Design and Technology Learning Journey Year 8 2026-27

Autumn Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	
Topic	**Welcome back. Outline of the year.**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	
Challenge Objective and Content (for all learners)	Introduction to Design and Technology. Product Analysis Task. ***Challenge:*** *What design features make the product successful or unsuccessful?*	Exploring the brief. Introducing the brief and the client (Tatty Devine) Completing fact file on Jewellery designers Tatty Devine (client), Tiffanys. Product research on the works of Tatty Devine. CQ***: What*** *characteristics does each designer have which makes their work distinctive?*	Demonstration of the pewter casting process. COSHH and Safety. Pupils complete knowledge organiser. Properties & characteristics of pewter, and completing flow chart Health and safety, material research? ***CQ:*** *What are the most important steps to record during the demonstration?*	Mind mapping ideas for the project. ***Challenge:*** *what ideas and questions do you have that are linked to the brief?* *Mind mapping first 15 minutes of the lesson.* *Design/ideate and annotation of designs* CQ: How do designers communicate ideas before something exists?	Designing pendant. Teacher demonstration on the basics of 2D Design Tools as CAD/CAM option for pendant. Demonstration of CAD 15 minutes - Generating design ideas, CAD, measurement's, isometric drawing. Annotation of designs ***Challenge:*** *How will you come up with a range of design ideas and communicate them successfully?*	Manufacturing mould. Sawing the MDF moulds using coping saw. Pupils start their own moulds based on their designs. ***Challenge:*** *What sentences can you add that explain your ideas in more detail and identify problems/ solutions*	Manufacturing mould. Sawing the MDF moulds using coping saw. Pupils start their own moulds based on their designs. **Challenge:** How will use the saw skilfully to ensure that your mould is accurate.	Manufacturing mould, finishing mould to a high standard before pewter pouring. Possibility to start casting if moulds are ready. **Challenge:** How will use the saw skilfully to ensure that your mould is accurate.	HALF TERM
Inspire Opportunities	*Who is the user and how does this effect the design features?*	*Can you compare and contrast the work of each designer?*	*Can you identify quality control and quality assurance measures or simple techniques which will make your pendant more successful?*	*Can you identify the needs of the customer and client and identify how these might be different?*	*Are your ideas challenging/ unique and do they meet the brief?*	*Can you use annotation to link back to the needs of the client and the customer?*	*What strategies can you use to plan for accuracy?*	*What QC checks could you make to check the standard of your mould?*	
Assessment Opportunities	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout. Summative assessment - teacher design assessment	Formative and summative feedback will be undertaken by pupils and teacher throughout. Summative assessment - teacher design assessment	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	

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	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	
Topic	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	**Pewter Casting**	
Challenge Objective and Content (for all learners)	Manufacturing mould and casting. ***Challenge:*** *Can you remember how to cast successfully?*	Manufacturing. Teacher demon on how to Cross and draw filing and drilling at start of lesson. ***Challenge:*** *Can you use the tools accurately to produce the design you wanted?*	Manufacturing. teacher demo on how to Finishing and polishing pendant at start of the lesson. ***Challenge:*** *Can you finish your product so the standard is good enough to be sold?*	Manufacturing. Finishing and polishing pendant. Document work. ***Challenge:*** *Can you finish your product so the standard is good enough to be sold?*	Advantages and disadvantages of CAD/CAM Evaluation of pendant. Identifying strengths and weaknesses and linking back to the client and assessing whether their product meets the brief. Finish product/ teacher assessment ***Challenge:*** *Can you identify what has been successful/ unsuccessful and justify your answers?*	Pupils produce a step by step picture diagram showing the steps involved in casting pewter. Evaluation , testing and user feedback . ***Challenge:*** *What are the correct steps for pewter casting?*	CHRISTMAS
Inspire Opportunities	*What strategies can you use to plan for accuracy?*	*What strategies can you use to plan for accuracy?*	*What quality assurance checks will you make to ensure that your pendant is finished to a high standard?*	*What quality assurance checks will you make to ensure that your pendant is finished to a high standard?*	*Can you link back to the brief and identify whether your pendant would be suitable for Tatty Devine's online store?*	*Can you include steps for quality assurance/ quality control and H&S?*	
Assessment Opportunities	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout. Sumative assessment	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout. Sumative assessment of final product	Formative and summative feedback will be undertaken by pupils and teacher throughout.	

