

Australian Curriculum

YEAR 4
AGES 9-10



SCIENCE:

A  **APPROACH**

Biological sciences

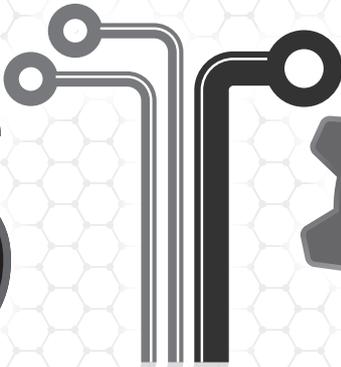
Chemical sciences

Earth and space sciences

Physical sciences



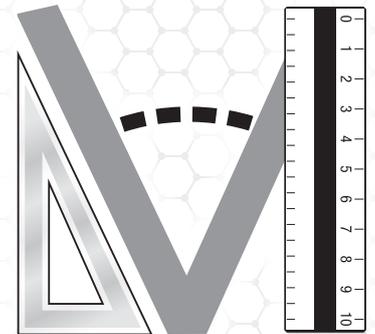
SCIENCE



TECHNOLOGY



ENGINEERING



MATHEMATICS

SAMPLE - NOT FOR SALE



Teacher notes

Science inquiry focus:

What is a producer, consumer and decomposer and why are they important to each other?

Science Inquiry Skills:

- Questioning and predicting **QP**
- Planning and conducting **PC**
- Processing and analysing data and information **PA**
- Communicating **C**

Science as a Human Endeavour:

- Students describe the relationship between living things in an ecosystem.
- Students discover that humans are living things that may have an impact on the delicate balance of relationships in an ecosystem.

Technology/Engineering/Mathematics links:

- using QR code readers and technology to conduct research
- viewing and sorting data from an online game

Assessment focus:

- Observe students' verbal responses to Step 7 as a formative assessment of the understanding of the relationship between producers, consumers and decomposers.
- Use page 13 as a formative assessment of students' understanding of what a producer, consumer and decomposer are.

Background information

- Decomposers are considered nature's recyclers; they process dead materials and turn them into nutrients. For example, earthworms take in dead leaves and soil, and churn out nutrient-rich waste which promotes soil health, which in turn supports plant growth. Decomposers enable producers to live.
- Producers are living things that make their own food. This includes plants, flowers, trees, fruits and vegetables. They produce their own food using sunlight and the process of photosynthesis. Consumers that eat producers are called herbivores.
- Consumers are living things that eat plants or animals to obtain energy and nutrients. Consumers can be herbivores, carnivores or omnivores.
- Decomposers, producers and consumers have an interdependent relationship. If one dies out, then the whole ecosystem is thrown out of balance and can disappear. If there are competing consumers, then the less able consumer is also at risk of dying out.

Resources

- Digital copy of pages 12 and 15
- Online video—*Decomposers* <<https://tinyurl.com/n53qxb>>
- Sufficient copies of page 13
- iPad® with QR code scanner
- Copies of page 14 (optional)
- Website to research decomposers, producers and consumers (linked to first QR code on page 13) <<https://tinyurl.com/bmca32>>
- Decomposers, producers and consumers game (linked to second URL on page 13) <<https://tinyurl.com/avcxuf>>



Lesson plan

Introduction:

1. Display a digital copy of page 12 on the whiteboard. *What is this person eating for lunch? What does the cow eat? How does the corn get food? What job does the worm do?* There is a flow of energy in every ecosystem. Where things get their energy from depends on whether they are a producer, consumer or decomposer. **QP**
2. Write the terms 'producer', 'consumer' and 'decomposer' on the board. In small groups, students discuss what they think these terms mean. *Can you guess what the cow is, or what the corn is, or the human or the worm?* **QP**

Development:

3. As a class, watch the video *Decomposers* at <<https://tinyurl.com/n53qxb>>. **C**
4. Individually, students go to <<https://tinyurl.com/bmca32>> or scan the QR code on page 13 to research and write a definition for *producer*, *consumer* and *decomposer*. Students can also confirm which living things from the image shown in Step 1 are consumers, producers, decomposers, as well as list other examples on the resource sheet. **PC PA C**
5. Individually, or in pairs as digital equipment allows, students practise sorting producers, consumers and decomposers by playing the game at <<https://tinyurl.com/avcxuf>>. *Note: The URL is written at the bottom of page 13 and can only be used on a computer (this game is flash-based and will not work on an iPad®).* Alternatively, play the game as a class on the whiteboard. **PA**

