



DT - Cams mechanisms - Summer 1 - Who Let the Gods Out? - Year 5

Learning Experiences

DT - Cams mechanisms - Summer 1 - Who Let the Gods Out?

This unit will give the children opportunities to further develop their understanding of mechanical systems. They will learn about controlling movement with a cam mechanism as part of a moving scene depicting an Ancient Greek battle (Troy/Marathon). They will develop their designing skills through using information sources to research the battles which will then be incorporated into the design criteria and designs. They will make a simple cam mechanism to formulate an understanding of how different shaped cams can be used to produce different movements. Then they will extend their making skills by developing techniques in cutting, shaping and joining to combine components and by selecting tools and equipment to measure and cut wood and card accurately. Through these activities they will gain an understanding of the working characteristics of the materials and components and how they can be combined to create more useful properties. Peer assessment will be used to improve designs and evaluate final products.

This unit will be carried out consecutively in a week's worth of lessons.

Lesson 1 - understanding what cams are and how they work, choosing a scene to use in my product, choosing suitable materials to use for my product.

Lesson 2 - research and develop design criteria to inform the design of an innovative, functional, appealing product that is fit for the purpose of demonstrating a scene from an Ancient Greek battle.

Lesson 3 - build a framework, accurately using a wider range of tools and equipment following the plan and design.

Lesson 4 - evaluate and improve my product and demonstrate my understanding of a mechanical system.

Associated Documentation

Foundation Subjects

Design and Technology

Aims

Skill Code	Skill Statement	Year
DTA03	critique, evaluate and test their ideas and products and the work of others	Year 4
DTA03	critique, evaluate and test their ideas and products and the work of others	Year 5
DTA03	critique, evaluate and test their ideas and products and the work of others	Year 6

Subject Content

Skill Code	Skill Statement	Year
DTSC08	apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Year 4

DTSC08	apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Year 5
DTSC08	apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Year 6
DTSC01	design purposeful, functional, appealing products for themselves and other users based on design criteria	Year 4
DTSC01	design purposeful, functional, appealing products for themselves and other users based on design criteria	Year 5
DTSC01	design purposeful, functional, appealing products for themselves and other users based on design criteria	Year 6
DTSC03	select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately	Year 4
DTSC03	select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately	Year 5
DTSC03	select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately	Year 6
DTSC05	investigate and analyse a range of existing products	Year 4
DTSC05	investigate and analyse a range of existing products	Year 5
DTSC05	investigate and analyse a range of existing products	Year 6
DTSC09	understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages	Year 4
DTSC09	understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages	Year 5
DTSC09	understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages	Year 6
DTSC02	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Year 4
DTSC02	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Year 5
DTSC02	generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Year 6
DTSC04	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	Year 4
DTSC04	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	Year 5
DTSC04	select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	Year 6
DTSC06	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Year 4
DTSC06	evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Year 5

