



The BIG Picture

Having the willingness to try new foods opens the door to long-term health as well as food heaven. Our children will use their senses to consider the taste and flavour of new and familiar products before designing and creating the ultimate sandwich wrap.

NC Objectives- Key Stage Pupils should be taught:

- * Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- * Explore and evaluate a range of existing products
- * Use basic principles of a healthy and varied diet to prepare dishes
- * Understand where food comes from

Key Questions

- How do we identify a fruit?
- What is meant by diet?
- What is a fridge used for?
- What are nutrients?
- What are ingredients?

What do we already know? What can we already do?

Our children have already enjoyed a Cooking and Nutrition project during Year 1 when they made fruit smoothies. In this unit the children learnt to identify fruits and vegetables and discovered their places of origin.

Specific unit outcomes

- Name the main food groups and identify foods that belong to each group.
- Describe the taste, texture and smell of a given food.
- Think of four different wrap ideas, considering flavour combinations.
- Construct a wrap that meets the design brief and their plan.

Key Skills

- Designing a healthy wrap based on a food combination which works well together.
- Slicing food safely using the bridge or claw grip.
- Constructing a wrap that meets a design brief.
- Describing the taste, texture and smell of fruit and vegetables.
- Taste testing food combinations and final products.
- Describing the information that should be included on a label.
- Evaluating which grip was most effective.

Key Knowledge

- To know that 'diet' means the food and drink that a person or animal usually eats.
- To understand what makes a balanced diet. To know where to find the nutritional information on packaging.
- To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.
- To understand that I should eat a range of different foods from each food group, and roughly how much of each food group.
- To know that nutrients are substances in food that all living things need to make energy, grow and develop.
- To know that 'ingredients' means the items in a mixture or recipe.
- To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy.
- To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'.

Key vocabulary & understanding:

- balanced diet
- balance
- carbohydrate
- dairy
- fruit
- ingredients
- oils
- sugar
- protein
- vegetable
- design criteria





The BIG Picture

The understanding of levers and linkages, how they work and how they are created, is a first step in the understanding of tools and how we can utilise them to make hard tasks easier. This learning is developed as our children have fun making an appealing, exciting product.

What do we already know? What can we already do?

This unit builds on the skills and knowledge developed in the year 1 mechanics project, Wheels and Axels.

Key vocabulary & understanding:

- axle
- design criteria
- input
- linkage
- mechanical
- output
- pivot
- wheel

NC Objectives- Key Stage Pupils should be taught:

- * Design purposeful, functional, appealing products for themselves and other users based on design criteria
- * Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology
- * Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- * Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- * Explore and evaluate a range of existing products
- * Evaluate their ideas and products against design criteria
- * Build structures, exploring how they can be made stronger, stiffer and more stable
- * Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Specific unit outcomes

- Identify the correct terms for levers, linkages and pivots.
- Analyse popular toys with the correct terminology.
- Create functional linkages that produce the desired input and output motions.
- Design monsters suitable for children, which satisfy most of the design criteria.
- Evaluate their two designs against the design criteria, using this information and the feedback of their peers to choose their best design.
- Select and assemble materials to create their planned monster features.
- Assemble the monster to their linkages without affecting their functionality.

Key Skills

- Creating a design criteria for a moving monster as a class.
- Designing a moving monster for a specific audience in accordance with a design criteria.
- Making linkages using card for levers and split pins for pivots.
- Experimenting with linkages adjusting the widths, lengths and thicknesses of card used.
- Cutting and assembling components neatly.
- Evaluating own designs against design criteria.
- Using peer feedback to modify a final design.

Key Knowledge

- To know that mechanisms are a collection of moving parts that work together as a machine to produce movement.
- To know that there is always an input and an output in a mechanism.
- To know that an input is the energy that is used to start something working.
- To know that an output is the movement that happens as a result of the input.
- To know that a lever is something that turns on a pivot.
- To know that a linkage mechanism is made up of a series of levers.

Key Questions

- What is a mechanism?
- What is a design criteria?
- What are pivots, levers and linkages?
- What do we mean by input and output?





The BIG Picture

The ability to create strong, stable structures from seemingly weak, unstable materials e.g. paper, is enlightening and exciting to children. Here, our children will investigate such possibilities before designing and creating a structure with a purpose, for Baby Bear to sit on.

What do we already know? What can we already do?

Here our children build on the exploration activities undertaken in Foundation where construction materials are used to create simple structures and paper and tape are combined to make cards and pictures.

Key vocabulary & understanding:

- design criteria
- man-made
- natural
- properties
- structure
- stable
- shape
- model
- test

NC Objectives- Key Stage
Pupils should be taught:

- * Design purposeful, functional, appealing products for themselves and other users based on design criteria
- * Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
- * Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- * Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- * Evaluate their ideas and products against design criteria
- * Build structures, exploring how they can be made stronger, stiffer and more stable

Specific unit outcomes

- Identify man-made and natural structures.
- Identify stable and unstable structural shapes.
- Contribute to discussions.
- Identify features that make a chair stable.
- Work independently to make a stable structure, following a demonstration.
- Explain how their ideas would be suitable for Baby Bear.
- Produce a model that supports a teddy, using the appropriate materials and construction techniques.
- Explain how they made their model strong, stiff and stable.

Key Skills

- Generating and communicating ideas using sketching and modelling.
- Learning about different types of structures, found in the natural world and in everyday objects.
- Making a structure according to design criteria.
- Creating joints and structures from paper/card and tape.
- Building a strong and stiff structure by folding paper.
- Exploring the features of structures.
- Comparing the stability of different shapes.
- Testing the strength of their own structures.
- Identifying the weakest part of a structure.
- Evaluating the strength, stiffness and stability of their own structure.

Key Knowledge

- To know that shapes and structures with wide, flat bases or legs are the most stable.
- To understand that the shape of a structure affects its strength.
- To know that materials can be manipulated to improve strength and stiffness.
- To know that a structure is something which has been formed or made from parts.
- To know that a ‘stable’ structure is one which is firmly fixed and unlikely to change or move.
- To know that a ‘strong’ structure is one which does not break easily.
- To know that a ‘stiff’ structure or material is one which does not bend easily.

Key Questions

- What is a structure?
- What is meant by strong or weak?
- What is the function of a chair?
- Why is it important to test things?