Spring Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	
Topic	**Cushion**	**Cushion**	**Cushion**	**Cushion**	**Cushion**	**Cushion**	
Challenge Objective and Content (for all learners)	Introduction to the project. The client is IKEA. Students are to pick their customers this gives them the opportunity to produce their own design brief and specifications. ***Challenge:*** *What characteristics does each designer have which makes their work distinctive?*	Product research using ACCESS FM to analyse Cushions. Looking at different types of cushions aimed at different customers. ***Challenge:*** *Can you analyse one or more cushions under each heading of ACCESS FM*	Exploring running stitch, back stitch & invisible stitch. More able will sew a button to fabric and explore a wider range of stitches. Exploring applique versus gluing fabric. Input regarding choice of fabric based on their characteristics. Exploring decorative sewing techniques.	Introduction of the sewing machine. Identifying key parts of machine. Complete driving test without thread. Practise threading machine. Start designing /ideate ideas for cushion. ***Challenge****: Can you demonstrate that you can set up and use the sewing machine independently?*	*Design/ideate of cushion for your chosen customer.*	Introduction to pattern making. Pupils making pattern for their chosen design idea. Opportunity for more able students to add features such as arms/ legs if they wish. ***CQ:*** *Can you develop a workable pattern based on your initial design ideas?*	HALF TERM

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			Challenge: *how could you use these techniques for your cushion?*			Students practising with thread – making a machine sampler of different stitch types. ***Challenge****: Can you demonstrate that you can set up and use the sewing machine independently?*	
Inspire Opportunities	*Can you compare and contrast the work of each designer?*	*What analysis can you complete around sustainability?*	*How does the choice of techniques impact the client and customer?*	*How does the choice of fabric impact the durability of the product and the environment?*	*Can you teach someone how to set up a sewing machine correctly?*	*Can you teach someone how to set up a sewing machine correctly?*	
Assessment Opportunities	Header Sheet will be used by teacher and pupil for both formative and summative assessment throughout activities.	Header Sheet will be used by teacher and pupil for both formative and summative assessment throughout activities.	Header Sheet will be used by teacher and pupil for both formative and summative assessment throughout activities.	Header Sheet will be used by teacher and pupil for both formative and summative assessment throughout activities.	Header Sheet will be used by teacher and pupil for both formative and summative assessment throughout activities.	Header Sheet will be used by teacher and pupil for both formative and summative assessment throughout activities.	

	Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	
Topic	**Cushion**	**Cushion**	**Cushion**	**Cushion**	**Cushion**	
Challenge Objective and Content (for all learners)	Manufacture. Assembling the Cushion Pupils hand sewing or machine sewing main cushion. ***Challenge:*** *can you choose an appropriate hand/ machine stitch to sew the cushion and complete it with accuracy?* Recap purpose of design brief and specification. Writing a specification for the cushion based on learning acquired during weeks 1-6. ***Challenge.*** *Can you write a range of specification points stating what / why/ how you will make?*	Manufacture. Assembling the Cushion Pupils hand sewing or machine sewing main cushion. ***CQ:*** *can you choose an appropriate hand/ machine stitch to sew the cushion and complete it with accuracy?* Pupils designing for a client which they have identified. ***Challenge:*** *Can you come up with a range of ideas and communicate them successfully?*	Manufacture. Assembling the cushion. Pupils filling the cushion with stuffing and closing the gap using invisible stitch. Completing design phase with focus on detailed annotation. ***Challenge****: Can you add sentences that explain your ideas in more detail and identify problems/ solutions?*	Introduction to pattern making. Pupils making pattern for their chosen design idea. Opportunity for more able students to add features such as arms/ legs if they wish. Finish final product. ***Challenge:*** *Can you develop a workable pattern based on your initial design ideas?*	Evaluation, testing and user feedback. Document and evaluate Cushion identifying what has been successful / unsuccessful and analysing whether they have met the design brief. ***Challenge:*** *Can you evaluate whether your cushion meets the specification?*	EASTER
Inspire Opportunities	*How is a specification essential for the client and the customer?*	*Are your ideas unique/ challenging and do they meet the needs of the client.*	*How can you use annotation to link back to the needs of the client/ the customer/ your specification?*	*Why is a seam allowance important when creating a pattern?*	*What strategies can you use to plan for accuracy?*	

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Assessment Opportunities	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout.	Formative and summative feedback will be undertaken by pupils and teacher throughout. Summative teacher assessment of final product	Formative and summative feedback will be undertaken by pupils and teacher throughout.	

