



Backworth Park Primary School Design Technology Long Term Plan



	Autumn	Spring	Summer
EYFS Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Cooking- can we make different dishes? Chop and cut fruit; mix to make fruit salad; bake bread; knead and prove bread; explore melting states (cheese); dip breadsticks for wands. - To recognise different fruits and vegetables. - To explore different foods using the five senses. - To understand basic food hygiene when preparing food. - To make a fruit salad using cooking techniques such as mixing, cutting, chopping. - To explore the process of melting foods. - To understand the importance of healthy food choices.		Rockets- how will we get to space? Use junk materials; join parts together; create folds/ openings; explore shapes of objects; ensure effectiveness sturdiness; evaluate. - To understand the purpose of a rocket and what a rocket needs. - To use different materials to create 'textures'- foil, cotton wool, sandpaper, etc) - To think about shapes and colours when designing a rocket. - To use junk modelling materials to build a rocket. - To test their rocket for effectiveness. - To evaluate and change materials for sturdiness and strength.
Year 1 Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Mechanical Structures- Can we design a slider mechanism? Understand what a mechanism is, how it can be used to make a vehicle move, depict book characters - To understand what a slider is and how it moves (examples & looking at book characters to use). - To explore different materials that can be used to build a simple slider. - To plan and design a simple slider mechanism. - To build a slider mechanism using different materials. - To test a slider mechanism and suggest improvements. - To evaluate and discuss what slider mechanism they have created.	Cooking and Nutrition- How smooth is a smoothie? Identify where fruit/vegetables are grown, practice food preparation skills, apply to smoothie recipe. - To understand what a smoothie is and what the benefits of a smoothie are. - Explore different textures of different fruits and vegetables (smooth, rough, chunky, etc). - To learn how to blend ingredients. - To practice basic food prep skills- washing, peeling, etc. - To choose fruits and vegetables and write a simple smoothie recipe. - To make a simple smoothie following my own design. - To innovate and change smoothie based off likes and dislikes. - Evaluate smoothies, describing texture and flavour.	Textiles- what story can your puppet tell? Use felt and sewing techniques; create animal puppets. - To understand what a puppet is and how stories can be told through puppets. - To practice basic joining techniques (sewing, gluing, taping). - To design a puppet based on a story. - To begin creating their puppet. - To recognise how to make their puppet perform different movements. - To practice performing their story using their puppet.



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Year 2 Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Wheel, Axis and Chassis- Can we make a moving car? Understand and use wheels and axles, recognise which materials are appropriate. - To understand and recognise how different vehicles move. - To explore and select materials to build a moving car to suit its purpose. - To plan and sketch a design for a moving car. - To build a moving car using the materials I have selected. - To test and evaluate how well my product works. - To improve the car based on evaluations.	Building a Structure- Can we build Baby Bear's chair? Plan a design criteria for a structure to be strong and sturdy, use joins and folds, test out strength of different structures. - To identify suitable materials for building a small chair, comparing to familiar or similar products. - To decide what Baby Bear would need in a chair (size, strength, comfort). - To create a simple design for Baby Bear's chair. - To begin building the chair based on a simple design, using suitable tools for cutting, shaping and joining. - To complete the chair by adding features of comfort and decoration. - To test the finished model and evaluate based on original design criteria.	Wraps- is it a food group? Recognise different food groups – use all; use appropriate equipment; learn and use chopping, slicing, grating, spreading techniques. - To identify the main food groups and understand the importance of a balanced diet. - To explore different types of wraps and what fillings could be chosen. - To plan their wrap by choosing ingredients based on taste, texture and nutrition. - To prepare their ingredients, recognising the importance of food hygiene and safe food handling. - To evaluate their wraps and the ingredients they chose. - To reflect on what they have learnt about food groups and healthy eating.
Year 3 Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Lever and Linkages- Can we make a moving part character? Use parts to create a desired motion, understand and use levers and linkages to connect parts together. - To understand the basic function of a skeleton and how bones and joints allow movement. - To understand how levers and linkages create movement in mechanisms. - To plan and design a character with moving parts. - To construct their design using levers and linkages. - To assemble and finish my character. - To evaluate the effectiveness of the moving-part character.	Shell Structure: Can we organise our desk space? Understand what a desk tidy is and the purpose of a desk tidy. - To recognise what a desk tidy is and why it is purposeful. - To explore what features a desk tidy needs, what shape/size/strength it needs to be. - To create a simple design for a desk tidy. - Begin to build a desk tidy, ensuring it has sturdy structure and is purposeful. - Add features to your desk tidy for aesthetics. - Test your desk tidy for effectiveness and stability.	Bread of the Dead & Salsa- Did Spanish food travel over continents? Measure mix, knead ingredients; prove bread; chop and mix range of vegetables for accompaniment. - To discuss the origin of Spanish food and its journey across continents. - To explore Spanish bread and salsa (key ingredients in a traditional recipe). - To design a recipe for making bread. - To understand how to prepare the salsa, practicing knife skills and safe food prep techniques. - To follow a recipe and bake bread. - To prepare the salsa, pairing with the bread and evaluating.



