



Hayesfield Girls School

Design and Technology

Electronic Communications Technology Flutterby - Flapping butterfly

Year 8 Systems & Control

A beautiful butterfly that appears in our dream. Turn the handle and the butterfly starts to flap with the wind.....

Name Tutor Group.....

Teaching Group.....

Teacher



Introduction

During the project you will make a moving butterfly. This will involve learning about different types of moving mechanisms and how they work, especially cams.

Outcomes

You will design and make a butterfly which will flap its wings using cams and a handle. This will also allow you to demonstrate your design skills and your knowledge on some of the mechanisms. Although most of the design is already fixed, you will have the opportunity to influence the appearance of the finished product.

Assessment

During this short project, your teacher will be focussing on 2 areas of your Technology work. You will be awarded a level for each of these targets as well as an overall mark for the end of module.

To help you achieve your best possible level, helpful descriptions of how to achieve each level is available in the classroom.

- 1) Research and investigation Final Level
- 2) Overall grade for completed product Final Level

Students Comments / Targets

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Your homework includes

- | | |
|----------------|----------------------|
| First: | Research |
| Second: | Design |
| Thrid: | Diary of make |

Mechanisms

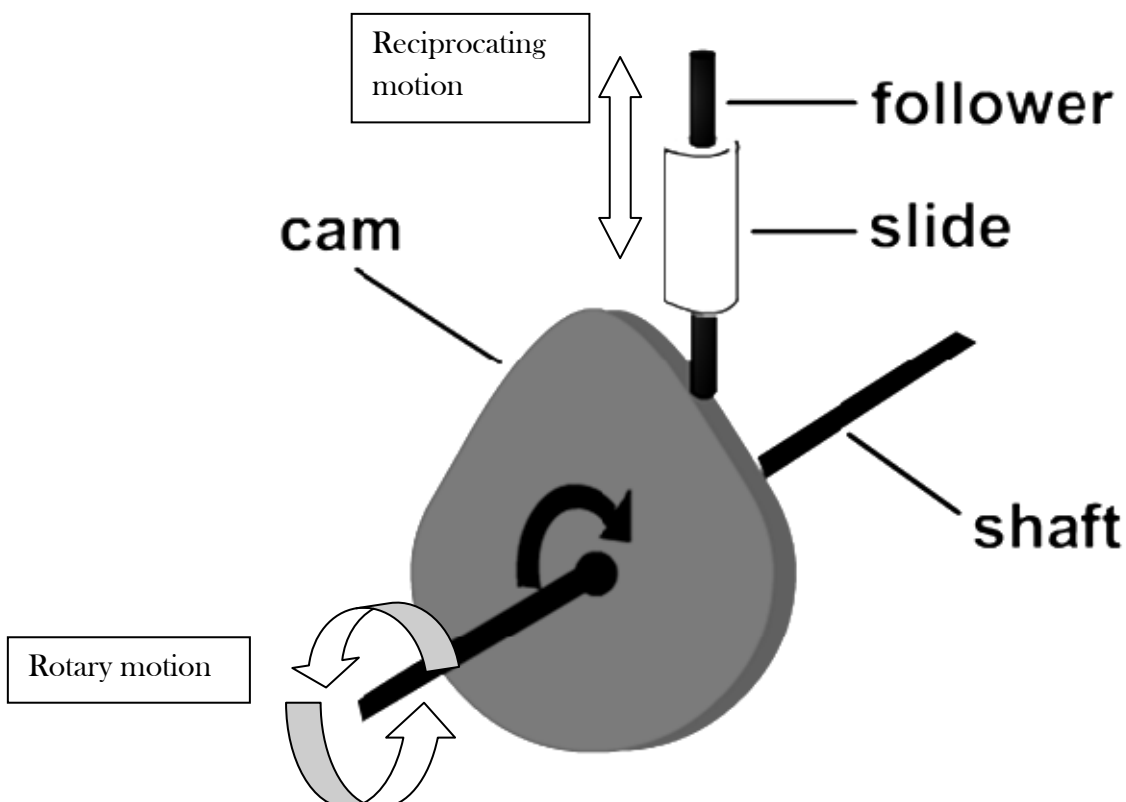
There are many different types of mechanisms that can be used to create a movement are:

- Rotary motion:
- Linear motion:
- Reciprocating motion:
- Oscillating motion:

You will be looking at Cams within this unit of work.

Cams convert a Rotary motion into a Reciprocating motion.

Different profiles (shapes) of Cams can alter the affects of the follower. The follower will move up and down with the shape of the Cam.



How is this Flutterby good for the environment?

Your Fultterby is made from reused cardboard, why is it important to help the environment by using the 3R's?

