Sustainability: 40 Resources from The Learning Federation

Available via Teaching and Learning exchange (TaLe) for teachers with DET login

Community enterprise: pools, parks and toys

Help a local council to investigate proposals for redeveloping an old factory site. Compare the benefits of building a swimming pool, toy factory or parklands. Gather facts and opinions from local residents at three locations: shopping mall, talkback radio station and a council meeting. Rate the economic, social and environmental effects of each proposal. Explain the reasons for your recommendation. Use a model structure to build a report. This learning object is one in a series of three objects.

Website | Stage 2

Tags: hsie toys

Make it alive: flatback turtles

Investigate the coastal dune and beach habitat of the endangered flatback turtle. Discover what these turtles eat in the ocean. Examine how feral animals such as wild pigs, are affecting their chances of survival. Help the turtles, once they have hatched from their nests, to reach the safety of the ocean without being eaten by predators before the sun rises. This learning object is one in a series of four objects.

Website | Stage 2

Tags: animals australian info reports lifecycles

The night of the bilby: safe habitat

Survey a desert environment to see if it is a suitable area to release bilbies. Estimate the amount of food available by trapping insects and small animals. Inspect the habitat for animal tracks made by predators or competitors. Fence the area to keep out unwanted animals and then remove any remaining threats. This learning object is one in a series of three objects.

Website | Stage 2

Tags: sustainability game esl bilby non

Wind farm: pros and cons

Investigate the advantages and disadvantages of establishing a wind farm in a coastal community. Gather facts and opinions from local residents such as a dairy farmer, small business owner, young family and retired people. Consider issues of ecological sustainability, economic development, social responsibility, lifestyle and visual impact. Decide whether to proceed with the development. This learning object is the first in a series of two objects that progressively increase in difficulty.

Website | Stage 4

Tags: sustainability environment 3 issue tafe

Human impact

Work through a series of four learning objects about human influence on the environment. 1. How people affect the ecology of a pond. 2. How to restore the ecological balance of a pond. 3. Environmental benefits of recycling and different ways to dispose of plastic bags. 4. Ecological problems caused by introduced animals. Look up further information and answer questions.

Website | Stage 2

Tags: environment human impact day green

The night of the bilby: get home alive

Look at a desert environment where bilbies and other animals live. Help bilbies to gather food such as seeds, bulbs and spiders. Avoid being eaten by predators such as cats and foxes. Find enough food before the night ends. Then find a burrow to shelter in. Notice that rabbits compete for the same resources as bilbies. This learning object is one in a series of three objects.

Website | Stage 2

Tags: animals australian bilby home envi

Make it alive: superb parrots

Investigate the woodland habitat of the endangered superb parrot. Discover what these parrots eat and where they nest. Find out how feral birds and insects such as Indian mynahs, starlings and honeybees are affecting their chances of survival. Help the parrot escape from dangerous feral cats and find enough food before sunset, so it has enough energy to fly in search of an empty tree hollow to nest in. This learning object is one in a series of four objects.

Website | Stage 2

Tags: animals endangered 4 year lifecycles

Make it alive: spotted tree frogs

Investigate the stream habitat of the endangered spotted tree frog. Discover what these frogs eat in the developing stages of their life. Find enough food so the frogs develop from the tadpole stage through to adulthood. Help the tadpoles escape from predatory fish such as the introduced rainbow trout. Search for safe places in the bottom of the stream habitat where the tadpoles can shelter. This learning object is one in a series of four objects.

Website | Stage 2

Tags: animals australian lifecycles hsie information

Balancing the options: tourist resort

Help a local council to investigate community attitudes to a proposed tourist resort. Gather facts and opinions from residents, environmentalists and park management. Compare options, then choose the plan that best addresses issues raised by all of the interest groups. Explain the reasons for your recommendation. This learning object is one in a series of four objects.

Website | Stage 4

Tags: sustainability 5a3 4g3 coasts environmental-issues

Habitats

Learn how different habitats have different features which determine the organisms that can live there.* NSW syllabus learning outcome: S2.3, S3.3, Ecosystems 4.10b, 5.10a* National Statements Science: Body of Knowledge: Living things Yr 5, Yr 7 & Yr 9 and Science as a human endeavour Yr 3 & Yr 5

Website | Stage 2, 3, 4, 5 | 2007

Tags: habitat ecosystems

Old Bernie's story

Interview a farmer about a local pond and its environment. Notice Old Bernie and his family have lived near the pond for generations. Ask him a series of questions about the ecology of the pond and how things have changed. Watch his answers via video clips.