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Year 4 Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Seasonal Savoury Tarts- What is the best season for a tart? Explore where food comes from across the world, the benefits of seasonal food, understand how to cut, peel and slice foods. - To understand the concept of 'seasonal food' and how it affects availability and flavour of foods. - To choose ingredients for a tart based on what season it is. - To design a tart- thinking about appearance and layout of ingredients. - To understand the components of a tart base. - To arrange the ingredients of a tart based on a planned design. - To taste and evaluate the tart.	Torches- Can you light up our world? Create a torch using recycled materials, applying knowledge of circuits and how to make a working torch, to follow a design. - To understand the basics of electricity and a simple circuit. - To understand what conductors and insulators are and their role in a circuit. - To plan a step-by-step design for a simple torch model. - To build the structure of a torch and create a simple circuit. - To make final adjustments, adding any aesthetics to their torch. - To evaluate and reflect what they learned about circuits and what challenges they faced.	Textiles- Can we create an Ugly Doll? Use applique techniques; attach pieces of fabric; use cross/ blanket stitches; join fabric together; create representations of themselves. - To understand the role of puppets and explore the concept of identity through a puppet (Ugly Dolls). - To explore different materials and identify which materials would be appropriate for a stuffed puppet by practicing basic sewing skills. - To plan and design their own ugly doll puppet based on personal features. - To construct the puppets body (cross/blanket stitch). - To personalise their puppet. - To finalise and evaluate their puppet.
Year 5 Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Cottage Pie- Why is a cottage pie named so? Use and understand basic baking techniques- chopping, peeling, seasoning, frying mashing, grating. Recognise when meat is cooked through. - To understand the context and origin of a cottage pie. - To identify traditional ingredients in a cottage pie and explore potential variations. - To plan a cottage pie recipe. - To prepare ingredients for the cottage pie- developing basic cooking skills. - To assemble and bake the cottage pie following a planned recipe. - To taste and evaluate a cottage pie.	Cams- Can we make a Victorian pulley toy? Create a wooden shell structure to create a Victorian inspired toy, that uses a cams movement. - Explore a variety of Victorian toys, define what a cams movement is and how this can be used in a toy. - Explore building a shell structure and how to include a cams movement in this. - Design a Victorian toy based on their own ideas. - Begin to construct the shell structure for your Victorian toy. - Add the cams movement and any additional enhancements to your toy.	Come to the Quayside!- Can we be inspired by the Tyneside bridges? Create replicas of framed triangular structures; make beamed bridges. - To explore the Tyneside bridges, their history and their impact on the local area. - To explore the materials used in real bridges and discuss their properties. - To plan and design a 'Tyneside' inspired bridge. - To build the basic structure of the bridge focusing on strength and stability. - To add additional support to their bridge for structural and aesthetic enhancement.



		- Test and evaluate your toy based on its purpose and effectiveness.	- To test and evaluate the effectiveness of their model.
Year 6 Lesson 1: Research (existing products) Lesson 2: Explore and Test Lesson 3: Design Lesson 4: Make Lesson 5: Make Lesson 6: Evaluate	Bean Stew and Tortillas- Can we make Mayan food? Understand vegetables native to South America, use cooking techniques such as chopping, slicing, mixing, stewing, explore how to mix, knead and prove tortillas. - To understand Mayan civilization and the significance of food in their culture. - To learn about traditional Mayan dishes such as tortillas, tamales and hot chocolate. - To plan a simple, Mayan-inspired recipe (Bean Stew). - To develop food preparation skills such as chopping, measuring and mixing. - To follow a recipe and cook a dish. - To taste and evaluate their dish.	The Hoppings- Can we design a fairground? Understand what 'The Hoppings' is; design a variety of structures; measure, mark and cut wood; use pulleys, cams, levers and linkages. - To explore 'The Hoppings' and different types of fairground rides and how they work. - To understand how gears can enable movement in a model. - To create multiple sketches and design a fairground ride that includes movement. - To build a model following their design, integrating gears. - To continue adding features to their model, including any aesthetic enhancement. - To test and evaluate a model.	Lanterns- Can we create a lantern using a microcontroller? Cut wood for frame structures; paper covering; sequence online simulation to programme lighting up; use BBC bits and microcontrollers. - To investigate and compare different lanterns and lighting products, identifying their materials, structure, and decorative features. - To test how microcontrollers and electrical components work, including how to programme lights to create different effects. - To design my own lantern by drawing and annotating ideas, explaining my choices of structure, decoration, and lighting effects. - To measure, cut, and join wood accurately and safely to make a strong cube frame for my lantern. - To assemble my lantern using wood and paper, and program my microcontroller to control the lighting system effectively. - To evaluate my finished lantern against my design criteria, explaining what worked well and what I could improve.



Careers linked to Design Technology-

- **Toy Designer**

Using design, sketching, 3D modelling and testing to make ideas come to life.

Creating fun, safe and imaginative toys.

- **Architect**

Designing houses, schools, parks, etc.

Using maths, drawing and model-making to plan buildings that are safe and effective for its purpose.

- **Fashion Designer**

Creating clothes and accessories from designs.

Using sewing, textiles and design skills.

- **Games Designer**

Design the look, feel and story of video games.

Using coding, creativity and problem solving.

- **Interior Designer**

Designing how rooms and building look and feel inside.

Using art and practical design skills.



- **App Designer**

Design how mobile apps look and work.

Using coding and creativity skills.

Careers linked to Cooking & Nutrition-

- **Chef or Baker**

Using creativity, time management, teamwork and art skills.

Range of opportunities of places to work.

- **Nutritionist**

Helping people to learn and understand how to eat healthily.

Using science, communication and problem-solving skills.

- **Food Product Designer/Developer**

Invent new foods or snacks to be sold in shops.

Mixing science, taste-testing and creativity.

Using design, cooking and science skills.