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FREE
INCURSIONS FOR WA SCHOOLS

Living Classroom

SCHOOL INCURSIONS

RioTinto

Conservation Volunteers Australia

Department of Education

Australian Sustainable Schools Initiative
A Partnership of the Australian Government, the States & Territories

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

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ABOUT US

Rio Tinto Earth Assist is a volunteering program that immerses Western Australian school students in environmental education through action. The program is managed by Conservation Volunteers Australia and delivered in partnership with Rio Tinto, Department of Education and Department of Biodiversity, Conservation & Attractions.

Rio Tinto Earth Assist provides WA school students of all year levels the opportunity to discover nature's classroom. By participating in our fun learning activities, and getting their hands dirty, students can discover and contribute to a sustainable future.

Our incursions and excursion activities are provided to schools free of charge. They link to and support the Western Australian Curriculum and cross curriculum priorities, in particular, Sustainability and Aboriginal & Torres Strait Islander histories and cultures.

This booklet describes the Rio Tinto Earth Assist incursion activities, and how you can get involved.

WHAT ARE LIVING CLASSROOM INCURSIONS?

Our incursions engage students in the development and installation of 'living classrooms' within their school grounds. This allows students to learn new skills whilst creating healthier environments. We offer three types of Incursions – Artificial habitat Creation, Sustainable Schools and Native Gardens.

WHAT AGES ARE SUITABLE?

Incursions are tailored to suit all year levels including pre-primary/early learning. We recommend you speak with us prior to booking your incursion so we can help you select a suitable activity for your year level and region. We also need to know the number of students in the class (smaller class sizes are ideal for most of the activities).

WHAT IS THE STRUCTURE AND TIMING OF THE ACTIVITIES?

Incursions can be organised for one class, an entire day, or multiple classes over whole or part days. Each incursion starts with a screen presentation – Teacher's will need to arrange a suitable room with a smart board or projector for the Conservation Officer to introduce the activity.

Living Classroom

SCHOOL INCURSIONS

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BOOK A FREE INCURSION NOW!

Booking your school in for an incursion is simple!

If you are in the Perth Metropolitan Region, contact our Program Coordinator to arrange a suitable time and activity.

For schools in regional areas, find our regional tour dates on our website.

FREE INCURSIONS FOR WA SCHOOLS

Call us on
08 9335 2777

Email us at
info@earthassist.org.au

Find us online
www.earthassist.org.au

YEARS
6-10

90
MINUTES

Artificial Habitats

NATIVE BEE HOTELS

INCLUDES

- Presentation on native bees (20 mins)
- Activity: construction of bee homes from old TVs or plywood boxes
- Students drill* and piece together the plywood parts
- Invitation to become part of a citizen science project

*Teacher will advise whether drilling will be suitable for their students. Drilling can be completed in advance by Rio Tinto Earth Assist employees.

Artificial Habitats

NATIVE BEE HOTELS

Australia has 2000 species of native bees, 800 of which are endemic to Western Australia. Native bees play a key role in the ecosystem by pollinating plants. They are threatened by habitat loss e.g. conversion of natural bushland to un-natural residential gardens. Luckily native bees don't mind using artificial housing!

For this project, students recycle an old TV to create a bee hotel. Holes are drilled into wood to create bee burrows which are made into blocks using clay, then installed in the TV using bamboo.

The teacher will be provided with information on how to monitor the bee home as part of a citizen science program that contributes towards a native bee research project.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)	Sustainability
7	Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)	Sustainability
9	Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)	Sustainability
9-10	Select and use appropriate equipment, including digital technologies, to collect and record data systematically and accurately (ACSIS200)	Sustainability
Year	**Geography**	**Cross Curriculum Priority**
8	The human causes and effects of landscape degradation (ACHGK051)	Sustainability
10	The human induced environmental changes that challenge sustainability (ACHGK070)	Sustainability

YEARS
3-12

90
MINUTES

MICRO-BAT BOXES

INCLUDES

- Presentation on microbats (20 mins)
- Students drill* and piece together the plywood parts
- Painting bat boxes
- Walk around the school grounds to locate suitable trees for the boxes
- Information on how to monitor the bat boxes - ongoing activity that the students can do

Teacher will advise whether drilling will be suitable for their students. Boxes can be predrilled in advance by Rio Tinto Earth Assist employees.

Artificial Habitats

MICRO-BAT BOXES

Microbats are small to medium sized bats (2-170 grams) that mostly eat insects. There are 58 species of microbats in Australia. Microbats have earned the well-deserved reputation of being nature's mosquito busters because a single microbat can eat up to 1,200 mosquitoes and insects in one hour!

