

DESIGN AND TECHNOLOGY



ALDER
Community High School

YEAR GROUP 7

Design and Technology 1	Workshop safety & Design Ideas	
	<u>Composites</u> •To know Health & Safety rules and workshop expectations •To know what a design brief is •To know that a design brief informs design ideas & developments •To know what isometric drawing is •To know how to work safely within a workshop to prevent hazards and injury •To know how to follow the design process and present high quality design ideas •To know how to develop design ideas •To know how to create an isometric drawing accurately	<u>Key Vocabulary</u> Timber Accuracy Rendering Isometric Quality Control
	<u>Assessment</u> Design: Students will create a range of design ideas that show a consistent approach to development based on the age range of 7 – 11-year-olds. Make: Students will create a working ball bearing game using a range of workshop tools and machines Evaluate: Students will evaluate their final outcome and identify their strengths and weaknesses throughout the project.	<u>ILS</u> Using knowledge organisers create: • Flashcards • Knowledge drop • Mind map • Practice key vocabulary definitions
	<u>How to help at home</u> • Discuss the importance of following health and safety rules. • Encourage students to identify hazards and risks in everyday situations.	<u>Wider reading</u> • Research the Design Process and how designers develop products.



	• Practise sketching and drawing household objects in 3D. • Support revision of key vocabulary using flashcards and quizzes. • Encourage students to explain how their ideas meet a design brief. • Look at everyday products and discuss how they have been designed to meet users' need	• Read about health and safety in workshops and manufacturing industries. • Explore examples of product design sketches and technical drawings. • Investigate how designers use modelling and prototyping to test ideas. • Research famous designers and inventors.
	SMSC Social: Working cooperatively, sharing resources responsibly and communicating effectively with others. Moral: Understanding personal responsibility for health and safety and making safe choices in a workshop environment. Spiritual: Developing creativity, confidence and resilience through designing and problem-solving. Cultural: Exploring how products are designed to meet the needs of different cultures, communities and users.	Careers Links Product Designer Industrial Designer Design Engineer Architect Mechanical Engineer Manufacturing Engineer CAD Technician Construction Manager Surveyor Project Manager Design and Technology Teacher Health and Safety Officer
Design and	Ball Bearing Game Practical	
	Composites •To know that specific tools have specific uses •To know that health & safety rules should be followed •To know what steps should be followed to create a Ball Bearing Game •To know how to use tools and equipment safely and independently •To know how to behave in a workshop and identify hazards •To know how to follow step by step instructions accurately and independently	Key Vocabulary Timber Accuracy Rendering Isometric Quality Control
	Assessment	ILS



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<u>How to help at home</u> • Encourage careful measuring and accuracy. • Discuss the safe use of tools and equipment. • Support revision of workshop rules and key vocabulary. • Encourage students to follow instructions independently. • Discuss how products and games are tested and improved before being sold.	<u>Wider reading</u> • Research how products are manufactured. • Explore the importance of quality control in industry. • Read about different engineering and design careers. • Investigate how prototypes are used to test ideas. • Research the role of health and safety in workshops and factories.
<u>SMSC</u> Social: Working collaboratively and supporting others during practical activities. Moral: Taking responsibility for safe working practices and respecting workshop rules. Spiritual: Developing confidence and perseverance when overcoming practical challenges. Cultural: Understanding how products and games are designed for different users and cultures around the world.	<u>Careers Links</u> Product Designer Design Engineer Manufacturing Engineer Mechanical Engineer Construction Technician Industrial Designer CAD Technician Workshop Technician Quality Control Inspector Architect Design and Technology Teacher Project Manager



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