



# Design & Technology

## Create your own helicopter

Time recommended: 3 hours (project)  
Year 5 and 6

Strand:

Design and Technologies Processes and Production Skills

Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (ACTDEP024)



Name: \_\_\_\_\_



# Create your own helicopter!

In groups of five, use your prior knowledge, skills and research to create your very own helicopter.

In your group, redesign a helicopter for your local base. Use the 'Bases and Facts' poster to identify the Base that is closest to your school.

Using the current model of your local helicopter, change two parts of its design, and two of its materials to improve the way the helicopter looks and operates.

Create an educational document (a blog, a PowerPoint Presentation, or a YouTube recording) that includes your thoughts on which materials and design elements should be used for the new helicopter.

The final helicopter design should include all of the below elements:

- It must have a light for night vision.
- It must have an area in the helicopter for transporting people.
- It must be coloured yellow and red with a big Westpac-shaped 'W' so it is easily recognisable.
- It must have both a rotor and a tail rotor.
- It must have landing skids.
- It must have a winch.

Before you start your project, you must decide on a team name and logo.

## TASK ONE:

How will your team approach the above design task?

Create a step by step plan using PowerPoint for the design process.





### **TASK TWO:**

Using the available research tools, such as the internet and books in your school library, find evidence to support your decisions for using specific materials or design ideas.

On the internet research international and Australian design solutions that are currently being used on helicopters.

In this section compare more than one design solution, then make a decision from the facts you have learned as to which design works best for your new helicopter.

### **TASK THREE:**

As you replace two current design features and two current materials used on the helicopter, make sure you properly describe the structure, shape and purpose of each newly selected item.

Explain why each item is important to the overall success of your new helicopter.

### **TASK FOUR:**

Test a range of materials, components, tools and equipment that you have researched to decide what to use in the production of your helicopter.

Show your stages of testing (using video, photographs, or the experimental 3D model) to show why you should be using your recommended materials and design.

### **TASK FIVE:**

Now that you have recommended the materials and design, answer the following questions as a team:

1. Where do these materials come from?
2. How are these materials made?
3. What are the social and environmental impacts of these materials? Is their production producing any toxic (poisonous) gasses or other harmful products?

Share your ideas on how your team will reduce harmful material use, and how you will safely manage waste products during the production of your helicopter.