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Summer Term

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	
Topic	**Moving Toy**	**Moving Toy**	**Moving Toy**	**Moving Toy**	**Moving Toy**	**Moving Toy**	**Moving toy**	
Challenge Objective and Content (for all learners)	Introduction to project. LO: Understand the design challenge and investigate existing pull-along toys Show examples of pull along toys. Theory intro to design process, levers and linkages, target users and product function. Main – create a mind map around pull along toys. CQ: "How could you make your pull-along toy move in a unique or unexpected way using a lever or linkage mechanism?"	Product research and product analysis LO: Investigate existing products. Theory – Product analysis. Main – Analyse 3 different pull along toys. CQ: How could you improve an existing pull-along toy to make it safer, more sustainable, and more engaging for young children without making it significantly more expensive to produce?	Material research LO: Investigate suitable materials Theory - properties of timber, polymers, manufactured Main – Material testing CQ: If you could combine the properties of different materials, what would be the ideal material for a pull-along toy and why?	Levers, linkages, maths and science LO: Understand mechanisms Theory – types of linkages • Bell Crank • Reverse motion • Push-pull • Parallel linkage. Main – Make paper linkage prototypes. CQ: How could you combine different types of linkages to create a pull-along toy with smooth, realistic, and interesting movement?	Design brief and specifications LO: Develop a design brief. Review research findings Main – Write the design brief. Planning – produce an initial project timeline. CQ: How can you write a design specification that is realistic, measurable and detailed enough to guide every stage of making your pull-along toy	Generating design ideas LO: Produce creative design concepts. Main – Generate 3-4 design ideas, including : Annotation, materials, mechanism, colour, construction and movement. CQ: How can you use your research and knowledge of materials and mechanisms to create a design that is original, practical and ready to manufacture	CAD and prototyping LO: Develop the final design. Introduction to CAD using 2D design, design spark to create the toy prototype. Prototype using card to make a model. Test movements and identify problems with design. CQ: How can you use your CAD model and prototype to test, evaluate and refine your design so that your final pull-along toy performs as intended	HALF TERM
Inspire Opportunities	How could a simple pull-along toy bring a smile to a child while also teaching them something new?	What features make a children's toy memorable and enjoyable enough that a child would want to play with it again and again	How does choosing the right material help designers create products that are safe, durable, attractive and environmentally responsible	How do everyday products use levers and linkages to turn simple movements into something useful, exciting, or fun	How can a well-written design brief help turn an idea into a successful product that meets the needs of its user	How can you transform a simple idea into a unique pull-along toy that is fun, functional and appealing to your target user	How can digital design and prototyping help designers spot problems and improve a product before it is manufactured	
Assessment Opportunities	Formative and summative feedback will be undertaken by pupils and teacher throughout. Evidenced through mind map	Formative and summative feedback will be undertaken by pupils and teacher throughout. Evidenced through product analysis and user research	Formative and summative feedback will be undertaken by pupils and teacher throughout. Evidenced through materials research table	Formative and summative feedback will be undertaken by pupils and teacher throughout. Evidenced through Linkage prototype	Formative and summative feedback will be undertaken by pupils and teacher throughout. Evidenced through Design brief and specifications	Formative and summative feedback will be undertaken by pupils and teacher throughout. Evidenced through design ideas	Evidenced through CAD drawing and prototype.	

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	Week 1	Week 2	Week 3	Week 4	Week 5		SUMMER
Topic	Moving Toy	Moving Toy	Moving Toy	Moving Toy	Moving Toy		
Challenge Objective and Content (for all learners)	Planning and Manufacture LO: Prepare for manufacture Theory – working drawings, orthographic views and dimentions. Main practical – Accurate measuring, marking out, preparing the choosen material and components. CQ: How can accurate working drawings, careful measuring and precise marking out reduce mistakes, save materials and improve the quality of your finished pull-along toy	Cutting, Forming and Joining LO: Manufacture the toy. Practical - manufacturing the toy. CQ: How can you select and use the most suitable cutting, forming and joining techniques to produce a strong, accurate and well-finished pull-along toy	Finishing and decoration LO: Improv product quality. Practical – Manufacturing toy and finishing product to a high standard using: Sanding Paining Varnishing Adding wheels CQ: How can you apply finishing techniques and decorative details to improve the appearance, durability and overall quality of your pull-along toy without affecting its performance?	Testing and user feedback LO: Evaluate performance. Testing Movement Strength Safety Stability Durability Appearance User testing get students to test each other's toys and produce feedback forms. CQ: How can you use the evidence from your product testing and user feedback to justify improvements that will make your pull-along toy safer, stronger and more enjoyable to use?	Iteration anf Final Evaluation LO: Improve and evaluate the final design Main – make final improvements Evaluation – evaluate agaisnt design brief, specifications, user feedback, testing, sustainability, manufacture and materials used. Reflect on final product. CQ: How can you use your design brief, specification, testing and user feedback to justify the changes you have made and explain how your pull-along toy could be improved for commercial manufacture?		
Inspire Opportunities	Why is careful planning and accurate measuring just as important as making when creating a high-quality product	How do skilled craftspeople use precision and attention to detail to turn raw materials into high-quality products	How can the finishing touches transform a well-made product into one that looks professional, lasts longer and appeals to its target user?	How do designers use testing and customer feedback to turn a good product into a great one	How do designers use reflection and continuous improvement to create products that are successful, sustainable and ready for manufacture		
Assessment Opportunities	Evidenced through working drawing and marked materials	Evidenced through Main construction	Evidenced through Finished product.	Evidenced through Test results and user feedback	Evidenced through Final evaluation and Iterated product		

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