EDUCATOR NOTES:

Creating a wildlife habitat: research, vision, design, planting, and monitoring and care.

Learning and Engagement Approach

This series is comprised of 5 different activities to help you create a successful wildlife habitat.

This activity is designed to engage young learners aged from 7 – 13 years.
The activities are intended to:
- o facilitate an investigation
- o increase awareness of animals in the garden and the roles they may play
- o plant and create a suitable wildlife habitat for local species
- o implement the learning from the previous components of the activity series
- o incorporate mathematics (mapping) and sketching from a birds-eye view
- o apply principles of scientific investigation and hypotheses testing.

Safety Considerations

- Check the weather before conducting any outdoors activity. If there is going to be extreme temperatures, storms or high wind, postpone the activity.
- Ensure that everyone is wearing closed shoes, hats, and sunscreen and has a water bottle handy.
- Keep any allergy plan information at hand and any associated allergy medication.
- Ensure that everyone is trained in the use of the tools involved.
- Wet-down soil before moving it, to reduce the chance of inhaling airborne microorganisms.
- Wetting mulch and using masks when using and moving mulch will help reduce the risk of airborne particles.
- Wear gardening gloves to minimise the risk of cuts and insect bites.
- Leaf litter can be a home to animals such as spiders and centipedes; make sure children know not to touch animals, and only move them with paintbrushes and spoons.
- Implement manual handling procedures when lifting the materials, especially if they are wet.
- Ensure that everyone washes their hands after finishing these activities.
- Only an adult should cut the plastic bottle when making the rain gauge for the monitoring activity. Always ensure that you are cutting away from yourself.

Materials and References

Research

- Learn how school habitat gardens are important in providing habitat for native wildlife as well as being a great opportunity to teach students about biodiversity within their own school playground.
- Explore seven different animal and plant habitats: coasts, freshwater, Antarctica, forests, woodlands, arid zone and urban, in this teachers guide from the Australian Museum.
- Learn more about habitats in A Beginner's Guide to Habitats from ThoughtCo.
- Museum Victoria has developed a free National Field Guide app for Android and Apple devices. There are 8 apps available so choose one best suited to your location (NSW, ACT, VIC, SA, NT, QLD, WA & TAS).
- QuestaGame is a mobile game using an app that gets players outdoors to engage with, learn about and help protect life on earth.
- In this CSIRO video learn about what biodiversity is and its importance (8 minutes).
- Watch this animated presentation from Ted-ED looking at the significance of having biodiverse environments (5 minutes).

Vision

- Use the information at Backyard Buddies to explore native animals and their habitats.
- This Gardens for Wildlife article from Sustainable Gardening Australia provides a list of considerations when creating a wildlife garden.
- Use the interactive map to discover Conservation Management Zones of Australia and learn more about the animals and plants in these areas.
- To find a Landcare group in your local area try the Landcare group directory.
- Watch these Gardening Australia videos to learn more about creating wildlife habitats: Gardens for Wildlife (6 minutes), creating lizard lounges (6 minutes), Birds in the Burbs (7 minutes).

Design

- Habitat Network provides a range of resources for creating habitat using native plants for birds.
- This growing native plant list from the Australian National Botanic Garden provides an alphabetical listing of planting information for a range of native plant species.
- Explore Backyard Buddies to learn about native plants and animals.
- This fact sheet from Backyard Biodiversity provides practical information on creating spaces for local wildlife.
- Bundanon Trust's Living Landscape Project Case Study provides a series of information and study sheets for practical exploration of a living landscape.
- Top tips for growing Australian native plants in the garden from the Australian Native Nursery.
- Use this link to find out about Water for Wildlife.
- This series of documents from the Habitat Network focus the steps towards planting a small bird habitat haven: Planting a small bird habitat haven, Creating a habitat haven, Plant a habitat buffer.
- Learn about the benefits of creating school habitat gardens (2 minutes) in this video from the NSW Botanic Gardens and Centennial Parklands.

Planting
- Find out more about native plants with the Australian Native Plants society.
- Sustainable Gardening Australia has a variety of articles on Habitat Gardening.
- Birds in Backyards have some great tips for Growing a Native Garden including soils and mulching.
- The Australian Native Nursery shares their top tips for growing Australian native plants in your garden.
- Establishing Native Shrubs from Gardening Australia (5 minutes). This video provides information on plant selection and planting tips.

