

ADOPT A BUSHLAND

YEAR FOUR TO SEVEN TEACHERS GUIDE

BUSHLAND WEEDS

Students will gain an understanding of what a weed is and how they are detrimental to the environment. They will then use this knowledge in the field to identify weeds in local bushland and promote responsible disposal of weeds.



Biological Sciences

Year	Content Description	Elaborations	Teaching Points
Four	<p>Science as a Human Endeavour/Use and Influence of science Science knowledge helps people to understand the effect of their actions. ACSHE062</p> <p>Science Inquiry Skills/Planning and Conducting Safely use appropriate materials, tools or equipment to make and record observations, using formal measurements and digital technologies as appropriate. AC SIS066</p>	<ul style="list-style-type: none">• Exploring how science has contributed to a discussion about an issue such as loss of habitat for living things or how human activity has changed the local environment.• Discussing and recording safety rules for equipment as a whole class.• Making and recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimetres (cm) and millilitres (mL).	<ul style="list-style-type: none">• Define weeds.• Negative effects of weeds on ecosystem.• Preventing the spread of weeds.• Ways to eradicate weeds.• Safety in the bushland: sturdy shoes, stay in pairs or small groups, carry water.• Tread lightly: disturb the natural vegetations as little as possible, do not remove vegetation - take photographs and do not leave any rubbish behind.• Measure from the zero mark on a ruler - not the end.• Appropriate units of measurement for length and area in larger spaces.

Biological Sciences

Year	Content Description	Elaborations	Teaching Points
Five	<p>Science Inquiry Skills/ Processing and Analysing data and Information Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate. AC SIS090</p> <p>Science Inquiry Skills/ Communicating Communicate ideas, explanations and processes in a variety of ways, including multi-modal texts. AC SIS093</p>	<ul style="list-style-type: none"> Constructing tables, graphs and other graphic organisers to show trends in data. Constructing multi-modal texts to communicate science ideas. 	<p>Same as previous plus</p> <ul style="list-style-type: none"> Drawing bar graphs. Modes of text: PowerPoint presentation, movie, poster, info graphic.
Six	<p>Science Understanding /Biological Sciences The growth and survival of living things are affected by the physical conditions of their environment. AC SSU094</p> <p>Science Inquiry Skills/ Processing and Analysing Data and Information Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate. AC SIS107</p> <p>Science Inquiry Skills/ Communicating Communicate ideas, explanations and processes in a variety of ways, including multi-modal texts. AC SIS110</p>	<ul style="list-style-type: none"> Investigating how changing the physical conditions for plants impacts on their growth and survival such as lack of space due to weeds. Exploring how different representations can be used to show different aspects of relationships, processes or trends. Using digital technologies to construct representations, including dynamic representations. Discussing the best way to communicate science ideas and what should be considered when planning a text. Using a variety of communication modes, such as reports, explanations, arguments, debates and procedural accounts, to communicate science ideas. Using labelled diagrams, including cross-sectional representations, to communicate ideas and processes within multi-modal texts. 	<p>Same as previous plus</p> <ul style="list-style-type: none"> Protocols for scientific diagrams: use pencil, labelled, scale where necessary. Scientific reports are written in third person (formal).



Biological Sciences

Year	Content Description	Elaborations	Teaching Points
Seven	<p>Science Understanding /Biological Sciences Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions. ACSSU112</p> <p>Science Inquiry Skills/ Processing and Analysing Data and Information Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate. AC SIS129</p>	<ul style="list-style-type: none"> Investigating the effect of human activity on local habitats, such as deforestation, agriculture or the introduction of new species. Exploring how living things can cause changes to their environment and impact other living things, such as the effect of cane toads. Understanding different types of graphical and physical representation and considering their advantages and disadvantages. Using spreadsheets to aid the presentation and simple analysis of data. 	<p>Same as previous plus</p> <ul style="list-style-type: none"> How to construct spreadsheets.

Note: The practical component of this topic also covers many of the Geography collecting, recording, evaluating and representing strand and the communicating strand.

Weeds

Weeds are exotic or native species in ecosystems which previously did not exist there. Weeds are commonly introduced and distributed within bushland areas through the dispersal of seeds by water, wind, animals (such as birds), fire, through dumping of garden refuse, human or vehicle movement in natural areas.

Weeds have major impacts and can:

- decrease nutrient recycling and soil quality;
- contain pests and diseases;
- increase potential of fires through providing fuel;
- impact negatively on plants and animals and their habitats; and
- compete with native species for space, water and nutrients (City of Joondalup, 2013).

Year 4/5 Bushland Weeds

- The student worksheet *Bushland Weeds* is based on the information in the publication *Being WEEDwise: Garden Escapees in the City of Joondalup*. This publication has a high reading level so may not be appropriate for students to use however; it is a good source of basic information about weeds.

