

# Field Guide: Teacher Notes



Bob Winters ©

## Activity 1

Flora and fauna identification

## Objectives

After completing this activity, students will be able to:

- Use the Flora and Fauna Field Guide to identify plants and animals.
- Record plant and animal sightings.

## Target audience

Levels 4 - 7

## Activity

This lesson builds upon what students know about the living world around them, focusing on identification and classification in a grassland setting. Students will need access to a grassland ecosystem. A grassland may be found in your school yard, parkland, wetland or along a river bank.

### Duration

2 x 50 minute sessions  
(1 session to identify flora and fauna and 1 session to interpret results)

### Materials

iPad or iPhone  
Flora and Fauna Field Guide App  
Field workbook  
Pencil  
Clipboard  
Hand lens – class set (optional)  
Magnifying glass – class set (optional)  
Digital camera/s (optional)

## Before visiting the grassland

Begin this lesson by engaging students in a brainstorming session about plants, animals and identification. Ask students to tell you what they know about plants, animals, plant and animal identification, plant and animal classification and grasslands. Record student responses on the board and consider these prompts to keep the discussion lively (answers have been provided).

### 1. What do you know about plants?

Students may talk about houseplants, vegetables, flowers and any other plants they may see. They may talk about plants being photosynthetic and that they make their own food using sunlight, water and carbon dioxide. Answers will vary.

### 2. What are the main structures of plants?

The main structures of plants include roots, stems and leaves. Students may also think of flowers, fruits, seeds and cones, etc.

### 3. What features do plants have that we can typically see/cannot see?

Typically we can see the plants stems, leaves, flowers, fruit and sometimes seeds. Occasionally we can see the plant roots and rhizomes above the ground. However, usually, we cannot see plant roots and rhizomes as these are beneath the ground.

### 4. What do you know about animals?

Students may talk about pet animals they have at home, and other animals that they may see around them, such as birds, lizards, insects and farm animals. They may talk about vertebrates and invertebrates. Answers will vary.

### 5. What are main difference between vertebrates and invertebrates?

Vertebrates are animals with a backbone. Vertebrates include birds, amphibians (e.g. frogs), reptiles (e.g. lizards), birds, mammals (including humans), marsupials (e.g. wallabies), primates (e.g. gorillas), rodents (e.g. rats) and cetaceans (e.g. whales).

Invertebrates are animals without a backbone. Invertebrates include protozoa, echinoderms (e.g. sea stars), annelids (e.g. earthworms), molluscs (e.g. snails), arthropods (e.g. spiders), crustaceans (e.g. crabs), arachnids (e.g. spiders) and insects (e.g. beetles).

### 6. How do we tell the difference between two similar plants and two similar animals?

We can tell the difference between two plants/animals by observing and studying them.

### 7. What is the difference between a native and an introduced plant or animal?

Native plant/animal is a term used to describe plants/animals that are indigenous, or occur naturally in a given area. Students may know introduced plants/animals as exotic or non-native, and that they are a species living outside their native distribution range, which may have arrived by human activity, either deliberate or accidental.

### 8. What is a grassland? What do you know about grasslands?

Grasslands are flat open spaces covered mainly in grass, however other plants, wildflowers and a small number of trees and low shrubs may also occur. They receive less rainfall than forests but more than deserts. Answer will vary.

Follow this brainstorming session by enabling students to familiarise themselves with the Flora and Fauna Field Guide, and the plants and animals found in grasslands. The following are detailed instructions for the Flora and Fauna Field Guide.

## Flora and Fauna Field Guide Instructions

- Click MENU.
- List of animals and plants is shown.
- Click on appropriate category to identify plant or animal, e.g. Amphibian. Scroll through list and select a plant/animal, e.g. a particular frog. Examine photo/s provided and read descriptions to identify the frog.
- In the top left-hand corner there are three icons, enabling you to select text and image, full screen image or text only.
- In the top right-hand corner there are three/four icons (three icons for plants and four for animals):
- Speaker (animals only) – the sound of the animal (if available) is played if a sound is available.
- Camera – submit a sighting.
- Magnifying glass – search tool.
- Question mark – go back to the main screen.
- The information screen provides photo/s, identification characteristics, distinctive features/markings, habitat, native status, EVC types, life form group, life form code, taxonomy, distribution map, interesting fact and conservation status.
- Click MENU to select another species.
- Click CATEGORIES to go back.

