

## **Design and Technology: Mr M Reid**

**Year 7**

- **Core Technical Principles**

**Extended homework assignment**

**Name:**

**Group:**

### **Instructions**

A printed copy should be handed in to your teacher.

The knowledge required to complete this assignment will be supported in class.

## Aims

This is a homework activity for Design and Technology **Core technical principles: Mechanical Devices**

## Task 2

Completing this task will help you to identify a mechanical toy and to explain how it works.

Based upon your learning in class you should know how to identify a mechanical toy.

Find pictures of 3 different mechanical toys, they may have different mechanisms or different types of mechanical/motion output. Use **annotation** (notes) to explain your understanding of the mechanism (how does it work?), what types of motion are there? Who would play with this toy and why?

Toy	Mechanism	Types of motion	Target market
1. ★			
2. ★★			
3. ★★★			

## Aims

This is a homework activity for Design and Technology **Core technical principles: Mechanical Devices**

### Task 2: Types of motion

Using a picture of a mechanical product, identify the output motion of each and explain why it is needed.

Mechanical product	Type of Output motion	Why is this motion needed?
1. ★		
2. ★		
3. ★★		
4. ★★★		

## Aims

This is a homework activity for Design and Technology **Core technical principles: Mechanical Devices**

## Task 3

The design for your mechanical toy is developing. You are learning about different mechanical systems focussing on CAMS, FOLLOWERS, LINKAGES and LEVERS. Using pictures and notes explain your understanding of the 3 main classifications of lever.

Classification	Example of lever	Mechanical Advantage
First order lever ★		
Second order lever ★★		
Third order lever ★★★		

Explain the meaning of the term 'mechanical advantage' ★★

Use a picture ( on the next sheet) to support your answer. ★★★

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Draw your picture with notes here