Habitat loss through vegetation clearing, inappropriate fire regimes, and invasive weeds, threaten microbats by destroying feeding and roosting sites. This activity involves constructing pre-cut plywood microbat boxes. Students work in groups to make and paint the boxes.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
4	Living things have life cycles (ACSSU072)	Sustainability
4	Living things depend on each other and the environment to survive (ACSSU073)	Sustainability
5	Living things have structural features and adaptations that help them to survive in their environment. (ACSSU043)	Sustainability
6	The growth and survival of living things are affected by the physical conditions of their environment. (ACSSU094)	Sustainability
7	Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)	Sustainability
9	Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)	Sustainability
9-10	Select and use appropriate equipment, including digital technologies, to collect and record data systematically and accurately (ACSIS200)	Sustainability
Year	**Geography**	**Cross Curriculum Priority**
8	The human causes and effects of landscape degradation (ACHGK051)	Sustainability
10	The human induced environmental changes that challenge sustainability (ACHGK070)	Sustainability

YEARS
3-6

120
MINUTES

FROG PONDS

INCLUDES

- Presentation on frogs, lifecycles, and frog pond creation (10 - 20 mins)
- Students help with digging and laying plastic into frog pond, putting gravel into pond, planting in and around the pond.
- Information for the teacher about how to source tadpoles and look after their frog pond.

Artificial Habitats

FROG PONDS

Frogs are bio-indicators, which means their presence can be used to inform us about the health of the environment.

Creating a frog pond involves finding a shady position at the school and making a 'frog friendly' environment with the addition of natural items such as plants, gravel, and logs. Frog ponds are a great practical way for students to learn about basic biological concepts such as life cycles.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
3	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	Sustainability
4	Living things have life cycles (ACSSU072)	Sustainability
4	Living things depend on each other and the environment to survive (ACSSU073)	Sustainability
5	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)	Sustainability
6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)	Sustainability

YEARS
K-4

60
MINUTES

BUTTERFLY PROJECT

INCLUDES

- Butterfly kit with caterpillars*
- Presentation on butterfly lifecycle (10 – 20 mins)
- Butterfly art and craft activity
- Planting native food sources

** Kit cost incurred by school.*

Artificial Habitats

BUTTERFLY PROJECT

Students learn about the life cycle of the butterfly as they watch caterpillars grow, turn into pupae, and metamorphose into butterflies.

Learn about the native food sources of butterflies and plant some butterfly food plants at your school to encourage more butterflies to visit.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
Foundations	Living things have basic needs, including food and water (ACSSU002)	Sustainability
Foundations	Daily and seasonal changes in our environment affect everyday life (ACSSU004)	Sustainability
1	Living things have a variety of external features (ACSSU017)	Sustainability
1	Living things live in different places where their needs are met (ACSSU211)	Sustainability
2	Living things grow, change and have offspring similar to themselves (ACSSU030)	Sustainability
2	Use informal measurements to collect and record observations, using digital technologies as appropriate (ACSIS039)	Sustainability
3	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	Sustainability
4	Living things have life cycles (ACSSU072)	Sustainability
4	Living things depend on each other and the environment to survive (ACSSU073)	Sustainability

YEARS
K-2

60
MINUTES

Sustainable Schools

BUILD A WORM FARM

INCLUDES

- Presentation on food waste and worms (10-20 mins)
- Worm game: Students are given cards with an item that either goes in a worm farm or not. They must decide to give their card to the worm or 'non-worm'.
- Worm farm creation: students shred and soak newspaper and put worms into their farm.

Sustainable Schools

BUILD A WORM FARM

Worm farms help to reduce the amount of food waste we put in regular bins. This diverts waste from landfill, hence reducing potential pollution of the air, land and water.

Worm farms are a great way for students to learn how different types of foods break down over time. Worm 'wee' and compost can also be used to help your school's vegetable gardens flourish!

CURRICULUM AREAS COVERED

Year	Science	
Foundations	Living things have basic needs, including food and water (ACSSU002)	Sustainability
Foundations	Daily and seasonal changes in our environment affect everyday life (ACSSU004)	Sustainability
1	Living things have a variety of external features (ACSSU017)	Sustainability
1	Living things live in different places where their needs are met (ACSSU211)	Sustainability
2	Living things grow, change and have offspring similar to themselves (ACSSU030)	Sustainability

YEARS
6-10

120
MINUTES

WASTE AUDIT

INCLUDES

- Presentation on food waste and how to reduce, reuse, recycle (20 mins)
- Students separate and categorise waste from the bins at their school
- Weigh all items and calculate totals
- Group discussion on findings and brainstorm ideas to reduce waste at the school
- Optional: Information on how to make graphs in excel from the data collected

Sustainable Schools

WASTE AUDIT

A waste audit is a great first step towards developing a focused and data driven method to reduce the volume and types of waste produced at your school.