## Visiting a grassland

Prior to visiting a grassland with your students, it may be useful to familiarise yourself with the plants and animals that may be found at the site. Take the Flora and Fauna Field Guide and identify as many of these as possible. Ensure that you are aware of any hazards at the site. These may include:

Exposure to the sun

Water hazards

Potential trip and fall injury

Snakes

Pollution, which should not be handled.

Tell students what you expect of them in the field regarding behaviour (no trampling of the grassland), participation and completion of their field journal. Students should wear covered shoes and full length trousers. Make students aware of the potential hazards.

At the grassland, tour the area to familiarise your students with the boundary and the types of plants and animals at the site. Ask students to observe the grassland. Pose questions such as; Is the grassland healthy or unhealthy? What makes the grassland healthy/unhealthy?

Show students how to use their identification tools (field guide, field notebook, hand lens, magnifying glass, etc.). Choose one plant and explain the identification process using the Field Guide, recording results in the field workbook/activity sheet. Explain to students why the plant (and all organisms) have two names; a common name and a scientific name. Ask students how the scientific name of an organism is different from the common name?

The scientific name is written as two Latin words that are italicised. The first word is written with the first letter capitalised and the second word is written in lower case. Scientists use one scientific name for each species. The common name may vary depending on where you live. Different people may use different common names for the same plant, however the scientific name will always remain the same.

Students should work in pairs and identify as many plants and animals as possible in a given time frame (this should be a minimum of 30 minutes). If possible, students should also be provided with a digital camera for at least a portion of their time in the field; students should take pictures of the plants and animals that they identify. If a digital camera is not available, students should draw the plants and animals that they identify in the field. For each plant and animal identified, students should complete their field worksheet, by noting if it is a plant or animal, listing the group, sub-group, common name, scientific name and whether it is introduced or native to Australia.

## After the grassland visit

Conclude the session by engaging students in a discussion about plant and animal identification. Ask students to tell you how to identify plants and animals in the field and list the organisms observed on the board. Discuss whether the site is dominated with native or introduced organisms and ask students to explain what this tells you about the site. Ask students if this indicates whether the site is healthy or unhealthy. Students should be given time to answer the interpretation and conclusion questions.

### Student field workbook

#### Activity 1: Flora and fauna identification (Levels 4-7)

##### 1. Observe the grassland. Assess the health of the grassland.

Students should refer to the visual state of the site and make an assessment accordingly. They may refer to rubbish, weeds, plants and animals that are present or absent. Answers will vary.

## Fieldwork

2. Use the Flora and Fauna Field Guide to identify flora and fauna in the grassland.  
Record your results in the table below (see example).

Animal/ Plant	Group	Sub-group	Common name	Scientific name	Draw organism	Introduced/ Native to Australia
Animal	Bird	Cockatoo	Galah	<i>Eolophus roseicapillus</i>		Native



## Interpretation of results

**3. Consider the native or introduced status for each plant and animal identified. What do your results suggest about the health of your grassland? Is it healthy or unhealthy?**

Answers will vary, as results vary, however students should explain that native species indicate a healthy ecosystem, and introduced species indicate an unhealthy ecosystem. If the grassland is dominated with native species, yet has several introduced species the grassland is quite healthy however improvements can be made.

**4. What would a healthy grassland look like?**

A healthy grassland should contain a diverse group of native species with few or no introduced species.

**5. Evaluate sampling technique. Are there any limitations? Could any improvements be made?**

Students may consider the following as limitations; students may have a lack of experience with sampling and identifying therefore inaccuracies may occur; sampling time may not be long enough; plants and animals could be missed in the identification process as some animals will not be observed due to day/night variations and seasons. Improvements may include; have a greater understanding of grassland plants and animals; have a grassland expert on site to assist with identification; sample at different times of the day and during different seasons.

Answers will vary.

## Conclusion

**6. What tools should you use when identifying plants and animals in the field? Why?**

You should use a field guide to identify plants and animals. It is useful to have a hand lens and/or magnifying glass to assist with plant identification.

**7. Why is it important to photograph/draw a plant rather than removing it?**

If everybody removed the plants they were observing, the population will become depleted. Also, there may only be a few plants of the one species at the grassland site or the plant you are observing may be rare or endangered, therefore it is best to leave the plants in their original state.

**8. How is the scientific name of an organism different from the common name?**

The scientific name is written as two Latin words that are italicised. The first word is written with the first letter capitalised and the second word is written in lower case. Scientists use one scientific name for each species. The common name may vary depending on where you live. Different people may use different common names for the same plant, however the scientific name will always remain the same.