

Design and Technology L&T Resources

Mechanisms and Mechanical Components - Video on Making a Flying Bird Automaton

User Guide

Topic: Making a Flying Bird Automaton

Target: KS3 Secondary 1-3

Content:

The video takes “a flying bird” as an example to help students understand the methods for making different parts of an automaton and teaches them how to safely use various tools and equipment to process materials. The tools and equipment used include try square, tenon saw, bench hook, drill press, scroll saw, sander, and laser cutter and engraver.

The knowledge contexts in the Technology Education Key Learning Area at junior secondary level relevant to this set learning and teaching resources (“resource”) are as follows:

Knowledge Contexts	Learning Elements	KS3 Secondary 1-3
Common Topics of the Six Knowledge Contexts	Safety & Health	<ul style="list-style-type: none">• Understand and apply safety precautions and regulations in handling tools, equipment and resources in technological process.
Materials & Structures	Material Processing	<ul style="list-style-type: none">• Choose and use appropriate tools and machinery for material processing.• Understand common material processing procedures such as cutting, forming and finishing.
Operations & Manufacturing	Tools & Equipment	<ul style="list-style-type: none">• Use tools, machines or equipment to process various materials, energy and information.• Apply tools, machines or equipment for the realisation of design solutions.
	Production Process	<ul style="list-style-type: none">• Understand the factors in selecting various process for designing and making products.

		<ul style="list-style-type: none">• Understand a range of materials in the forming and removal process.• Understand a range of materials in the joining and finishing process.
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When teaching topics related to the above learning elements, teachers can make good use of this resource to guide students in designing, making and presenting the automata through a design project. Teachers can also incorporate other relevant learning contents (e.g., making reference to the learning and teaching resources on "Mechanisms and Mechanical Components" from Education Bureau) to help students understand the basic principles and classifications of automata, thereby deepening their understanding of mechanisms.

This resource has been developed with the assistance of Mr Goh Tsz-him, a teacher of design and technology subjects. The content of this resource is by no means exhaustive. Teachers should provide appropriate supplementary explanation according to students' abilities and needs.

All comments and suggestions related to this set of L&T resources may be sent to:

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