

Roundswell Community Primary Academy
Progression of Skills, Knowledge and Understanding in DT

Assessment objectives - Design – Make – Evaluate – Technical Knowledge

Objective reference	Learning Objectives	Topic
T2.1	Investigate a range of products, tools, materials and techniques to inspire their thoughts and designs	All topics
T2.2	<u>Create and follow a plan in 2D to show what they are going to make through drawings and key vocabulary, exemplifying their selection of appropriate materials</u>	All topics
T2.3	Create prototypes in 3D exploring material and structure	All topics
T2.4	Use ICT to record the development of the manufacture	All topics
T2.5	Experience and explain a range of mechanisms such as; wheels, axles, levers and sliders	Were they hard times?
T2.6	<u>Assemble a device that has a moving mechanism using techniques such as measuring, marking out, cutting and shaping</u>	Were they hard times?
T2.7	Make simple electrical devices	Superheroes
T2.8	<u>Identify and evaluate their product, suggesting improvements</u>	Mysteries of the Rainforest
T2.9	<u>Prepare a simple dish healthily and hygienically using techniques such as cutting, peeling, grating and mixing (e.g.: http://www.foodfactoflife.org.uk/Sheet.aspx?siteId=12&sectionId=47&contentId=120)</u>	Mysteries of the Rainforest
T2.10	Select a combination of ingredients identifying what is tasty, nutritional, locally sourced and globally sourced	Mysteries of the Rainforest

Year 3

Objective reference	Learning Objectives	Topic
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T3.1	Investigate and deconstruct a range of products to inspire their thoughts and designs	All topics
T3.2	<u>Record their planning using a culmination of ICT, 2D illustrations and 3D prototypes to meet a specific design brief</u>	All topics
T3.3	<u>Use a range of tools, materials and techniques (including measuring, marking out, cutting, joining and shaping) as modelled and explored with increasing skill and accuracy</u>	All topics
T3.4	<u>Identify, evaluate and implement changes to improve their design</u>	All topics
T3.5	Create a simple electrical device that activates for a purpose (e.g. a robot that uses a sensor)	The Rise of the Robots
T3.6	Identify materials that have properties that fit a design brief	Active Planet
T3.7	Design a product that is using a property of a material (e.g. a tent for a family displaced because of an earthquake)	Active Planet
T3.8	<u>Weigh and combine ingredients to follow a simple recipe using techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</u> (e.g. damper bread or a recipe prepared from plants studied in Science)	Explorers and Adventurers
T3.9	Manipulate standard recipes to explore texture and flavour	Explorers and Adventurers

Year 4

Objective reference	Learning Objectives	Topic
T4.1	Investigate and deconstruct a range of products and begin	All topics

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	to identify their design limitations.	
T4.2	<u>Record their planning using a range of ICT, 2D illustrations and 3D prototypes, meeting a design brief relating to prior experiences</u>	All topics
T4.3	<u>Use a range of tools, materials and techniques with increasing skill and accuracy to create a functional product that is fit for purpose</u>	All topics
T4.4	<u>Reflect on and evaluate their product, implementing any changes to their design</u>	All topics
T4.5	Know that food production is affected by climate and seasons	Stargazers
T4.6	<u>Follow a recipe that uses techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</u>	Stargazers
T4.7	Create a device that uses pneumatic systems (e.g. a pneumatic device linked to a news story)	In the News
T4.8	Understand how levers and gears can be operated to transfer power	Democracy
T4.9	Design and use mechanical systems that create movement (e.g. a voting machine)	Democracy

Year 5

Objective reference	Learning Objectives	Topic
T5.1	Investigate and research products in order to respond to a client's demands	All topics

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T5.2	<u>Create a step – by – step recorded plan to meet a specific design brief using a range of ICT and exploded 2D illustrations</u>	All topics
T5.3	Use 3D prototypes to explore and inform the step – by – step plan	All topics
T5.4	<u>Select a range of tools, materials and techniques to construct with increasing skill and accuracy</u>	All topics
T5.5	<u>Evaluate their designs and products against the original design specification, implementing any suggested changes to their design</u>	All topics
T5.6	Know how more complex electrical circuits and components can be used to create functional products	Urban Pioneers
T5.7	Create a simple electrical device that activates for a purpose (e.g. a sensor-triggered spotlight)	Urban Pioneers
T5.8	Investigate a range of 3D structures, focusing on the shapes within	Time Machine: AD900
T5.9	<u>Use construction techniques (including measuring, marking out, cutting, shaping, joining and assembling) to reinforce and strengthen a 3D framework (e.g. for a shelter or a model time machine)</u>	Time Machine: AD900
T5.10	Explore how simple processes can change ingredients, such as heating, freezing, chilling etc.	Different Pasts, Shared Futures
T5.11	Design and create a product that can be mass produced (e.g. food products suitable for transporting)	Different Pasts, Shared Futures

Year 6

Objective reference	Learning Objectives	Topic
T6.1	Investigate products to determine how they are designed, made and work	All topics

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T6.2	Research the working history of select products and how design has influenced them over time	All topics
T6.3	<u>Create a step-by-step recorded plan to meet a design requirement using a range of ICT, 2D cross sectional illustrations and exploded diagrams</u>	All topics
T6.4	Use 3D prototypes to explore and inform the step – by – step plan, aesthetic outcome and budgetary constraints	All topics
T6.5	<u>Select a range of appropriate tools, materials and techniques to construct with precision and accuracy, focusing on quality of finish and function</u>	All topics
T6.6	<u>Test and evaluate their own product and respond to constructive comments to implement any changes to their product</u>	All topics
T6.7	Investigate a range of technologies that people are developing around the world to address global challenges (e.g. https://practicalaction.org/design-for-a-better-world)	What Price Progress?
T6.8	Design and create a product for mass production taking into account research and material properties	What Price Progress?
T6.9	Know how levers work with a fulcrum, to multiply the force applied to another object	People Power
T6.10	Know how to make strong, stiff shell structures	People Power
T6.11	Design and make a musical instrument which could utilise a lever to be used in a protest (e.g. a snare drum or pedal-operated bass drum)	People Power
T6.12	Investigate a range of mechanisms and 3D structures	War and Peace
T6.13	Use construction techniques (including measuring, marking out, cutting, shaping, joining and assembling) to solve a practical problem (e.g. to reinforce and strengthen a 3D framework for a shelter or to improve the function of a mechanism that transports things)	War and Peace
S6.14	<u>Demonstrate resourcefulness when tackling and solving practical problems</u>	War and Peace