


Knowledge Organiser

Year: 1

Subject: Design & Technology

Unit: Playgrounds

Overview																																
Children will be learning about playground equipment and the materials they are made from. They will make models focussing on strength and sturdiness. The children will design and make a piece of playground equipment.																																
What should I already know?	Vocabulary:																															
<p>Design</p> <ul style="list-style-type: none"> Can identify the key features of an existing product and generate ideas to make their own product Can make a plan of a picture with a mechanism using pictures and labels and list the materials they will need <p>Make</p> <ul style="list-style-type: none"> Can cut out using scissors Can join components to make a wheel mechanism and follow a design <p>Working with tools</p> <ul style="list-style-type: none"> Join two pieces of paper/card together with glue and select appropriate and tools and use them safely <p>Evaluate</p> <ul style="list-style-type: none"> Can identify what has gone well with their product and how they could improve their work Say what they like and feel about their own and others' work <p>Technical Knowledge</p> <ul style="list-style-type: none"> Know that construction means to make something (EYFS) Know what a pivot and lever are and how they are used to make a mechanism work. 	 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">construction</td> <td style="padding: 5px;">to build or make something</td> </tr> <tr> <td style="padding: 5px;">design</td> <td style="padding: 5px;">a drawing to show what something looks like</td> </tr> <tr> <td style="padding: 5px;">evaluate</td> <td style="padding: 5px;">to make a judgement about something</td> </tr> <tr> <td style="padding: 5px;">demonstrate</td> <td style="padding: 5px;">to show</td> </tr> <tr> <td style="padding: 5px;">join</td> <td style="padding: 5px;">to link two items together</td> </tr> <tr> <td style="padding: 5px;">identify</td> <td style="padding: 5px;">to find</td> </tr> <tr> <td style="padding: 5px;">equipment</td> <td style="padding: 5px;">tools you need to construct something</td> </tr> <tr> <td style="padding: 5px;">frame</td> <td style="padding: 5px;">a rigid structure that surrounds something</td> </tr> <tr> <td style="padding: 5px;">spring</td> <td style="padding: 5px;">an elastic device that can be pressed or pulled but returns to its original shape when released</td> </tr> <tr> <td style="padding: 5px;">balance</td> <td style="padding: 5px;">put (something) in a steady position so that it does not fall</td> </tr> <tr> <td style="padding: 5px;">spin</td> <td style="padding: 5px;">turn or cause to turn or whirl round quickly</td> </tr> <tr> <td style="padding: 5px;">central point</td> <td style="padding: 5px;">from the centre of something</td> </tr> <tr> <td style="padding: 5px;">smooth surface</td> <td style="padding: 5px;">having an even and regular surface; free lumps, or indentation</td> </tr> <tr> <td style="padding: 5px;">sturdy</td> <td style="padding: 5px;">strongly and solidly built</td> </tr> <tr> <td style="padding: 5px;">wide-base</td> <td style="padding: 5px;">a base which is wide to improve stability</td> </tr> </table>		construction	to build or make something	design	a drawing to show what something looks like	evaluate	to make a judgement about something	demonstrate	to show	join	to link two items together	identify	to find	equipment	tools you need to construct something	frame	a rigid structure that surrounds something	spring	an elastic device that can be pressed or pulled but returns to its original shape when released	balance	put (something) in a steady position so that it does not fall	spin	turn or cause to turn or whirl round quickly	central point	from the centre of something	smooth surface	having an even and regular surface; free lumps, or indentation	sturdy	strongly and solidly built	wide-base	a base which is wide to improve stability
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What will I know by the end of the unit?

Design

- Can identify the key features of an existing product
- Can make a plan of an existing product and label it
- Can generate ideas for different ways of strengthening models to make them sturdy
- Can say whether their models are strong or not.
- Can make a labelled plan of their design and list the tools and materials they need.

Make

- Can cut out using scissors
- Can follow a design to make a piece of playground equipment
- Can join materials together to make a sturdy structure

Working with tools

- Join two pieces of paper/card together with glue and tape
- Can select appropriate and tools and use them safely

Evaluate

- Can identify what has gone well with their product.
- Can say how they could improve their work
- Say what they like and feel about their own work
- Can say what they like about others' work and give them positive feedback (I like.....about your product)

Technical Knowledge

- Know that to make a structure more stable it needs reinforcing e.g., more tape to hold it together



Playgrounds - by the end of the unit children: -

Construction

- Will cut materials using scissors
- Will describe the materials they have used and why they have chosen them using different words
- Be able to use their knowledge to design a product according to a design brief
- Be able to make their product using their design and knowledge of materials and construction
- Will be able to say why they have chosen materials and design aspects, explain their function and how they work together in their final product

Developing, Planning and Communicating Ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
<ul style="list-style-type: none"> • Can they identify the key features of an existing product? • Can they think of some ideas of their own? • Can they plan an outcome through pictures with labels? • Can they explain their ideas orally? 	<ul style="list-style-type: none"> • Can they explain what they are making? • Can they select appropriate resources and tools? • Can they explain which tools are they using and why? 	<ul style="list-style-type: none"> • Can they describe how their product works? • Can they identify success and next steps?

	<ul style="list-style-type: none"> • Can they use tools safely? 	
DESIGN AND DEVELOP - Can they ...	MAKING - Can they ...	PRODUCT AND EVALUATION - Can they ...
<ul style="list-style-type: none"> • Generate ideas from their own experience • Talk about their ideas and say what will be done • Describe what they want to do using pictures and words • Make lists of materials they will need 	<ul style="list-style-type: none"> • Know the features of some familiar products • Join two materials together, often with glue • Use scissors or a knife to cut, sometimes with help • Make simple models, not necessarily with a purpose • Use simple construction kits - e.g. Lego • Know about basic safety 	<ul style="list-style-type: none"> • Recognise the characteristics of familiar products • Know how some moving objects work • Use simple terms to talk about their own and others' work • Identify materials and mechanisms in familiar products