Website | Stage 2
Tags: habitats pond

Surviving in a habitat

Work through a series of four learning objects about ecology. Explore a range of habitats to find out why particular plants and animals live there. Identify which features make them well suited to survive and reproduce in an environment. Consider how plants and animals fit in with other species as well as physical factors such as protection from weather. 1. Animals in a rainforest. 2. Animals in a billabong. 3. Platypuses near a stream. 4. Plants in mangrove swamps, cool rainforest, mountain slopes and arid land. Look up further information and answer questions.
Website | Stage 2
Tags: change effects habitat science growth

Meet a scientist: environmental scientist

Explore information about an environmental scientist. Learn about their life and work. Find out why they enjoy their area of research. Choose statements that match their biographical profile. This learning object is one in a series of nine objects. Some objects in the series are also packaged as combined learning objects.
Website | Stage 4, 3
Tags: environmental scientist

Science reporter: environmental scientist

Explore the biographical profile of an environmental scientist. Learn about their life and work. Find out why they enjoy their area of research. Then choose photos and interview responses to build a feature article for a newspaper. This learning object is one in a series of seven objects.
Application | Stage 4, 5
Tags: environmental-issues

Energy from the Sun: design a solar cooker and start cooking

Use the Sun's energy to cook food. Select design settings for a solar cooker: shape, direction and surface. Choose variables to reach temperatures needed to cook food such as chicken, pizza and eggs. This learning object is one in a series of four learning objects.
Website | Stage 2, 3
Tags: solar-energy sun cooker solar

Save the lake

Fish are dying in a lake because of pollution in the water. Test the lake water with chemical indicators. Work out which industry caused the pollution problem. Suggest changes to save the lake.
Website | Stage 3
Tags: water environmental lake impact

Environmental field project: frog pond habitat

Find out how animals use a pond habitat in different ways. Answer a short quiz about how organisms are adapted to their environment. Explore a pond and discover four sub-habitats. Capture specimens for study by choosing collection tools which don't hurt the animals or damage the study area. Collect animals from a grassy bank, a rocky bank, trees and shrubs and under water. Describe how each sub-habitat might meet an animal's basic needs for food, water, shelter and protection.

Website | Stage 2, 3
Tags: frogs frog pond

Adaptations and Survival
Learn how different organisms are adapted to survive in their habitat.* NSW syllabus learning outcome: S3.3, Ecosystems 4.10a* National Statements Science: Body of Knowledge: Living things Yr 3, Yr 5, Yr 7 & Yr 9 and Science as a human endeavour Yr 3 & Yr 5
Website | Stage 3, 4 | 2007
Tags: adaptations s@t adaptattions

Who's for dinner?
Look closely at a food chain and food web from a billabong habitat. Help animals to feed and survive. Play the role of a tadpole, fish or heron. Help the animal to grow and breed by feeding and avoiding predators. Notice that eating high-value food sources may increase an animal's risk of being attacked by predators.
Website | Stage 2
Tags: habitat

Science reporter: geologist and environmental scientist [no spoken instructions]
Explore the biographical profiles of two scientists: a geologist and an environmental scientist. Learn about their life and work. Find out why they enjoy their area of research. Then choose photos and interview responses to build a feature article for a newspaper. This learning object is a combination of two objects in a series of seven objects.
Application | Stage 4, 5
Tags: environmental scientist

Your rubbish pile: reduce your waste
Look at a huge pile of rubbish that the average Australian produces every year. Take action to reduce the pile. Choose whether to reduce, reuse, recycle, or throw away household items such as bottles, cans, plastic bags, paper and food waste. Look at background information on the main options for dealing with waste. Consider the consequences of large volumes of rubbish being sent to landfill sites. This learning object is one in a series of three objects.
Website | Stage 4
Tags: environmental-issues waste management 4g3 hsie

Life cycles: gum trees
Look at the growth of a manna gum tree over 200 years. Follow instructions for making a timeline or graph. This learning object is one in a series of six objects.
Website | Stage 1, 2
Tags: life life-cycle cycles gum trees

Part of a pattern
Look at the life stages of a range of plants and animals: bird, crocodile, butterfly, whale, waratah flower and gum tree. Compare the life stages and look for patterns. Observe growth of other living things. Show results using a timeline, graph, calendar or storyboard. This learning object is a combination of six objects in the same series.
Website | Stage 1, 2

Tags: cycles life-cycle reading big explanation

Make it alive: brush-tailed rock wallabies

Investigate the steep, rocky habitat of the endangered Victorian brush-tailed rock wallaby. Discover what these wallabies eat and how feral animals such as goats, which eat the same plants, are affecting their chances of survival. Help the rock-wallaby escape from dangerous wild dogs and find enough food before the sun rises. Search for safe places where the rock-wallaby can hide. This learning object is one in a series of four objects.

Website | Stage 2

Tags: animals australian endangered info lifecycles

Rainforest life: identifying living things

Help a scientist carry out field work in a rainforest. Explore the diversity of living things. Collect data about a rare plant. Examine the structure and function of leaves. Look at the process of photosynthesis. Dissect a flower and label its parts. Examine organisms found on the plant. Identify creatures that feed on the leaves and nectar. This learning object is one in a series of three objects.

Application | Stage 4, 3

Tags: rainforest st biology 3 hsie

Your rubbish pile: reduce your pile

Look at a huge pile of rubbish that the average Australian produces every year. Take action to reduce the pile. Choose whether to reduce, reuse, recycle, or throw away household items such as bottles, cans, plastic bags, paper and food waste. Consider the consequences of large volumes of rubbish sent to landfill sites. This learning object is one in a series of three objects.

