

Cameras in Disguise: Design Challenge

FUTURE MAKERS TEACHER RESOURCE



QGC

FUTUREMAKERS

**QUEENSLAND
MUSEUM**



**Queensland
Government**

Cameras in Disguise: Design Challenge

Teacher Resource

In this activity, students design a camouflaged camera that can be used to record footage of a native Australian animal. Students must consider both the behaviour of the animal and the conditions of the environment in which the animal lives to make their designed solution.

Students gain inspiration from wildlife documentaries to complete the design challenge. People who work in this setting often disguise cameras to record footage of animals that may be scared away by the presence of humans and/or large camera rigs. Cameras disguised as rocks, eggs, snowballs and logs have been used to record footage of animals, as have cameras that are designed to look like the animals that are being filmed!

Curriculum Links (Version 9)

Design and Technologies

YEARS 5 AND 6

Knowledge and Understanding

Explain how characteristics and properties of materials, systems, components, tools and equipment affect their use when producing designed solutions (AC9TDE6K05)

Processes and Production Skills

Investigate needs or opportunities for designing, and the materials, components, tools, equipment and processes needed to create designed solutions (AC9TDE6P01)

Generate, iterate and communicate design ideas, decisions and processes using technical terms and graphical representation techniques, including using digital tools (AC9TDE6P02)

Select and use suitable materials, components, tools, equipment and techniques to safely make designed solutions (AC9TDE6P03) General Capabilities

Critical and Creative Thinking

Generating – possibilities and alternatives

Analysing – concepts, conclusions and outcomes

Reflecting – transfer knowledge

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Student Activity

Task:

You are a wildlife documentary maker, preparing to film a new documentary about native Australian animals. Some of the animals you need to film are very shy. They tend to hide if they sense humans in their environment, and they will not come out of their hiding places until the humans have left.

In order to make your film, you need to design a camouflaged camera that can be used to record footage of some of these animals. Your camouflaged camera should remain undetected by the animals. You will also need to consider both the behaviour of the animal and the conditions of the environment in which the animal lives to make your designed solution.

You must:

- **Investigate** how other documentary makers capture footage of animals. You will also need to research the behaviour of your chosen animal and the environmental conditions of the habitat.
- **Design** a camouflaged camera that can be used to record footage of the animal. Consider how the characteristics of the animal and the environmental conditions of the habitat will influence your design.
- **Create** a model of the camouflaged camera.
- **Test** the model. You could position the camouflaged camera in your school, and then record how many people stop to look at or inspect the device.
- **Refine** the camouflaged camera to improve on the original design.
- **Collaborate** in teams of two or three.
- **Evaluate** your design. You may also be required to evaluate social interactions and your ability to work effectively in a team.



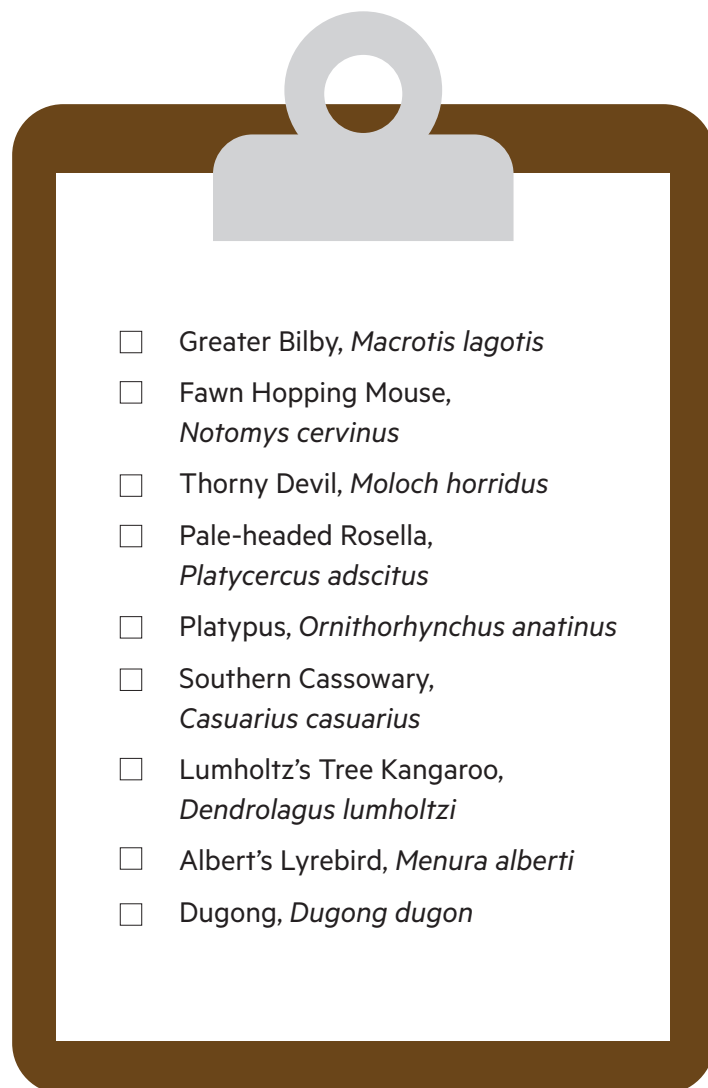
Investigate

Wildlife documentary makers use a variety of techniques to capture footage of animals. Investigate some of the camouflaged cameras documentary makers use in their productions:

- [Polar Bear: Spy on the Ice](#)
- [Dolphins: Spy in the Pod](#)
- [Trek: Spy on the Wildebeest](#)

Compare the features and components of these cameras.

You have short-listed the following animals to film. Select one animal to film first. You will design a camouflaged camera specifically for this animal.



- ☐ Greater Bilby, *Macrotis lagotis*
- ☐ Fawn Hopping Mouse, *Notomys cervinus*
- ☐ Thorny Devil, *Moloch horridus*
- ☐ Pale-headed Rosella, *Platycercus adscitus*
- ☐ Platypus, *Ornithorhynchus anatinus*
- ☐ Southern Cassowary, *Casuarus casuarius*
- ☐ Lumholtz's Tree Kangaroo, *Dendrolagus lumholtzi*
- ☐ Albert's Lyrebird, *Menura alberti*
- ☐ Dugong, *Dugong dugon*

Research the behaviour of your chosen animal. Record any important information below.

Research the environmental conditions of the habitat in which the animal lives. Record any important information below.

Design

Draw a labelled diagram of the camouflaged camera design. Include reasons for your design and selection of materials.