Monitoring and care
- Find out more about Landcare on the Landcare website
- Look at the Growing healthy plants using natural pesticides activity on the Learning Centre to get ideas about natural pesticides.
- You can find some more natural pesticides on the Gardening Australia website.
- Watch the TedED video on Do we really need pesticides
- Find out about rain by watching How does rain form and what is the water cycle?

Site Suggestions

When you choose your site, look for an area that is visible to wildlife. Consider how sheltered or exposed this site is and how this could affect animals wanting to use your habitat. Assess the area for sun and shade and consider how this will change over the year.

Educator Tips

Timing the planting and monitoring and care activities
- The planting activity depends on your climate zone, and the plants you want to use.
  - In temperate Australia, Autumn is generally the best time, as it gives the plant time to establish itself before the summer.
  - During Spring, Summer and Autumn, it is recommended that you run this as a morning learning activity to help avoid heat stress for people and plants.
- Monitoring and care of the plants in your wildlife habitat should be done all year round, whilst monitoring of the animals is best done during the warmer months when animals tend to be more active.

Scheduling notes for this sequence
- In a classroom setting this sequence is great activity for group work.
- To produce greater diversity in your students' species observations you could assign Step 1 & 2 as homework or a school holiday activity.
  - You can then ask the kids to listen out for nocturnal animals too.
- To avoid duplication each class can create a joint species list of all their observation and fieldwork investigations.
- For the design activity, in a classroom setting, Step 1 can be done as a whole class activity using Google maps on a large screen. Step 2 is conducted as a walk around the school grounds. Have each student create a habitat design - this could be done as a homework activity. As a class group create the final design.

- For the planting activity, plant during the cooler wetter months to reduce the need for watering. Make sure to put in a roster for drier/hotter months, so plants can survive holiday periods.

Research
Discover and understand your local biodiversity to help the children create an appropriate wildlife habitat. Take the time to reflect and discuss with the children what they have learnt from looking more closely at species and habitats in your local area. Making the connections earlier in the project will help to build their long term commitment to the their wildlife habitats.

Vision
Create your ideal wildlife habitat, focusing on what your local animals need and determining the most suitable local native plants to grow. Ideally locate your group in an outdoor location with a range of native plant forms to start the discussion on what plants would be best suited to your wildlife habitat. Contact your local Landcare group, local council or native plant nursery to discuss plant choices and where to source them. They can often also provide you with a local plant species list to use, or wildlife brochures. Ask if they might donate any plants for the project.
Use a local plant species list or plant guide to help make a list of plants for your new habitat.
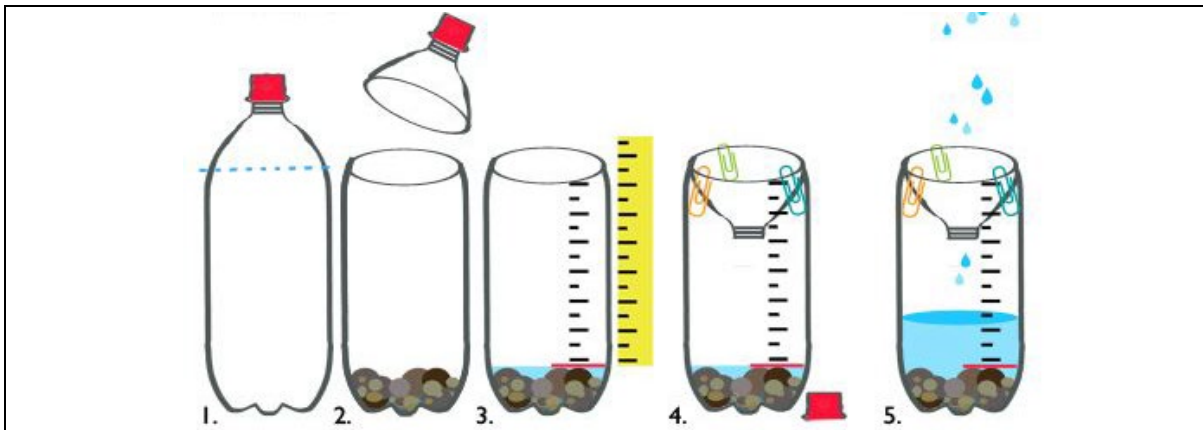
Design
Use the information from the research and vision activity to design the habitat best suited to your local animals species. Incorporate existing features and plants into your design to create a built environment map of your local area using Google Maps with satellite imagery. Use the legend/key below mark out the different features. Consider your climate zone and use your plant list from the vision activity to select species that will flower at different times of year. This will provide food and pollination sources all year round. Include existing features, the new plants and any animal habitats like a lizard lounge, nest box or insect hotel to design your wildlife habitat.