Website | Stage 3

Tags: sustainability rubbish

Competition for Resources

Understand that plants and animals will compete with each other if resources are limited.* NSW syllabus learning outcome: Ecosystems 4.10a* National Statements Science: Body of Knowledge: Living things Yr 3, Yr 5, Yr 7 & Yr 9 and Earth and spaceYr3. Science as a human endeavour Yr 3 & Yr 5

Website | Stage 4 | 2007

Tags: resources

Studying Habitats

Understand the observations and measurements that need to be made when studying a habitat.* NSW syllabus learning outcome: S2.3, S3.3, Ecosystems 5.10 a* National Statements Science: Body of Knowledge: Living things Yr 5, Yr 7 & Yr 9 and Science as a human endeavour Yr 3 & Yr 5

Website | Stage 2, 3, 5 | 2007

Tags: habitats science

Interdependence

Learn how different organisms within a community depend on each other for their survival.* NSW syllabus learning outcome: S2.3, S3.3, Ecosystems 4.10b* National Statements Science: Body of Knowledge: Living things Yr 5, Yr 7 & Yr 9 and Science as a human endeavour Yr 3 & Yr 5

Website | Stage 2, 3, 4 | 2007
Tags: interdependence

Studying Habitats
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Website | Stage 2, 3, 4, 5 | 2007
Tags: habitat

Who lives here?
Search a rainforest habitat in north-east Australian for clues about animals that live there. Track down hidden animals. Find clues such as animal sounds, tracks and shadows. Check species descriptions to identify which animals might live in the area. Write a survey report including observations and conclusions.
Website | Stage 2
Tags: habitat marsupials australian animal animals

Old Bernie's Pond
Clean up Old Bernie's Pond. See how it has become polluted and invaded by introduced species. Restore the pond by choosing actions such as planting native species and removing sources of pollution. Look at the effects of each change. Earn points to get a certificate.
Website | Stage 2
Tags: cleaning pond

Energy from the Sun: design a solar cooker
Use the Sun's energy to power a cooker. Select design settings for a solar cooker: shape, direction and surface. Choose variables to reach different temperatures. This learning object is one in a series of four learning objects.
Website | Stage 2, 3
Tags: solar cooker sun solar-energy

Energy from the Sun: design a solar oven
Use the Sun's energy to power an oven. Select design settings for a solar oven: cover, insulation and lining. Choose variables to reach different temperatures. This learning object is one in a series of four objects.
Website | Stage 2, 3
Tags: solar solar-energy sun energy oven

Eco forest
Take on the role of forest manager. Learn about the biodiversity of the forest and the animals that live there. Select different logging methods for three 50-year cycles. For example, you can choose to clear-fell or retention harvest old-growth forests, regrowth forests, or combinations of the two. Choose the best method of sustainably logging the forest to achieve a balance between the survival of five animal species and the need for jobs in the local community. Read the report to learn the impact of your choices.
Website | Stage 4, 5, 3
Tags: sustainability science stela2010

Why recycle?

Meet a group of children eating their lunch at school. Notice how each child uses or disposes of their plastic lunch bag in a different way. Predict where the bags might end up and how they may affect the environment. Find out about the durability of plastics and environmental benefits of recycling.

Website | Stage 2

Tags: green recycling waste day recycle

Earth Alert

Tune in to a television program exploring environmental issues. Solve four ecological problems involving pest animals and humans: domestic cats, European wasps, sea stars and rural drivers. Get tips for solving environmental problems in your local area.

Website | Stage 2

Tags: animals feral 5/6 year environmental-issues

Community enterprise: people, economy and the environment

Help a local council to investigate proposals for redeveloping an old factory site. Compare the benefits of building a swimming pool, toy factory or parkland. Gather facts and opinions from local residents at five places: job centre, library, council meeting, talkback radio station and shopping centre. Rate the economic, social and environmental effects of each proposal. Explain the reasons for your recommendation. Use a model structure to build a report. This learning object is one in a series of three objects.

Website | Stage 4

Tags: environmental-issues

The place that's right for me

Explore a range of Australian environments: eucalypt forest, hollow log, river bank and desert. Find animals that live there. Examine how each animal's body parts are adapted to living in its habitat. Look at a range of Australian animals such as a kookaburra, wombat, frog and lizard. Explore how their body parts are adapted to functions such as flying or digging. Choose a habitat and build an animal suited to living there. Mix body regions: head, body and legs.

Website | Stage 1, 2

Tags: australian habitats marsupials animals adaptations

Environmental evaluation project: frog pond habitat

Explore why a frog population is declining. Look at changes in the pond over time: water quality, habitat loss and predation by introduced species. Build a food web for the pond. Model population interactions. Identify which species have the greatest impact on the frog. Build a report using evidence you have collected to support your conclusions.

Website | Stage 2, 3

Tags: frogs habitat frog