Topic: Year 9 Design and Technology Project		**Duration: 9 lessons** **Aut 2 – Spr 1**	**Composite and test:**
Key vocabulary:	**Core knowledge Components**	**Powerful knowledge components crucial to commit to long term memory**	**Links to previous and future topics**
Drawing Board, Technical, Isometric Oblique, Orthographic Plans, Blueprint, Tools, Equipment, Steel rule, Marking knife, Tenon saw, Coping saw, Wood working vice, Woodworking files, Bench hook, Marking gauge, Chisel, Glass paper, Classification, Cramps, Masking tape, PVA glue, Mitre, Finger, Butt, Lap, Dovetail, Cross housing, Mortice and tenon, Dowel, Automata.	1. What is the difference between an Orthographic drawing and an Exploded drawing? 2. How do you follow / read a technical drawing and follow it to make a product / practical outcome? 3. At what angles are Isometric and Oblique drawings done at? 4. How do you set up a drawing board correctly? 5. What woodworking tools, equipment and machines will we need to manufacture our product? 6. What is the purpose and the strengths and weaknesses of the following joints: Mitre, Finger, Butt, Lap, Dovetail, Cross housing, Mortice and Tenon, Dowel. 7. How have wooden toys changed over the years? Can you name some toys and their designer/makers? 8. How do you design and make your own yoyo / Cork horse automata?	• Be able to identify an Orthographic drawing, Exploded drawing. • Be able to differentiate between Isometric and Oblique drawing. • Be able to identify the following tools and equipment: Steel rule, Marking knife, Tenon saw, Coping saw, Wood working vice, Woodworking files, Bench hook, Marking gauge, Chisel, Glass paper - 3 different grades and the classification, Cramps, Masking tape, PVA glue. • Be able to successfully make several wood joints • Be able to identify several wood joints and know their strengths and purpose. • From completing an analysis of past and present Toy designers and makers, students will appreciate how trends and styles have changed, complimented with new and emerging technology.	Links to year 7 'Natural woods and manufactured boards' topic. Recap- H&S and conduct in the workshop. Links to year 8 'Drawing module' and 'New and emerging technologies'. Developed skills allow us to draw blueprints and plans for builders to build houses and extensions. Test – Types of drawing & Wood joints.

Topic: Year 9 Environmental Issues		**Duration: 6 lessons** **SPR 2**	**Composite and test:**
Key vocabulary:	**Core knowledge Components**	**Powerful knowledge components crucial to commit to long term memory**	**Links to previous and future topics**
Sustainability Environment Environmental issues Recycle Repair Refuse Reuse Rethink Reduce Designers Technologists Engineers Detrimental impact Manufacturing processes Deforestation Habitat Pesticide Chemical	9. What are the 6R's and what do they entail? 10. What doe the term Life Cycle Analysis mean? (LCA) 11. Because of issues that contribute to global warming; Designers, Technologists and engineers have responsibilities? Can you explain what they are? 12. What is one-off, batch, mass, JIT and continuous production? 13. Design a planter. 14. What is a user profile? 15. Make a planter. 16. How do you test the success of a product? 17. How do I write a proper evaluation? 18. How do I make improvements?	• Be able to differentiate between the 6R's. • Life cycle analysis (LCA) is a method used to evaluate the environmental impact of a product through its life cycle encompassing extraction and processing of the raw materials, manufacturing, distribution, use, recycling, and final disposal. • Products need to be manufactured with as little detrimental impact on the environment as possible through the consideration of materials they use, manufacturing processes and packaging. • Compare the needs for different types of production. Understand the environmental impact that surrounds each manufacturing method. • Look at the use of suitable materials. • Learn the Mnemonics – CAFEQUE and ACCESSFM	Links to year 7 'Thermoset and Thermoplastics' topic which introduces the 6R's. Links to year 8 'Drawing module'. By understanding how to be kind to the world we live in will help protect our future, our health and quality of life. Test – Success of product outcome.