Planting
This is a great stage to get the community involved. Ask for donations of plants from local nurseries, councils or parents. Contact local councils or arborists/tree loppers about free Eucalyptus mulch. Refer to the project planning guide for a checklist of what to do for native planting and revegetation projects. Use your wildlife habitat design to determine your site selection and how many plants you will need. Have your site prepared and plants ready before planting. Once the plants are in their correct positions, dig a hole that is slightly deeper and wider than the pot. Water the hole in preparation for planting. Your plants are in the ground, then what's next?

Monitoring and care
Discover if your wildlife habitat is a success and is providing a home for local wildlife. Reuse and source local materials to help reduce waste when making the rainwater gauge, following Step 2.

Aligning this Activity

- Creating a frog-friendly habitat series: research; design and construction
- Creating a bee hotel series: research and construction
- Water for wildlife
- What's happening in the Habitat
- Growing healthy plants using natural pesticides

Extension Activities

Research

Extension 1

Research natural hazards that have affected your local area in the past: fire, floods and drought. Describe how these natural hazards may have impacted native wildlife and their habitat?

Extension 2

Starting a Junior Landcare group can help kickstart some great biodiversity initiatives in your local areas and backyards. Find out more about how to start a Junior Landcare group.

Vision

Extension 1

Invite students to join a Junior Landcare group and participate in an upcoming Landcare or environmental event. You could also invite your local Landcare group out to your school.

Extension 2

Use the Conservation Management Zones of Australia to identify the management zone you live in. Download the PDF to discover any vulnerable, endangered or critically endangered species live near you. Write the common name, species names and their conservation status in the table in the activity sheets. Discussion: Would your wildlife habitat help these species?

Design

Extension 1

Hold a wildlife habitat design competition with your Junior Landcare group or school.

Extension 2

Create a play: Imagine you are one of the animals in your local area discovering this new habitat for the first time. What would you be thinking and doing? Work with your friends to write the story and incorporate other characters.

Planting
Extension 1
Get students to research the traditional uses of the native plants you have selected in your wildlife habitat.
Extension 2
Ask your local Landcare group to give a talk to your students about how to care for native plants.

Monitoring and care
Extension 1
When your garden is established, launch ask Traditional Owners to come and speak to your school, or provide a Welcome to country.
Extension 2
Get your Junior Landcare group to develop a monitoring programs for the animals that now live in your native wildlife garden.

Community Engagement
Use The National Landcare Directory to find a community environmental 'care' group near you. Landcare groups are experienced in looking after local places and understanding local flora and fauna. They often are a great source for local native plant species.

Look to the Junior Landcare Community Page for organisations to contact to help support your investigations.

Use this Australian City Farms and Community Gardens Network map to find a City Farm or Community Garden near you to get some ideas for your project.

Curriculum and Framework Links
SCIENCE
Year 3: ACSHE050, ACSIS053, ACSIS054, ACSIS057, ACSIS215, ACSIS060
Year 4: ACSSU075, ACSSU073, ACSIS064, ACSIS216, ACSIS071
Year 5: ACSSU043, ACSHE083, ACSIS231, ACSIS086, ACSIS090
Year 6: ACSSU094, ACSSU096, ACSHE098, ACSHE100, ACSIS221, ACSIS110
Year 7: ACSSU112, ACSSU116, ACSHE223, ACSHE120, ACSHE121, ACSIS125, ACSIS133
Year 8: ACSHE135, ACSHE136, ACSIS139, ACSIS145, ACSIS148

GEOGRAPHY
Year 7: ACHGK037, ACHGK038, ACHGK039, ACHGK040, ACHGK042, ACHGS050
Year 8: ACHGK051, ACHGK052, ACHGK053

HUMANITIES, ARTS & SOCIAL SCIENCES
Year 3: ACHASSK072
Year 5: ACHASSK114, ACHASSK118

HEALTH AND PHYSICAL EDUCATION
Year 3 & 4: ACPPS035, ACPPS038
Year 5 & 6: ACPPS056
Year 7 & 8: ACPPS073

PERSONAL AND SOCIAL CAPABILITY
Social awareness

CURRICULUM CONNECTIONS
Outdoor Learning

CROSS CURRICULUM PRIORITY
Sustainability

MY TIME, OUR PLACE: FRAMEWORK FOR SCHOOL AGE CARE
Outcome 2 and 4