



Subject Knowledge Audit – D&T (Product Design)

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|---|--|
| Please decide on your ability to teach the content/skills listed below at KS3/KS4 | |
| KEY: | |
| 4 | No knowledge – Currently a gap in my subject area |
| 3 | Limited knowledge – Would not feel confident to teach this content |
| 2 | Good knowledge – Confident in ability to teach with some guidance |
| 1 | Expert knowledge - Confident to teach |
| The completed subject audit will be used by your Mentor to create your Individual Training Plan. Your progress will be reviewed on a fortnightly basis. | |
| You should review and record your progress at each review window below (and share this with your Mentor) | |

| Subject Area: Product Design | | Baseline (4 -1) | Dec. (3 -1) | May (3 -1) | Target for NQT year if applicable |
|---------------------------------|---|--------------------|----------------|---------------|-----------------------------------|
| Subject Knowledge | | | | | |
| CADCAM | Laser cutter - can set up machines to plot, cut on a range of materials | | | | |
| | Cad skill- ability to create drawing using subject specific software | | | | |
| RM | Structural Elements Understand shell & frame structures, types of forces & their effects | | | | |
| | Materials- Detailed knowledge of a range of woods, metals, plastics & composites | | | | |
| | Aesthetic quality- able to analyse common products & explain the effect of shape, proportion, texture & pattern on the appearance | | | | |
| | Lathe- Can demonstrate safe use of machinery & equipment, as well as a range of correct process | | | | |
| | Milling- Can demonstrate safe use of machinery & equipment, as well as a range of correct process | | | | |



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|---------------------------------|--|--------------------|----------------|---------------|--|
| | Reciprocating saw- Can demonstrate safe use of machinery & equipment, as well as a range of correct process | | | | |
| | Polishing- Can demonstrate safe use of machinery & equipment, as well as a range of correct process | | | | |
| | Drilling- Can demonstrate safe use of machinery & equipment, as well as a range of correct process | | | | |
| | Hand held tools Can demonstrate safe use of machinery & equipment, as well as a range of correct process | | | | |
| | Joining methods- can demonstrate a wide knowledge of temporary & permanent joint in a range of common materials | | | | |
| Systems & controls | Electronics- Able to identify a range of discrete components | | | | |
| | Circuit assembly- able to read a circuit diagram, create a PCB & position the components correctly | | | | |
| | Soldering & fault-finding- solder accurately components on to a circuit board, systematically finding any faults | | | | |
| | Microprocessor- able to write a simple program to control a chip | | | | |
| | Computer controls- use appropriate software to set up control systems | | | | |
| | Subsystems- set up subsystems in the above to refine the operation | | | | |
| | Feedback Controls- Use sensors & feedback to control simple systems | | | | |



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| Textiles | Sewing machine- can demonstrate safe use of sewing & embroidery machine as well as a range of correct processes. | | | | |
| | Hand Sewing- can demonstrate safe use and correct technique | | | | |
| | Materials – Detailed knowledge of a arrange of fabrics & textiles | | | | |
| Food | Nutrition Detailed knowledge of food & nutrition | | | | |
| | Hygiene- Demonstrate safe working practices in the kitchen- hold a basic food hygiene certificate | | | | |
| | Practical skills- can demonstrate safe use of a wide range of hand & machine technics. As well as a range of correct processes- mixing, folding, beating, weighing etc | | | | |
| | Characteristics of food- demonstrate a sound understanding of the effect of combining ingredients | | | | |
| Knowledge of Subject Specific Pedagogy | | | | | |
| | Detailed knowledge of the current National Curriculum | | | | |
| | Good working knowledge of H&S in D&T. Hold DATA H&S certificate or equivalent | | | | |
| | Able to analyse products in terms of the materials used, form, function, aesthetics, ergonomics, technical details, new technologies etc. | | | | |
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| Knowledge of Subject Assessment & Development | | | | | |
| | Detailed knowledge and understanding of the National curriculum, POS & assessment | | | | |
| | Understand the cyclical nature of design, the value of evaluating at key points | | | | |
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| Child & Adolescent Development within your Subject | | | | | |
|---|--|--|--|--|--|
| | Appreciate the social & cultural value of design & technology to society | | | | |
| | Awareness of the positive processes involved in design and making that promote positive mental health | | | | |
| | Awareness of the positive self-esteem & emotional rewards to be found in the creative processes of D&T | | | | |



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Evidence of subject knowledge development

Record below the things you have **read and researched** to improve your subject knowledge in the boxes below.

| | | |
|--------|--------------------|--------------------|
| Term 1 | September/ October | November/ December |
|--------|--------------------|--------------------|

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|--------|-------------------|--------------|
| Term 2 | January/ February | March/ April |
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|--------|-----------|------------|
| Term 3 | May/ June | June/ July |
|--------|-----------|------------|

Please sign this sheet off at the end of the training year:

Signed: _____ (Trainee) Date: _____

Signed: _____ (Mentor) Date: _____