



KS1 Cycle B Phase Overview

Design and Technology KS1 Cycle B			
Cooking and nutrition Fruit and Vegetables	Structures: Constructing a windmill	Mechanisms/Mechanical systems: Making a moving story book/wheels and axles	Textiles: Puppets
Cooking and nutrition <u>Composite piece</u> To prepare fruit and vegetables to make a fruit and vegetable smoothie.	Structures <u>Composite piece</u> To make and assemble the components of a stable structure.	Sculpture <u>Composite piece</u> To design and construct a moving picture and storybook. To design and build a moving vehicle.	Craft and Design <u>Composite piece</u> To design and make a puppet by joining two fabrics and embellish a design.
Subject Specific Vocabulary			
<u>Cooking and nutrition: Fruit and Vegetables</u> Blender, Carton, Fruit, Healthy, Ingredients, Peel, Peeler, Recipe, Slice, Smoothie, Stencil, Template, Vegetable.			
<u>Structures: Constructing a windmill</u> Client, Design, Evaluation, Net, Stable, Strong, Test, Weak, Windmill			
<u>Mechanisms and Mechanical systems: Making a moving storybook</u> Assemble, Design, Evaluation, Mechanism, Model, Sliders, Stencil, Target audience, Template, Test.			
<u>Mechanisms and Mechanical systems: Wheels and axles</u> Axle, Axle holder, Chassis, Design, Evaluation, Fix, Mechanic, Mechanism, Model, Test, Wheel.			
Skills			
Design	Make	Evaluate	
<u>Cooking and nutrition</u> I can design smoothie carton packaging by hand or on an ICT website.	<u>Cooking and nutrition</u> I can chop fruit and vegetables safely to make a smoothie. I can identify if a food is a fruit or a vegetable. I can learn where and how fruits and vegetables grow.	<u>Cooking and nutrition</u> I can taste and evaluate different food combinations. I can describe the appearance, smell and taste of fruit and vegetables. I can suggest information to be included on packaging.	



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<p><u>Mechanisms/Mechanical systems: Moving storybook</u> I can explain how to adapt mechanisms. I can use bridges or guides to control the movement. I can design a moving story book for a given audience.</p> <p><u>Mechanisms/Mechanical systems: Wheels and axles</u> I can design a vehicle that includes wheels, axles and axle holders, that when combined will allow the wheels to move. I can create clearly labelled drawings that illustrate movement.</p> <p><u>Textiles</u> I can use a template to create a design for a puppet.</p>	<p><u>Structures</u> I can make stable structures from card, tape and glue. I can turn 2D nets into 3D structures. I can follow instructions to cut and assemble the supporting structure of a windmill. I can make functioning turbines and axles. I can assemble turbines and axles into a main supporting structure.</p> <p><u>Mechanisms/Mechanical systems: Moving storybook</u> I can follow a design to create moving models that use levers and sliders.</p> <p><u>Mechanisms/Mechanical systems: Wheels and axles</u> I can adapt mechanisms when:</p> <ul style="list-style-type: none"> • They do not move as they should • To fit their vehicle design • To improve how they work after testing their vehicle. <p><u>Textiles</u> I can cut fabric neatly with scissors I can use joining methods to decorate a puppet I can sequence the steps taken during construction.</p>	<p><u>Structures</u> I can evaluate a windmill according to the design criteria. I can test whether a structure is strong and stable. I can suggest points for improvement.</p> <p><u>Mechanisms/Mechanical systems: Moving storybook</u> I can test a finished product, seeing if it moves as planned. I can explain why and how it can be fixed. I can review the success of a product by testing it with its intended audience.</p> <p><u>Mechanisms/Mechanical systems: Wheels and axles</u> I can test a wheel and axle mechanism. I can identify what stops the wheels from turning. I can recognise that a wheel needs an axle to move.</p> <p><u>Textiles</u> I can reflect on a finished product, explaining likes and dislikes.</p>
Knowledge (I will know...)		
Technical		Additional
<p><u>Cooking and nutrition</u> I know the difference between fruits and vegetables. I understand that some foods typically known as vegetables are actually fruits. I know that a blender is a machine which mixes ingredients together into a smooth liquid. I know that a fruit has seeds and a vegetable does not. I know that fruits grow on trees or vines. I know that vegetables can grow either above or below ground. I know that vegetables can come from different parts of the plant, for example, roots: potatoes, leaves: lettuce, fruit: cucumber.</p>	<p><u>Structures</u> I know that a client is the person I am designing for. I know that design criteria is a list of points to ensure the products meets the clients needs and wants. I know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. I know that windmill turbines use wind to turn and make the machines inside work. I know that a windmill is a structure with sails that are moved by the wind. I know the three main parts of a windmill are the turbine, axle and structure.</p>	



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Structures:

I know that the shape of materials can be changed to improve the strength and stiffness of structures.

I understand that cylinders are a strong type of structure, for example, the main shape used for windmills and lighthouses.

I understand that axles are used in structures and mechanisms make parts turn in a circle.

I understand that different structures are used for different purposes.

I know that a structure is something that is made and put together.

Mechanisms/mechanical systems: Moving storybook

I know that a mechanism is the parts of an object that move together.

I know that a slider mechanism moves an object from side to side.

I know that a slide mechanism has a slider, slots, guides and an object.

I know that bridges and guides are bits of card that purposefully, the movement of the slider.

Mechanisms/mechanical systems: Wheels and axles

I know that wheels need to be round to rotate and move.

I understand that for a wheel to move it must be attached to a rotating axle.

I know that an axle moves within an axle holder which is fixed to the vehicle or toy.

I know that the frame of a vehicle (chassis) needs to be balanced.

Textiles

I know that 'joining technique' means connecting two pieces of materials together.

I know that there are various temporary methods of joining fabric by using staples, glue or pins.

I know that different techniques for joining materials can be used for different purposes.

I know that a template for fabric pattern, is used to cut out the same shape multiple times.

I know that drawing a design idea is useful to see how an idea will look.

Mechanisms/Mechanical systems: Moving storybook

I know that in Design and Technology we call a plan a design.

Mechanisms/Mechanical systems: Moving storybook

I know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles.