropriate.    Plan and teach a Design and Technology lesson to a group/whole class (where appropriate) researching subject knowledge and modelling expectations.    EYFS experience - look for links to Design and Technology in EYFS curriculum.  Support play in these areas of learning. |  | 1a, 1c, 3d, 4a, 5b, 7a, 7b  2a, 2d, 3f, 4l, 4n, 5e, 5i,  4b, 4c, 4g, 4h,4k  1c, 2d, 4a | As Above | Weekly mentor meetings.    Weekly Development Summaries.  Lesson observations.    Mentor and Link Tutor meetings. |

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| **School Based Curriculum – Development Phase** | | | | |
| **Observing :** Observe how expert colleagues use and deconstruct approaches, in this subject, in at least one lesson throughout school.  **Planning :** Observe how expert colleagues break tasks down into constituent components over a sequence of lessons. Plan, as appropriate, for a sequence of lessons in all core and selected foundation subjects.  Plan, as appropriate, one lesson / group activity in all remaining subjects.  **Teaching :** Rehearse and refine particular approaches in all core and selected foundation subjects.  **Assessment :** Draw conclusions about what pupils have learnt by looking at patterns of performance over a number of assessments with support and scaffolding from expert colleagues  **Subject Knowledge :** Discuss and analyse subject specific components with expert colleagues | | | | |
| **Subject Specific Components/s (know, understand, can do)** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment** |
| To know that cross-curricular teaching can be a beneficial approach to integrating Design and Technology in a meaningful context and to be able to design a short sequence of lessons linked to a theme.    To develop an understanding of how pupils acquire cultural capital in Design and Technology for example, by visiting an appropriate venue linked to a theme or inviting an expert into the classroom.    To know how to deploy additional adults to support and challenge individuals or groups of pupils.    To know that some pupils will require support to achieve their learning outcomes and to be able to adapt learning for pupils with identified SEND.    To be able to build resilience by ensuring that pupils have the opportunity to experience meaningful success. | 3.1                          5.1, 5.2, 5.3          7.4 | 3a, 3b, 3c          8a          5g, 8h, 8j, 8k, 8l,      5a, 5b, 5c, 5h, 5n          7p, 7q | As Above | Weekly Development Summary  Lesson Observations  Link Tutor  Mentor and Link Tutor meetings |

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| **School Based Curriculum – Consolidation Phase** | | | | |
| **Observing :** Observe how expert colleagues use and deconstruct approaches, in this subject, in at least one lesson throughout school.  **Planning :** Plan a sequence of lessons in all core and foundation subjects.  **Teaching :** Rehearse and refine particular approaches in all core and selected foundation subjects.  **Assessment :** Discuss with expert colleagues summative assessment, reporting and how data is used.  **Subject Knowledge :** Discuss and analyse subject specific components with expert colleagues | | | | |
| **Subject Specific Components/s (know, understand, can do)** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment** |
| Understand how to and can plan alongside expert colleagues a LOTC experience with Design and Technology learning outcomes. For example, a visit to a farm to see how animals are reared.    Know how to transfer/link learning from one subject to another.    Understand how to annotate schemes of work to personalise learning for individual and groups of pupils.    Learn how to make judgements based over time (summative assessments) based on whether pupils are progressing through the intended curriculum in a manageable way. | 3.7, 3.8          6.6, 6.7 | 3a, 3c, 3d        3j    3f, 5a, 5b, 5f      6c, 6m | As Above | Weekly Development Summary    Lesson Observations  Link Tutor  Mentor and Link tutor meetings |