**Key Stage 3 Curriculum Map** Department: Design and Technology

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| **Subject****Year** | Year 7Design and Technology | *Overview/rationale & statement of importance – what learners can expect to gain from studying this subject this year*In Year 7, pupils will be introduced to the design process and its importance in solving real life problems. They will be taught the iterative concept of design, through evaluating and modelling their designs. In addition, pupils will also be aware of how design and technology is important in the wider world when applying technology and how designers present their designs to clients and customers. |
| **No of weeks/lessons** | 10 | 4 | 6 | 5 | 4 | 7 |
| **Unit Title** | Photo frame | Alessi Roll holder | Packaging Project | Lazy Tongues | Isosketch | Pencil Holder? With problem and client |
| **Objective** | To introduce pupils to workshop tools, health and safety, thermoforming and using the pillar drill.Introduce pupils to the design process | To apply a theme to a real life problem/designTo be able to model and realise their designTo work as a design team on the model | To be able to apply knowledge from existing packaging ideasTo be able apply their own ideas from research collected (images, font styles and packaging symbols) | Introduction to levers, linkages, different mechanisms and motions.To be able to design and make a set of lazy tongues and apply an animal theme to the mechanism. | To introduce pupils to 3D drawings and presenting their ideas through isometric drawingsUsing IsoSketch tool and resources to introduce this concept. | To introduce pupils to work to a client with specific needs and wants. Pupils given a client in order to design and make a desk tidy. To gain knowledge of a range of designers. |
| **Iterative Links** | Behaviour in the workshop and health and safety rules in school. | Use of images collected for the internet on Alessi designs.Applying the design process and iterative design process | Applying a theme and graphic designs for the past two project.Drawing upon prior knowledge from existing packaging. | Applying a theme to their mechanisms.Prior knowledge of mechanisms from Science lessons. | Draw on presentation techniques from the photo frame project. | Drawing on prior knowledge from all projects covered throughout the year. |
| **Knowledge & Understanding** | Health and safety rules and the reasons whyMaterials, adhesives and joining methodsBeing able to evaluate their own work | To be able to know about previous designers work – Alessi/Phillippe Starck  | Knowledge of font styles, packaging symbolsWhat works well as a logoPersuasive graphics and colourUse of die cutter – industrial process | To know different classes of leversTo understand types of motionTo be able to use theoretical knowledge of levers and linkages to apply to theme | How to use the IsoSketch tool and understand why it is important to present ideas using isometric drawings in Product Design.  | To understand how to joint materials together – plywood in the form of a wood jointKnowledge of different types of wood joints.Knowledge of a range of materials learnt from the photo frame project. |
| **Skills** | Hand tools, use of line bender and pillar/bench drill | Modelling skillsDesigning skillsTeam WorkCommunicationGenerating new ideas based on a theme | Design skills – designing a logo and font stylePackaging surface designApplying tone and texture with pencil crayon | Making skills – making a mechanism and applying an animal theme. | How to use the IsoSketch tool through a range of drawingsIsometric cube, using the elliptical tool, cuboids, ect… | To be able to joint two pieces of plywood together.To be able to apply the clients theme to their work. |
| **Literacy** | Writing up an evaluation through a big write | Writing up an evaluation through a big write.  | Persuasive writing | Answering questions on linkages and levers to acquire knowledge and understanding of mechanisms. | Following instructional information | Exploring the project through a mindmap, evaluating designs and adding annotation to ideas. |
| **Numeracy** | Measuring materials in mmUse of a template | ScaleMeasurements – making the model | Nets | Calculating equilibrium for higher setsCalculating mechanical advantage for higher setsMeasurements  | Measurements on the IsoSketch tool | Measurements in mmSurveys and presenting these in charts |
| **Assessment** | Design ideasPractical Piece  | Alessi design idea for kitchen roll holder | Final outcome of packaging | Assess working mechanism and how the theme is creatively applied | Assess the complexity of the drawings | Assess designing Assess making of final model |
| **Health and Safety** | General workshop rulesHealth and safety rules using pillar drill (closely supervised with the teacher and drilling jig) | Use of scissors | Die cutter – fingers away from sharp edges of die. Supervision by teacher | Split pins – sharp edgesUse of a set of compasses to make holes in card | None specific | General workshop rulesH&S rules regarding the line bender, pillar drill and hegner saws. |
| **Cross-curricular** | MathsEnglishPSHE/SMSCScience | Art  | Geography – fair trade symbols and recyclingEnglishMaths - nets | Science - mechanismsMathsEnglishArt – animal theme/surface decoration | MathsArt | MathsScienceArtPSHE |