

# FROG CONSERVATION


## LESSON PLANS: STAGE 3-4



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA

The purpose of this lesson is for students to consider the importance of conservation and sustainability for the natural environment. Students explore the impact of increasing urbanisation and climate change on natural flora and fauna. Through a focus on frogs, students consider what this species requires for survival and the importance of providing havens for our frog neighbours in the built environments in which we live.



 Watch this video

Discover how the University of Newcastle is protecting Australia's frog populations.

[NEWCASTLE.EDU.AU/HIPPOCAMPUS](https://newcastle.edu.au/hippocampus)

# INTENDED LEARNING OUTCOMES (ALIGNMENT)



## UN SUSTAINABLE DEVELOPMENT GOALS

- |  |                                |
|--|--------------------------------|
| 11. Sustainable cities and communities | 15. Life on land               |
| 13. Climate action                     | 17. Partnerships for the goals |
| 14. Life below water                   |                                |



ALIGNED WITH THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



## SUSTAINABILITY (CROSS-CURRICULUM PRIORITY)

The activities included in this lesson may be adapted by teachers to suit any year level.

### SCIENCE LEARNING AREA:

#### Stage 3 (years 5 and 6):

- ACSSU043 - Living things have structural features and adaptations that help them to survive in their environment
- ACSSU094 - The growth and survival of living things are affected by physical conditions of their environment
- ACSHE083/ACSHE100 - Scientific knowledge is used to solve problems and inform personal and community decisions

#### Stage 4 (years 7 and 8):

- ACSHE135 - solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations

### HASS LEARNING AREA (GEOGRAPHY SUB-STRAND):

#### Stage 3:

- ACHASSK113 – The environmental and human influences on the location and characteristics of a place and the management of spaces within them

#### Stage 2:

- ACHGK053 - Causes, impacts and responses to a geomorphological hazard
- ACHGK051 - Human causes and effects of landscape degradation



The activities included in this lesson may be adapted by teachers to suit any year level.

### OUTCOMES - STAGES 3-4

#### Science

- ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things
- SC4-14LW relates the structure and function of living things to their classification, survival and reproduction

#### Geography

- GE3-2 explains interactions and connections between people, places and environments
- GE4-5 discusses management of places and environments for their sustainability



## TOPIC 1 HABITATS AND ENVIRONMENTS

Students are encouraged to consider the importance of habitat to the survival of native species.

Class discussion: consider the impacts of urbanisation on wildlife.

Possible discussion points:

- Adaptability
- Conservation efforts
- Sustainability



 Website resource

## TOPIC 2 GEOMORPHIC HAZARDS: BUSHFIRES AND FLOODS

Individually or in groups, students explore the impact of geomorphic hazards on wildlife. As an example, teachers may use the 2019/2020 bushfires or the 2018 floods as case studies, to encourage students to consider how the increasing intensity and regularity of such events impacts on flora and fauna.



 Website resource

## TOPIC 3 CITIZEN SCIENTISTS

Students are then introduced to the idea of conservation science and the fieldwork undertaken to observe and record vital data to monitor, conserve and manage flora, fauna and ecosystems.



A day in the life of an aquatic ecologist

Following the video, the teacher then leads a discussion about the tasks being undertaken by the research group and how these come to inform knowledge.

### SAVING THE FROGS

Students view the video Saving the frogs, listening to Professor Michael Mahoney, followed by a discussion about the significance of the work being done with frogs at the University of Newcastle, where the teacher has the opportunity to extend and refine student understanding. Some key ideas from the video include:

- Frogs as bio-indicators of change
- 50 million frogs killed in fires of 2020
- Environmental degradation
- Preservation for future



Saving the Frogs

## TOPIC 4

# FROG HABITAT – POND OR FROG HOTEL

### CLASS PROJECT

Aligned to the cross-curriculum priority of sustainability, working in groups, individually or as a class, the teacher can assist students in considering how increasingly rapid urbanisation may result in degradation of the natural environment needed for frogs to thrive.

- As a class, then begin to consider the needs of frogs in the natural environment making a list of their needs at different stages of metamorphosis.

The following steps may be taken in the creation of a frog-friendly habitat:

- 1) Investigating the types of frogs located in your local area
- 2) Identify their (if any) specific environmental needs
- 3) Identifying an appropriate area in the school
- 4) Determining the scale of the project
- 5) Planning
- 6) Collecting materials
- 7) Building the habitat

### RESOURCES

The following resources may be shown to students, or used to assist teachers in the creation of a sustainable frog habitat:



Building a frog hotel



Building a “frog bog”  
with *Gardening Australia*

### THE FROGS ATTRACTED (TRACKING)

Citizen scientist observation – students should then routinely monitor their frog habitat for any visitors, keeping records of their observations. As an extension, students should be encouraged to contribute their observations to the national data set via the Australian Museum resource.



The following resource from the *Australian Museum* may be used to identify frog species, as well as contributing to the national data set

### CONCLUSION

**Class discussion: *Sustainability***

Students consider the importance of responsible citizenship in caring for the environment in the face of increasing urbanisation and climate change. Students should reflect on the importance of maintaining ecosystems so that the needs of native flora and fauna can be met.

Discover how the University of Newcastle is protecting Australia’s frog populations.

**VISIT [NEWCASTLE.EDU.AU/HIPPOCAMPUS](http://NEWCASTLE.EDU.AU/HIPPOCAMPUS)**