Students quantify and categorise the rubbish in their school bins and devise a plan on how to reduce waste. They are encouraged to conduct another audit at a later date to evaluate if the overall amount of waste has been reduced.

CURRICULUM AREAS COVERED

Year	Mathematics	Cross Curriculum Priority
6	Connect decimal representations to the metric system (ACMMG135)	
Year	**Science**	**Cross Curriculum Priority**
9-10	Select and use appropriate equipment, including digital technologies, to collect and record data systematically and accurately (ACSIS200)	Sustainability
Year	**Geography**	**Cross Curriculum Priority**
8	The human causes and effects of landscape degradation (ACHGK051)	Sustainability
10	The human induced environmental changes that challenge sustainability (ACHGK070)	Sustainability

YEARS
7-12

90
MINUTES

REUSABLE BEES WAX FOOD WRAPS

INCLUDES

- Presentation on environmental impacts of plastic and how to reduce, reuse, recycle.
- Students measure and calculate how much plastic film they might use in one year.
- Students measure and calculate amount of materials needed to make bees wax wraps.
- Students create wraps using irons to melt bees wax into cotton material.
- Optional: students develop business plan to sell bees wax wraps at school fair.

Sustainable Schools

REUSABLE BEES WAX FOOD WRAPS

Is your school going single-use plastic free? Then this activity is for you! Reducing the use of plastic is a great, practical way that everyone can help the environment. Plastic such as glad wrap can take up to 25 years to break down or biodegrade.

Bees wax wraps are a great alternative to using plastic film for school lunches as they can be washed and reused. They are a great project idea for school fairs and can also be used to teach students about small business plans.

CURRICULUM AREAS COVERED

Year	Geography	Cross Curriculum Priority
8	The human causes and effects of landscape degradation (ACHGK051)	Sustainability
10	The human induced environmental changes that challenge sustainability (ACHGK070)	Sustainability

YEARS
4-12

60
MINUTES

Native Gardens

SEED BOMBS

INCLUDES

- Presentation on seeds, landscape restoration, and seed science (20 mins).
- Seed bomb creation.
- Data sheet monitoring growth of seeds.

Native Gardens

SEED BOMBS

Seeds bombs are little balls of clay, soil, and seeds that can be used in bushland restoration projects and school/home gardens.

Students will get their hands dirty making seed bombs with a mixture of seeds of different local native plants that can then be planted in your school garden. Students can then monitor the growth of their plants using data sheets provided.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
4	Living things depend on each other and the environment to survive (ACSSU073)	Sustainability
5	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)	Sustainability
6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)	Sustainability
7	Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)	Sustainability
9	Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)	Sustainability
9-10	Select and use appropriate equipment, including digital technologies, to collect and record data systematically and accurately (ACSIS200)	Sustainability
Year	**Geography**	**Cross Curriculum Priority**
8	The human causes and effects of landscape degradation (ACHGK051)	Sustainability
10	The human induced environmental changes that challenge sustainability (ACHGK070)	Sustainability

YEARS
3-8

2-3
HOURS

NOONGAR SIX SEASONS GARDEN

INCLUDES

- Presentation on Noongar six seasons, bush tucker plants (10 – 20 mins).
- Planting native flora in school garden.
- Cultural awareness training and bush tucker food tasting with Aboriginal guest*.

*Subject to availability.

Native Gardens

NOONGAR SIX SEASONS GARDEN

In the south west of WA, the Noongar seasonal calendar has six seasons in the year rather than the European four. These are Birak, Bunuru, Djeran, Makuru, Djilba and Kambarang.

