



Wildlife Emergency Express

Design and Digital Technologies Unit Student Planning Workbook

Name: _____

Class: _____

Teacher: _____

First Nations Acknowledgement

The Reef Authority acknowledges the expertise, wisdom, and enduring connections that have informed the guardianship of the Reef for millennia. We pay our respects to the Traditional Owners as the first managers of this land and sea Country, and value their traditional knowledge which continues to inform the current management and stewardship of the Reef for future generations.



Unit Outline

In this unit, you will explore how people help injured or sick wildlife by safely transporting them to places where they can receive care. Using a real-life case study, you will begin by exploring the challenge of safely transporting animals, with a focus on how their specific characteristics and needs influence the way they are moved.

You will then choose a local animal and investigate its specific needs. Using the iSTEM design process, you will brainstorm ideas, plan, and create a prototype that could help transport your chosen animal safely.

Throughout the unit, you will test and improve your design, thinking about how well it works and how it could be made better. At the end of the unit, you will share your final design with others, explaining how your solution supports the needs of your animal and responds to the problem.

This project will give you the opportunity to think creatively, solve real-world problems, and explore how science and technology can be used to support wildlife in your community.

Aim:

To design and develop a solution that supports the safe transport of wildlife, considering the specific needs of the animal and the challenges involved.

Mission Statement:

Use the iSTEM design process to research, design, create, test, and improve a prototype that can safely transports a chosen local animal, based on its unique characteristics and needs.

I have achieved the mission when...



Lesson 1: Define

List some animals found in your local area that may need transporting:

Choose one of your listed animals to design a new device that will help transport that animal safely.

What animal have you chosen and why? (is it iconic, well-known, endangered)



Put an image of your chosen animal in the box. Label the key characteristics on your chosen animal. (e.g. gills, flippers, legs, wings, tail, claws, teeth)

What is the local Aboriginal or Torres Strait Islander name for your chosen animal?
(Optional)



Lesson 2: Identify

List reasons why your chosen animal might need transporting:

Describe how your chosen animal is currently transported (you can insert an image of current methods of transport)

List any questions you would ask a wildlife expert about how your chosen animal is transported.



What information do you already know about your animal?

Length: _____

Weight: _____

Does it breathe water or air?: _____

Does it need to stay wet or dry?: _____

Does it have wings?: _____

Does it have legs? (How many?): _____

Does it have claws? (How many? How big?): _____

Describe the body shape:

Can it harm humans, if yes how?:

List any other characteristics of your chosen animal that might influence your design:

List any specific requirements that your design will need based on your animals' characteristics? (e.g. will it need water, its wings protected, something to cover teeth or claws)



Lesson 3: Brainstorm and Design

Begin to brainstorm, list or create a mind map of ideas for a possible new or improved design to help transport your animal safely.



Lessons 4-6: Prototype

Describe or sketch your chosen design (Make sure to label your sketch):



If instructed by your teacher, you may now begin building your prototype and bringing your design ideas to life.

Lesson 7: Evaluate

How did/ would you test your design?

What worked well?



List any changes do you need to make to improve your design?



Lesson 8: Iterate

Did your changes improve how your design worked? If yes, how did it improve your design? If no, why not?

Is there anything you would do differently next time?

Final Design: (insert a labelled photo, screenshot or sketch)



Lesson 9-10: Communicate

How will you communicate your design? (E.g. presentation, report, is it possible to share your design idea with a local wildlife expert?)

What key points would you like to communicate?