Y1 Design and Technology

Can you create….
A play area for children in school to play on?

Term: Autumn 1

Aspect of Design and Technology: Structures

Designing	Making	Evaluating	Technical knowledge and understanding
• Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through talking, mock-ups and drawings.	• Plan by suggesting what to do next. • Select and use tools, skills and techniques, explaining their choices. • Select new and reclaimed materials and construction kits to build their structures. • Use simple finishing techniques suitable for the structure they are creating.	• Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. • Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.	• Know how to make freestanding structures stronger, stiffer and more stable. • Know and use technical vocabulary relevant to the project.

Key Vocabulary

ANCHOR WORDS	GOLDILOCKS WORDS	STEP ON WORDS
Cut – to pierce, slice or open with a sharp tool. **Fold** – to bend over so one section lies against another.	**Join** – to put, bring or fasten together. **Fix** – to make stable or steady.	**Structure** – the way in which a thing is joined together. **Framework** – a structure that supports something built around it.

Knowledge Overview

<u>By the end of this unit, the pupils should know:</u>

- That different sheet materials can be joined together in different ways.
- Wider bases give structures greater stability (avoiding 'toppling' over)
- There are different ways to make a material strong, stiff and stable.

"Bridging Back" (previous years/cross-curricular content) **(EY)**
Reception Class Can you build a bridge for the goat to stand on?

- Pupils should know that they need a purpose for their design.
- Pupils should know that the design needs to be functional.
- Pupils will know how to join a variety of materials using glue, tape or construction pieces.

Through design and technology, children listen carefully to instructions and follow them accurately when using tools and practising techniques. When responding to questioning, children explain how their own and others' products work, say who they think they are for and what purposes they fulfil. They develop technical vocabulary and learn how to express their ideas for what they want to design and make.

"Bridging Forward" (future years/cross curricular content)

Year 2 ***"A coat to keep an alien dry."***

- Fabric can be joined in a variety of ways, including – gluing, stapling, pinning and sewing.
- Different ways of joining fabrics are stronger and more long-lasting than others.

Year 3 ***"A lunchbox to promote a healthy diet."***

- Tabs can be used to join sheet materials together.

Y1 Design and Technology

Can you create….
An alien spaceship to send the alien back to space?

Term: Spring 2

Aspect of Design and Technology: Mechanisms

Designing	Making	Evaluating	Technical knowledge and understanding
• Generate initial ideas and simple design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups.	• Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	• Explore and evaluate a range of products with wheels and axles. • Evaluate their ideas throughout and their products against original criteria.	• Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Know and use technical vocabulary relevant to the project.

Key Vocabulary

ANCHOR WORDS	GOLDILOCKS WORDS	STEP ON WORDS
Wheel – a round frame that turns on the axle. **Vehicle** – something used to carry or move people or things.	**Axle** – a rod on which one or more wheels can rotate. **Dowel** – wooden rods used for making axles to hold wheels.	**Chassis** – the frame or base on which a vehicle is built. **Friction** – resistance which is encountered when two things rub together.

Knowledge Overview

By the end of this unit, the pupils should know:

- How wheels are used in daily life.
- How to use construction kits to make a product that moves.
- Different ways to make axle holders and the importance of making sure the axles run freely within the holders.
- How to mark out, cut and join materials and components correctly.

"Bridging Back" (previous years/cross-curricular content) **(EY)**

Nursery Can you make a rocket? Can you make a castle?

Reception Can you make a house for the Three Little Pigs?

- Pupils should know what design decisions they need to make e.g. the house will need windows, a door and a chimney.
- Pupils will know how to join a variety of materials using glue, tape or construction pieces.

Through design and technology, children listen carefully to instructions and follow them accurately when using tools and practising techniques. When responding to questioning, children explain how their own and others' products work, say who they think they are for and what purposes they fulfil. They develop technical vocabulary and learn how to express their ideas for what they want to design and make.

"Bridging Forward" (future years/cross curricular content)

Year 2 ***"An information page to teach younger children about the UK?"***

- Levers and sliders must be made accurately to allow them to move.

Can you create….
A fruit salad for Little Red Riding Hood to eat at a picnic?

Term: Summer 2

Aspect of Design and Technology: Food

Designing	Making	Evaluating	Technical knowledge and understanding
• Design appealing products for a particular user based on simple design criteria. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings.	• Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.	• Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria, including intended user and purpose.	• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the 'eat well plate'. • Know and use technical and sensory vocabulary relevant to the project.

Key Vocabulary

ANCHOR WORDS	GOLDILOCKS WORDS	STEP ON WORDS
Fruit – the part of a plant that has seeds and flesh. **Salad** – a cold dish of fresh or cooked fruit or vegetables.	**Peel** – to pull, tear or cut the outer covering of a fruit or vegetable away. **Chop** – to cut in to many small pieces.	**Pith** – the soft, white lining inside fruits such as oranges. **Nutrients** – all the things in food that the body needs to remain healthy.

Knowledge Overview

<u>By the end of this unit, the pupils should know:</u>

- That people need to eat a variety of fruits and vegetables to stay healthy.
- How to describe fruit based on their senses, e.g. – taste, smell, feel.
- How to use utensils to chop, peel and squeeze fruits.
- That hands should be cleaned and washed before touching or preparing any food.

"Bridging Back" (previous years/cross-curricular content) **(EY)**
Nursery Making Pizza
Reception Taste a wide variety of fruit and make a fruit Salad.

- Pupils should know what design decisions they need to make to make a pizza or fruit salad using ingredients that they (the user) enjoy eating.
- Pupils will know how to chop food using a knife.
- The children will describe the food based on the taste.
- Children know that they need to wash their hands before touching food.

Through design and technology, children listen carefully to instructions and follow them accurately when using tools and practising techniques. When responding to questioning, children explain how their own and others' products work, say who they think they are for and what purposes they fulfil. They develop technical vocabulary and learn how to express their ideas for what they want to design and make.

"Bridging Forward" (future years/cross curricular content)
Year 2 ***"A selection of healthy snacks for Bob to take to the moon?"***

- There are safe and unsafe ways to use utensils when preparing food.
- How to use utensils to peel, chop, slice and grate a variety of vegetables.