Year Group	Approx. 19 Lessons	Approx. 19 lessons	Approx. 19 lessons
Year 7	**Product Design—Workshop:** Biomimicry Clock **Material Focus:** Timber/Metals **Skills:** Theory/Tools/Sketch up **By the end of the project you will be able to:** • Produce a biometric inspired inspiration board • Write a design brief • Produce a range of initial ideas • Develop workshop skills and H&S knowledge • Have an understanding of timbers and metals and create a high quality product using a range of workshop tools and equipment • Develop CAD skills to produce a model to aid communication • Evaluate the biometric inspired clock outcome and consider ways to modify the design. **You will be assessed on:** Explore: Initial ideas Create: Practical outcome Evaluate: Final evaluation Knowledge: End of unit test Knowledge: End of unit test	**Product Design—Design room:** Slot together animal **Material Focus:** Papers and boards/ Acrylic **Skills:** Theory/CAD/CAM **By the end of the project you will be able to:** • Produce an inspiration board that inform the design process • Produce a product analysis • Produce a product specification • Develop CAD/CAM skills to produce a highly accurate finished product • Improve understanding of paper and boards • Improve understanding of plastics • Improve understanding of environmentally sensitive design • Evaluate the toy outcome and consider ways to modify the design **You will be assessed on:** Explore: Inspiration board Create: Practical outcome Evaluate: Final evaluation Knowledge: End of unit test	**Textiles:** Pencil case **By the end of the project you will be able to:** • Name the basic textile equipment and processes • Explain the differences between natural and synthetic polymers **You will be assessed on:** Explore: Fibres and fabrics Create: Practical outcome
Year Group	**Approx. 15 Lessons**	**Approx. 15 lessons**	**Approx. 7 lessons**
Year 8	**Product Design—Workshop:** Device Holder **Material Focus:** Timber/Acrylic **Skills:** Theory/Tools/Linkages/CAD/ CAM **By the end of the project you will be able to:** • Write a design brief • Produce a specification using ACCESS FM • Understand linkages, levers and mechanisms • Produce a production plan which links to tools, processes quality assurance and H&S • Develop workshop skills and H&S knowledge • Have an understanding of timbers and polymers and create a high quality product using a range of workshop tools and equipment • Develop CAD skills to produce a model to aid communication • Evaluate the biometric inspired clock outcome and consider ways to modify the design. **You will be assessed on:** Explore: Product Analysis Create: Practical outcome Evaluate: Final evaluation Knowledge: End of unit test	**Product Design—Design room:** Sustainable home **Skills:** Theory/CAD/Drawing skills **By the end of the project you will be able to:** • Analyse a context • Understand the role of an Architect & Past and present Architects and their works • Produce a user profile • Have an understanding of sustainability • Produce a inspiration board • Produce high quality floor plans • Create two point perspective drawings* • Develop CAD skills to produce a 3D sketch up model to aid communication • Recall your knowledge of the unit • Evaluate the sustainable home outcome and consider ways to modify the design **You will be assessed on:** Explore: User profile Create: Sketch up model Evaluate: Final evaluation & Modification Knowledge: End of unit test	Designing Our Tomorrow **By the end of the project you will be able to:** • Identify problems and ways in which existing products can be improved • Develop iterative design skills when solving problems • Develop communication skills to enhance your design work • Produce a range of ideas based upon the needs of others / client/ user centred design • Layout design sheets with annotation. Ergonomics / anthropometrics • Evaluate your design ideas with the client / user in mind and consider ways to modify the design. **You will be assessed on:** • Explore: Initial ideas **Textiles:** Misfit **Project length:** Approx 7 lessons **By the end of the project you will be able to:** • Explain the important of sustainability • Explain what a life cycle analysis is • Name different fabrics and components **You will be assessed on:** • Your practical outcome

Year Group	Approx 19 Lessons	Approx 19 lessons	Approx 19 lessons
Year 9	**Product Design—Workshop:** Game Design **Material Focus:** Timber **Skills:** Theory/Tools/Wood joints **Project length:** Approx 15 lessons **By the end of the project you will be able to:** • Analyse a context, using ACCESS FM Key words • Write a set of meaningful ACCESS FM specifications that reflect the given context • Deeper understanding of timbers: Material selection, Seasoning and faults • Have an understanding of wood joints, fixings and finishes * • Develop workshop skills and H&S knowledge to create a working prototype • Test and evaluate the prototype and consider ways to modify the design. **You will be assessed on:** Explore: Context Analysis & Specifications Create: Practical outcome Evaluate: Final evaluation & Modification Knowledge: End of unit test	**Product Design—Design room:** Mini NEA: Organiser **Skills:** NEA/CAD/Modelling/Drawing skills **Project length:** Approx 15 lessons **By the end of the project you will be able to:** • Section A: Research and Investigation: Inspiration board, User profile & Product Analysis • Section B: Developing a Design brief & Product specification • Section C: Generating, developing and presenting design ideas: Initial ideas & developed ideas, • Section D: Producing a prototype : Card modelling and SketchUp • Section E: Analysing, evaluating the project and prototype **You will be assessed on:** Section A, Section B, Section C, Section D, Section E Knowledge: End of unit test	Electronic Systems **Project length:** Appox 7 lessons **By the end of the project you will be able to:** • Explain what the four different types of components are and their jobs (Inputs Outputs) • Explain the differences between microcontrollers and microprocessors • Design a range of circuits **You will be assessed on:** • Knowledge of systems / Components and circuits (based on core electronics questions) **Textiles:** Food Sculpture **Project length:** Approx 7 lessons **By the end of the project you will be able to:** • Explain the properties of a range of smart materials • Explain the properties of a range of modern and technical materials • Name different fabrics and components **You will be assessed on:** • Your practical outcome