

INTERNATIONAL YEAR OF BIODIVERSITY
YEAR 7-8 SAVING THE TASMANIAN DEVIL ACTIVITY

TEACHERS GUIDE

This activity has been developed by UniServe Science, in conjunction with staff in the Faculty of Veterinary Science. The aim is to give students a general understanding of Tasmanian Devil and Devil Facial Tumour Disease (DFTD) as well as food webs and an introduction to ecosystems

This activity and associated learning in the classroom address the following outcomes from Stage 4 of the current NSW curriculum

Prescribed Focus Areas

- 4.3 A student identifies areas of everyday life that have been affected by scientific developments
 - 4.3d Students learn to give reasons why society should support scientific research
- 4.4 A student identifies choices made by people with regards to scientific developments
 - 4/5.4 Students learn about the implications of science for society and the environment
- 4.5 A student describes areas of current scientific research
 - 4/5.5a Students learn to describe some recent scientific contributions made by male and female scientists, including Australians, and discuss the effect of their contribution
 - 4/5.5d students learn to identify some possible career paths in science

Knowledge and Understanding

- 4.10 A student identifies factors affecting survival of organisms in an ecosystem
 - 4.10b Students learn to describe, using examples of food chains and food webs from Australian ecosystems, how producers, consumers and decomposers are related
 - 4.10d students learn to discuss some effects of bushfires, droughts and flood on Australian ecosystems

Skills

- 5.17 A student explains trends, patterns and relationships in data and/or information from a variety of sources
 - 4/5.17d students learn to organise data using a variety of methods including diagrams, tables, spreadsheets and databases
- 5.18 A student selects and uses appropriate forms of communication to present information to an audience
 - 4/5.18e Students learn to use drawings, diagrams, graphs, tables, databases, spreadsheets and flow charts to show relationships and present information clearly and/or succinctly
- 4.22 A student undertakes a variety of individual and team tasks with guidance
 - 4/5.22.s Students learn about working in teams

Values and Attitudes

- 4/5.25 A student recognises the relevance and importance of lifelong learning and acknowledges the continued impact of science in many aspects of everyday life.
- 4/5.26 A student recognises the role of science in providing information about issues being considered and in increasing understanding of the world around them
- 4/5.27 A student acknowledges their responsibility to conserve, protect and maintain the environment for the future

This activity and associated classroom activities also address the following Content Descriptors for the draft Australian Science Curriculum

Science Understanding

Year 8 Ecosystems: The interrelationships between organisms, energy and matter in ecosystems, and the effects of human activity on the sustainability of ecosystems.

Year 6 Relationships of living things: Relationships between living things, including food webs, and suitability for particular habitats

Science as Human Endeavour

Years 7&8

Contributions of scientists – Scientists from Australia and elsewhere make major contributions to scientific knowledge, engineering and technology

Science Inquiry Skills

Year 7 & 8

Investigation methods: Collaboratively and individually conduct a range of investigation types, including experimental investigations, modelling, field studies, surveys, information research and using data from secondary sources

Materials needed

Background information on Tasmanian Devil and Devil Facial Tumour Disease(DFTD) (See below for more details)

Background information on food webs

Student Activity sheets

A3 sheets of paper

Sets of cards from Tasmanian Parks and Wildlife

Outcomes of Activity

On successful participation and completion of this activity students will be able to

- Explain DFTD and the effect this is having on the Tasmanian Devil
- Describe measures being undertaken to protect the Tasmanian including the Captive Breeding Insurance population
- Draw a diagram to explain the food web for the Tasmanian Devil
- Discuss the effects of external influences, such as humans and the introduction of red fox on this food web

Timing

This activity has been designed as a brief overview or introduction and takes approximately 45 minutes. This can lead to a variety of different activities as per the list below.

The activity

1. A brief overview is given of the Tasmanian Devil and the DFTD that is threatening its extinction – we did this with a powerpoint presentation based on a presentation made by Dr Kathy Belov for Dept of Education (links to these and other sources of information are provided at the end of this document)
2. A quick recap of food webs and different types of organisms within these – we did this using the Gould League drag and drop food webs as a group activity
3. Students are divided into groups of 3-4 and each provided with a set of Food web cards, and sheet of A3 paper – the cards are explained to students
4. Students are instructed to sort the cards into the different types of organisms in a food web – ie producers, 1st level consumers(herbivores)etc
5. Using these groupings, students are instructed to work in their groups to create a food web for the Tasmanian Devil, using these cards
6. Students are provided with the Student Activity sheet a copy of the European Red fox and Feral cat cards and instructed to make group responses to the questions on the sheet

(The main portion of this activity is based on Food web game, developed by Tasmanian Parks and Wildlife Service which also has suggestions for other activities <http://www.parks.tas.gov.au/file.aspx?id=13638>)

Additional Activities in classroom

1. This activity can lead to a more detailed study of disease – in animals and humans ; different types of diseases, how are they spread and preventions/cure
2. Students can investigate the flow of energy through a food web
3. The activity can lead to a more detailed investigation of ecosystems
4. Students can investigate food webs for their local environment , including schoolyard

5. Students can investigate animals from their local area which may be on the endangered list and what is happening to try and protect that species
6. Students can conduct research into a current famous Australian scientist, such as Kathy Belov, and present a summary to the class of their work and its impact on society
7. Students can become involved in the Devil Rock program – get together with a group of friends, compose a song about the Tasmanian Devil and enter the competition (You might like to consider enlisting help from music and/or English staff with this)

Additional Resources

Background Information on Tasmanian Devil and DFTD

Devils Lair – This is a site specially developed by UniServe Science in collaboration with staff from Faculty of Veterinary Science to highlight the Tasmanian devil. This included resources and activities develop by us plus links to external sites http://sydney.edu.au/science/uniserve_science/school/curric/devil_rock/devils_lair.html

Australian Scientists

Faces of Science – a site with transcripts from a range of Australian scientists, explaining their work and life as a scientist http://sydney.edu.au/science/uniserve_science/faces/gallery.html

World-Wide Day in Science - a unique resource for high school and university students wanting to know where science can take them, anytime in their career, anywhere in the world <http://www.dayinscience.unsw.edu.au/index.html>

Famous Australian Scientists- webpage developed by UniServe Science with links to external sites containing general resources and activities http://sydney.edu.au/science/uniserve_science/school/curric/stage4_5/famozsci.html

Food Chains and Food Webs

Gould league – click and drag images of animals and plants to their correct level in a given food web – Australian contexts http://www.gould.edu.au/foodwebs/kids_web.htm

Food Chains and Food Webs Basic information site, with definitions plus drag and drop activity to create a food chain or food web(American context) <http://www.vtaide.com/png/foodchains.htm>

Teachers Online Primary Science – basic information site <http://www.barwonbluff.com.au/education/teacher/tops/food%20chains%20tops.htm>

Waterwatch Adelaide and Mt Lofty Ranges detailed information page with local examples <http://www.waterwatchadelaide.net.au/index.php?page=food-chains>

Interactive Food web – Australian Woodlands – a fully interactive activity that also allows modelling – a 14day free trail is available for teachers <http://www.newbyte.com/au/default.html>