

Medium term Plan for Design and Technology

Y6- Structures and Mechanisms

Autumn 2

Class Text:

Hook: Toys from the past- link to Y1 History metacognition

Topic Outcome: Children will design and create a 'steady hand' game

Topic Reflection: Children will design and produce a textile saga scene

Prominent Designers Studied:

Strands of D&T

vocabulary

EYFS + KS1

Structures, systems and mechanisms

Textiles

Food Technology

Design

Make

Evaluate

KS2

Structures, systems and mechanisms

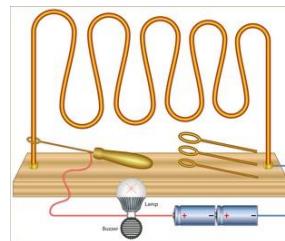
Textiles

Food Technology

Design

Make

Evaluate



Tier 1: toy, game,

Tier 2: design, develop, evaluate, function,

Tier 3: buzzer, circuit, system, conductor, switch



Previous Skills

Children will know how to use simple methods to fix wheels and axles to a product.
Children can make simple mechanisms- pop up books, flap books

Previous Knowledge

Children will know what wheels, axles and axle holders are.
Children will know what a fixed and loose pivot are.
Children can name simple commercial products that use wheels and axis to move.
Children can name 2D and 3D shapes.

Previous Understanding

Children will understand the difference between a pushing and pulling force.

	<u>Concepts</u>	<u>Learning Objective</u>	<u>Lesson Outcome</u>	<u>ARE Success Criteria</u>	<u>Vocabulary and Language Structures</u>
Lesson 1	Investigate past and present textile impact	LO: Create a design specification	Children will investigate different toys that use a circuit or buzzer system. They will evaluate the effectiveness of each design. They will use this knowledge to create a class design specification for a 'steady hand' game.	I can investigate systems and mechanisms. I can use prior knowledge to create a design specification.	I feel that this design should include... For this design to be successful it must/must not...
Lesson 2	Develop a technique	LO: Build a circuit	Children will learn how to build and test a buzzer circuit. Children will draw the circuit using technical symbols.	I can follow instructions to build a circuit. I can test variations on the circuit. I can draw a circuit using technical symbols.	Circuit, mechanism, buzzer, action, switch, insulator, conductor, crocodile clip, device, output
Lesson 3	Develop a technique	LO: Test a design	Children will design the aesthetics of their steady hand game- container, colour, shape, illustration and embellishment. Children will practise building paper nets to decide which fits the design specification.	I can design a game that will meet the design specification. I can build a variety of nets and test them against a design specification.	I believe that this design will appeal... The reason for choosing this net is...
Lesson 4	Design for a purpose	LO: Build a design	Children will build their steady hand game.	I can realise a design and ensure it meets the design specification.	
Lesson 5	Create to adapt	LO: Test and evaluate	Children will test and evaluate their steady hand game against the design specification.	I can objectively test my design against the design specification I can give my constructive opinion to other teams	This steady hand game meets the design specification in these areas... I would improve upon this design by...

					In my opinion....
Endpoints:	<p>Knowledge: Children will know that toys may contain mechanisms to make an effect- movement, sound, light up, spin.</p> <p>Skills: Children will be able to build a circuit that includes a buzzer mechanism. Children will be able to design and build to a specification. Children will be able to test and evaluate a design against a design specification.</p> <p>Understanding: Children will understand the aesthetics of an item will have an effect on how appealing it is to a consumer/ user</p>				