

# Medium Term Plan for Design Technology

## Y1- Structures and Mechanisms

Autumn 2

**Class Text:** Iggy Peck the architect, A place to call home, Homes around the world.

**Hook:** Little People Big Dreams book- Zaha Hadid

**Topic Outcome:** Children will build the Wise man's house (link to RE)

**Topic Reflection:** Use the Seesaw app to evaluate their learning.

**Enquiry:** What makes a building strong? Why do we need building? Why are buildings special? Who can be an engineer?

## Vocabulary

### EYFS + KS1

Structures, systems and mechanisms  
Textiles  
Food Technology



### KS2

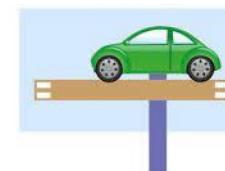
Structures, systems and mechanisms  
Textiles  
Food Technology



**Tier 1:** triangle, rectangle, circle, pentagon, square, oval, hexagon, glue, strong, stiff

**Tier 2:** 2D shapes, join, masking tape, duct tape, materials, evaluate, local, London, female,

**Tier 3:** structure, engineer, mechanism



### Previous Skills

Children can cut shapes with scissors and shape punches.  
Children can fasten items together using glue, tape and split pins.  
Children can make moving parts with split pins.

### Previous Knowledge

Children know that some changes can't be undone- cutting, slicing, tearing.

### Previous Understanding

Children understand that they are designers, makers and engineers. They understand that other people's designs should be valued.

	<u>Concept</u>	<u>Learning Objective</u>	<u>Lesson Outcome</u>	<u>ARE Success Criteria</u>	<u>Vocabulary and Language Structures</u>
<b>Lesson 1</b>	<b>Structures</b>	LO: Name 2D shapes.  Children will look at famous engineers. They will focus on Zaha Hadid. Look at the Olympic Stadium of 2012.	Children will go on a hunt around the playground and use the iPads to take pictures of shapes in the environment. Children will focus on 2D shapes and extend to 3D shapes where appropriate.	I can name common 2D shapes.  I can find 2D shapes in the environment.  I can take photos of 2D shapes in the environment.  I can name a famous female engineer.	
<b>Lesson 2</b>	<b>Structures</b>	LO: Know some strong and stiff structures.	Children will have pictures of structures cut into pieces. They must work as a team to create the image. Children will look at the properties of the structures and identify any shapes they can see. Children will look at a range of buildings from Zaha Hadid.	I can work in a team.  I can identify shapes in modern structures.  I can name some famous structures by Zaha Hadid.  I can find strong structures in the school locality.	
<b>Lesson 3</b>	<b>Structures</b>  Technical Knowledge Test Evaluate	LO: Join materials using different methods.	Children will experiment and investigate joining different materials together using glue, masking tape, duct tape and masking tape and test which one is	I can join materials in a range of ways.  I can record my learning.  I can explain which joining method was the most effective.	

			the strongest. They will record their learning in a table.		
<b>Lesson 4</b>	<b>Structures</b>	LO: Build a structure using prior knowledge.	Children will build their own structure to house the wise man. They will use their prior knowledge to use shapes and joins to create their structures. Children will test the strength and sturdiness of their structure by putting books on top. Children will evaluate their structure against the design specification	I can create a structure using the given materials. I can use my knowledge of shapes to build a structure. I can use my knowledge of joins to create a structure.	
<b>Lesson 5</b>	<b>Mechanisms</b>	LO: Evaluate different moving picture mechanisms	Children will investigate different mechanisms for moving pictures. They will examine sliders, flap books and pop up books.		
<b>Lesson 6</b>	<b>Mechanisms</b>	LO: Test a mechanism device	Children will investigate sliding mechanisms. They will evaluate which mechanism is the easiest to create and the most effective.	Children will create a class design specification: The design must have a moving mechanism. The design will appeal to... The design will have ... colours	

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<b>Lesson 7</b>	<b>Mechanisms</b>	LO: Design a moving picture mechanism	Children will design a moving picture using the class design specification.		
<b>Lesson 8</b>	<b>Mechanisms</b>	LO: Make and evaluate a moving picture	Children will create their designs and evaluate it against the class design specification.		
<b>Endpoints:</b>	<p><b>Knowledge:</b> Know a famous female engineer. Know the names of 2D shapes. Know the name of some strong and stiff structures. Know there are different ways to join materials.</p> <p><b>Skills:</b> Know how to join materials using different methods. Identify 2D shapes in the local environment and in structures. Explore how to make a structure stronger using a range of materials. Make sliding mechanisms.</p>				
	<p><b>Understanding:</b> Understand how to make a structure stronger and stiffer. Understand anyone can be an engineer if they work hard (ABC curriculum ASPIRE) Understand some structures are stronger than others.</p>				