Each of the six seasons represents seasonal changes we see annually in the environment. The flowering of many different plants and the presence of different kinds of animals are indicators of the seasons.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
3	Living things depend on each other and the environment to survive (ACSSU073)	Sustainability
5	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)	Sustainability
6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)	Sustainability
7	Interactions between organisms can be described in terms of food chains and food webs: human activity can affect these interactions (ACSSU112)	Sustainability
Year	**Geography**	**Cross Curriculum Priority**
8	The human causes and effects of landscape degradation (ACHGK051)	Sustainability
8	The spiritual, cultural and aesthetic value of landscapes and landforms for people, including Aboriginal and Torres Strait Islanders Peoples (ACHGK049)	Aboriginal and Torres Strait Islander Histories and Cultures
3	The importance of Country/Place to Aboriginal and/or Torres Strait Islander Peoples who belong to a local area (ACHASSK062)	Aboriginal and Torres Strait Islander Histories and Cultures
4	The diversity of Australia's first peoples and the long and continuous connection of Aboriginal and Torres Strait Islander Peoples to Country/Place (land, sea, waterways and skies) (ACHASSK083)	Aboriginal and Torres Strait Islander Histories and Cultures

YEARS
K-3

1-3
HOURS

SENSORY GARDEN

INCLUDES

- Interactive presentation (15 mins)
- Planting of native species
- Recycled wind -chime creation from tin cans

Native Gardens
SENSORY GARDEN

Sensory gardens are gardens specially designed to appeal to *all* of our senses. They include plants with a wide variety of different colours, textures, scents, and shapes.

In particular, sensory gardens can improve the education and social interactions of children with disabilities. These gardens have plants with lots of different colours, textures, scents, and shapes.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
Foundations	Living things have basic needs, including food and water (ACSSU002)	Sustainability
Foundations	Daily and seasonal changes in our environment affect everyday life (ACSSU004)	Sustainability
1	Living things have a variety of external features (ACSSU017)	Sustainability
1	Living things live in different places where their needs are met (ACSSU211)	Sustainability
2	Living things grow, change and have offspring similar to themselves (ACSSU030)	Sustainability
3	Living things depend on each other and the environment to survive (ACSSU073)	
Year	**Visual Arts**	
Foundations - Year 2	Use and experiment with different materials, techniques, technologies and processes to make artworks (ACAVAM107)	
3	Use materials, techniques and processes to explore visual conventions when making artworks (ACAVAM111)	

YEARS
K-6

1-3
HOURS

BIRD ATTRACTING GARDEN

INCLUDES

- Presentation on birds and the ‘in’s’ and ‘out’s’ of encouraging birds to gardens (15 mins).
- Planting native plants.
- Bird monitoring data sheet.

Native Gardens

BIRD ATTRACTING GARDEN

Discover how to attract birds to your school by learning about and planting their favourite foods. This will help make your school's garden more 'bird friendly'.

Learn about the bird species found in your area, what may be threatening them and what you can do to help. We will also leave you with the tools to monitor what birds are visiting your school.

CURRICULUM AREAS COVERED

Year	Science	Cross Curriculum Priority
Foundations	Living things have basic needs, including food and water (ACSSU002)	Sustainability
Foundations	Daily and seasonal changes in our environment affect everyday life (ACSSU004)	Sustainability
1	Living things have a variety of external features (ACSSU017)	Sustainability
1	Living things live in different places where their needs are met (ACSSU211)	Sustainability
2	Living things grow, change and have offspring similar to themselves (ACSSU030)	Sustainability
3-4	Living things depend on each other and the environment to survive (ACSSU073)	
3	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	Sustainability
4	Living things have life cycles (ACSSU072)	Sustainability
4	Living things depend on each other and the environment to survive (ACSSU073)	Sustainability
5	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)	Sustainability
6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)	Sustainability

FAQ

Frequently Asked Questions

WHAT DO YOU PROVIDE FOR THE INCURSION ACTIVITIES?

- A qualified Conservation Officer to guide and supervise students
- All materials for the activity except as listed in the descriptions and below
- All tools, and equipment including Personal Protective Equipment (gloves, safety glasses, high visibility vests)
- Program management and insurances
- Transport (if required) in our 20-seater bus

WHAT DON'T YOU PROVIDE FOR THE INCURSION ACTIVITIES?

- We do not cover the construction cost of raised garden beds, walls or other complex structures
- We do not provide detailed landscape designs
- We do not provide Butterfly Kits for the Butterfly activity, however we will direct you to where these can be purchased online.

DO YOU PROVIDE PLANTS FOR THE NATIVE GARDEN BED INCURSIONS?

- Yes! We provide one plant per student.
- We can provide a basic garden plan and provide a recommended plant species list.

CAN YOU PUT THE BAT OR BIRD BOXES UP IN TREES AT THE SCHOOL?

- Unfortunately, we are not able to install nest boxes for you.
- We suggest you seek the assistance of a qualified tree climber for installing nest boxes, or we can put you in touch with DBCA.

If you have more questions, our contact details are on the back page.

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CONTACT US

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