



Design and Technology Medium Term Plan

Year 2 DT	Autumn	Spring	Summer
Concepts	Structures	Mechanisms	Cooking and nutrition
Overview	Considering what kind of chair Baby Bear would like, pupils develop a design criteria which uses all their knowledge of building strong and stable structures and begin to make their chairs.	Using their knowledge of structures, children build their frames and wheels before assembling their fairground rides, adapting their designs as necessary.	Building on their taste testing investigations, children design three possible wrap options before selecting their favourite and drawing and labelling their final design.
What we need to know	<p>To know that shapes and structures with wide, flat bases or legs are the most stable.</p> <p>To understand that the shape of a structure affects its strength.</p> <p>To know that materials can be manipulated to improve strength and stiffness.</p> <p>To know that a structure is something which has been formed or made from parts.</p>	<p>To know that different materials have different properties and are therefore suitable for different uses.</p> <p>To know the features of a Ferris wheel include the wheel, frame, pods, a base, an axle and an axle holder.</p> <p>To know that it is important to test my design as I go along so that I can solve any problems that may occur.</p>	<p>To know that 'diet' means the food and drink that a person or animal usually eats.</p> <p>To understand what makes a balanced diet.</p> <p>To know where to find the nutritional information on packaging.</p> <p>To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.</p>

	<p>To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move.</p> <p>To know that a 'strong' structure is one which does not break easily.</p> <p>To know that a 'stiff' structure or material is one which does not bend easily.</p>		<p>To understand that I should eat a range of different foods from each food group, and roughly how much of each food group.</p> <p>To know that nutrients are substances in food that all living things need to make energy, grow and develop.</p> <p>To know that 'ingredients' means the items in a mixture or recipe.</p> <p>To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy.</p> <p>To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'.</p>
Sequence of learning	<p>Exploring stability.</p> <p>Strengthening materials.</p> <p>Making Baby Bear's chair.</p> <p>Fixing and testing Baby Bear's chair.</p>	<p>Design a Ferris Wheel.</p> <p>Planning the build.</p> <p>Building the frame and wheels.</p> <p>Adding pods and decoration.</p>	<p>Hidden sugars in drinks.</p> <p>Taste testing combinations.</p> <p>Designing and making a wrap.</p> <p>Making and evaluating.</p>
Building on what we know	<p>To understand that the shape of materials can be changed to improve the strength and stiffness of structures.</p>	<p>To understand that the shape of materials can be changed to improve the strength and stiffness of structures.</p>	<p>To understand the difference between fruits and vegetables.</p>

	<p>To understand that cylinders are a strong type of structure (and, therefore, they are the main shape used for windmills and lighthouses).</p> <p>To understand that axles are used in structures and mechanisms to make parts turn in a circle.</p> <p>To begin to understand that different structures are used for different purposes.</p> <p>To know that a structure is something that has been made and put together.</p>	<p>To understand that cylinders are a strong type of structure.</p> <p>To understand that axles are used in structures and mechanisms to make parts turn in a circle.</p> <p>To begin to understand that different structures are used for different purposes.</p> <p>To know that a structure is something that has been made and put together.</p>	<p>To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber).</p> <p>To know that a blender is a machine which mixes ingredients together into a smooth liquid.</p> <p>To know that a fruit has seeds and a vegetable does not.</p> <p>To know that fruits grow on trees or vines.</p> <p>To know that vegetables can grow either above or below ground.</p> <p>To know that vegetables can come from different parts of the plant.</p>
Vocabulary	design criteria, man-made, natural, properties, structure, stable, shape, model, test	Design, design criteria, wheel, Ferris wheel, pods, axle, axle, holder, frame, mechanism	balanced diet, balance, carbohydrate, dairy, fruit, ingredients, oils, sugar, protein, vegetable, design criteria
Disciplinary Knowledge	<p>Generating and communicating ideas using sketching and modelling.</p> <p>Learning about different types of structures, found in the natural world and in everyday objects.</p> <p>Making a structure according to design criteria.</p>	<p>Selecting a suitable linkage system to produce the desired motions.</p> <p>Designing a wheel.</p> <p>Selecting appropriate materials based on their properties.</p>	<p>Designing a healthy wrap based on a food combination which works well together.</p> <p>Slicing food safely using the bridge or claw grip.</p> <p>Constructing a wrap that meets a design brief.</p>

	<p>Creating joints and structures from paper/card and tape.</p> <p>Building a strong and stiff structure by folding paper.</p> <p>Exploring the features of structures.</p> <p>Comparing the stability of different shapes.</p> <p>Testing the strength of their own structures.</p> <p>Identifying the weakest part of a structure.</p> <p>Evaluating the strength, stiffness and stability of their own structure.</p>	<p>Selecting materials according to their characteristics.</p> <p>Following a design brief.</p> <p>Evaluating different designs.</p> <p>Testing and adapting a design.</p>	<p>Describing the taste, texture and smell of fruit and vegetables.</p> <p>Taste testing food combinations and final products.</p> <p>Describing the information that should be included on a label.</p> <p>Evaluating which grip was most effective.</p>
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