- Watch the ABC Behind the News video (ABC, 2014). This short clip is a good introduction to the issue of weeds in bushland.
- Discuss the news clip and gather class ideas about weeds - the student worksheet *Bushland Weeds* can be used as a guide to the discussion.
- Create "Wanted Posters" for weeds. Include the following:
 - name of weed - common and scientific;
 - diagram or picture of the weed;
 - characteristics of the weed;
 - where it is likely to be found;
 - how to dispose of it; and
 - other features like a reward or who to contact.
- Contact your local "Friends" Group and organise a weeding day.
- Urban Bushland Council WA includes the following Friends Groups:
 - Friends of Korella Park Bushland;
 - Friends of Hepburn and Pinnaroo Bushland;
 - Friends of Maritana Bushland; and
 - Friends of Yellagonga Regional Park.



Year 6/7 Bushland Weeds

- The student worksheet *Bushland Weeds* is based on the information in the publication *Being WEEDwise: Garden Escapees in the City of Joondalup*. This publication has a high reading level so may not be appropriate for all students to use, however it is a good source of the basic information about weeds.
- The *Bushland Weeds Vocabulary Worksheet* can be used as a pre-reading activity to help students understand new words.
- Students can then use this information in a number of ways:
 - Create “Wanted Posters”;
 - Create Pamphlets or Posters about weeds and display in the library;
 - Write an article for the school newsletter;
 - Write “Letters to the Editor” of the local community newspaper;
 - Write a persuasive argument on the following:
 - A native garden is the best garden for Perth homes.
 - Fines should be given to people who allow weeds to grow in their garden.
- Contact your local “Friends” Group and organise a weeding day (City of Joondalup, no date (a)).
- Urban Bushland Council WA (Urban Bushland Council WA Inc., 2014) includes the following Friends Groups:
 - Friends of Korella Park Bushland;
 - Friends of Hepburn and Pinnaroo Bushland;
 - Friends of Maritana Bushland; and
 - Friends of Yellagonga Regional Park.

Weed Field Work

See the *Bushland Activities* document for information about transects and quadrats. Both of these methods are used for recording data on plant species in the field.

The following documents can be used for weed identification:

- *Being WEEDwise: Garden Escapees in the City of Joondalup* (City of Joondalup, no date (b)).
- *19 Common weeds found around Perth* (DEC, 2013).

Use the worksheet *Bushland Weeds in the Wild* to guide a field trip in local bushland. If this is not possible you could use the same worksheet within the school grounds.

- Quadrats can be easily made with four metre long ropes and laid out as a square. Alternatively plastic hula hoops work just as well.

- Ropes with each metre marked by tape can be used to mark out the transect or long measuring tapes can be used.

- A map of the bushland is useful for recording the location of the transects and quadrats.

- Remind students to be careful not to trample undergrowth and plants.

- Students need to be aware of reptiles (e.g. snakes and goannas), ticks, ants and spiders when working in bushland. They should not dig through thick foliage or leaf litter with their hands.

- Students should wear sturdy footwear such as sneakers or boots. Long socks are preferable.

- Digital photographs could record the types of weeds, location and methods to remove them. These images can then be used in a report or display about weeds. Students could write a book or make a movie about weeds to share with the lower grades.



References

- ABC, *Behind the News: Bushcare Kids*, <http://www.abc.net.au/btn/story/s3586880.htm>
- Australian Government, 2014, *Getting Kids and Students Involved*, <http://www.environment.gov.au/biodiversity/invasive/weeds/help/kids.html>
- Brown, K. and Brooks, K., 2002, *Bushland Weeds: A Practical Guide to Their Management*, <http://www.environmentalweedsactionnetwork.org.au/images/pdf/bushlandweedsbook.pdf>
- City of Joondalup, no date (a), *Natural Areas Friends Groups*, <http://www.joondalup.wa.gov.au/Live/Environment/community/NaturalAreasFriendsGroups.aspx>
- City of Joondalup, no date (b), *Being WEEDwise: Garden Escapees in the City of Joondalup*, <http://www.joondalup.wa.gov.au/Files/Garden%20Escapee%20Weed%20Guide.pdf>
- City of Joondalup, 2013, *Warwick Open Space Bushland Management Plan*, http://www.joondalup.wa.gov.au/Files/8258%20Warwick%20Open%20Space%20Bushland%20Mgt%20PlanV8_WEB.pdf
- Department of Environment and Conservation, 2013, *Education Portal: 19 Common Weeds Found Around Perth*, http://education.dec.wa.gov.au/downloads/cat_view/91-outdoor-classrooms/92-resources.html
- Mudie, K and Brotherton, J. 2009 *Heinemann Biology Preliminary, Teacher Edition*, Third Edition, Pearson Australia, Port Melbourne, Victoria.
- Urban Bushland Council WA Inc., 2014, <http://www.bushlandperth.org.au/>
- Department of Agriculture, Fisheries and Forestry, no date, *Weedbusters Board Game*, http://www.daff.qld.gov.au/__data/assets/pdf_file/0008/51200/IPA-WB-Board-Game.pdf