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Reusing cardboard material and turning it into something else

The 3R's



This helps by reducing waste which could go into landfills.

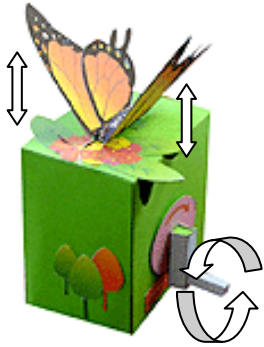
Recycling old cardboard boxes from the school.

Research where and why you would use these types of mechanisms.

Make sure you include pictures, these could be from the internet, magazines, books etc.

Next to the picture explain

- What picture is showing.
- Where the mechanism is
- A positive about the design
- And what you would change

Picture and motion	Analysis
	<p>Flying butterfly. Turn the handle and the wings will move up and down. The design is colourful. I wouldn't make it in cardboard because its not as stable as wood or plastic.</p>

Annotate the diagram:

Label the parts of the product
Where the movement is
What it is made from
The direction of the movement

Design three different butterflies:

Do this from a birds eye view (from above)

Think about a theme for your butterfly:

e.g. Culture: African...

Artist: Picasso...

Nature: leaves, shells...

What is your theme?.....

Which one have you chosen to be your final design:.....

Why have you chosen this?

(explain).....

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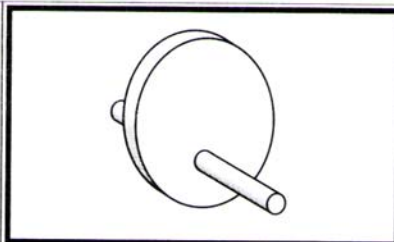
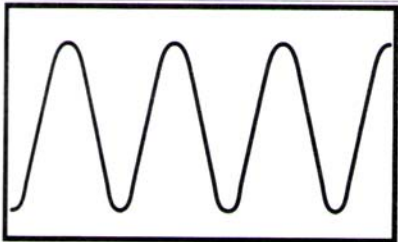
Diary of Making - a Flutterby

On this page you need to produce a diary of making your butterfly. This should be a step by step guide which someone could follow if they were making their own.

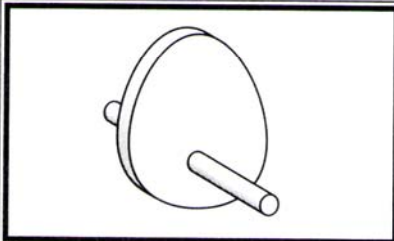
Include any problems you had and how you resolved them. (Modifications)

<p>Week one</p> <p>What you did? What went wrong? How would you change it?</p>	
<p>Week two</p> <p>What you did? What went wrong? How would you change it?</p>	
<p>Week Three</p> <p>What you did? What went wrong? How would you change it?</p>	

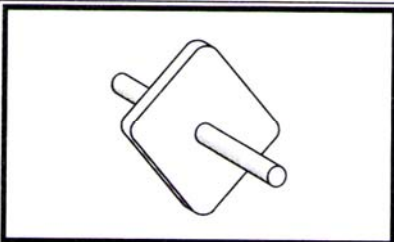
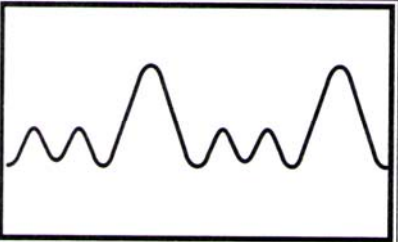
Evaluation



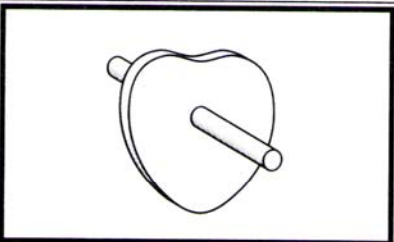
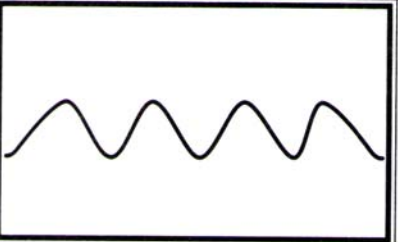
Eccentric cam



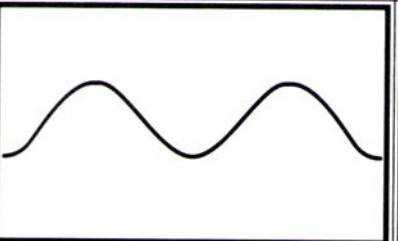
Single rise cam



Double rise cam



Heart cam



Snail cam