Differentiation

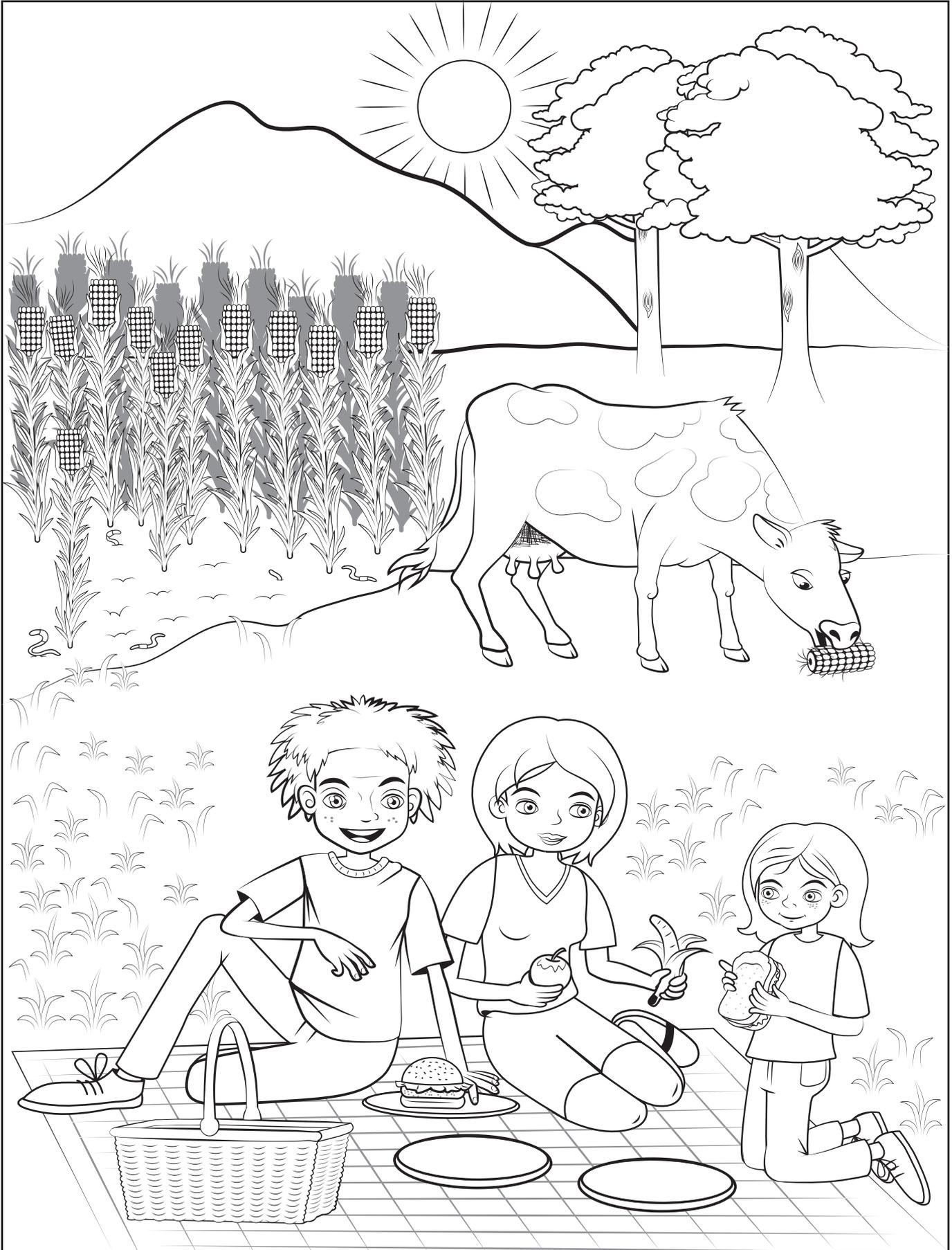
- Less capable students who require more practice identifying producers, consumers and decomposers can use page 14 to conduct a card sort.
 - More capable students can conduct further research and write more extensive answers for page 13.
6. As a class, discuss the importance of the components of an ecosystem in terms of producers, consumers and decomposers. *What would happen if one of these producers, consumers or decomposers died out from the ecosystem?* Refer back to the Daintree Rainforest by looking at the living things on page 15 or searching for these images online. In pairs, students construct a table and list the living things that are producers, consumers and decomposers based on the definitions and previous research. **QP PA**

Reflection:

7. Select students at random to name a producer, consumer or decomposer. Individually, students complete the sentence *If all decomposers died out in an ecosystem then ...* on the back of page 13 or using digital technologies as appropriate. **C**



Where do you get your energy?

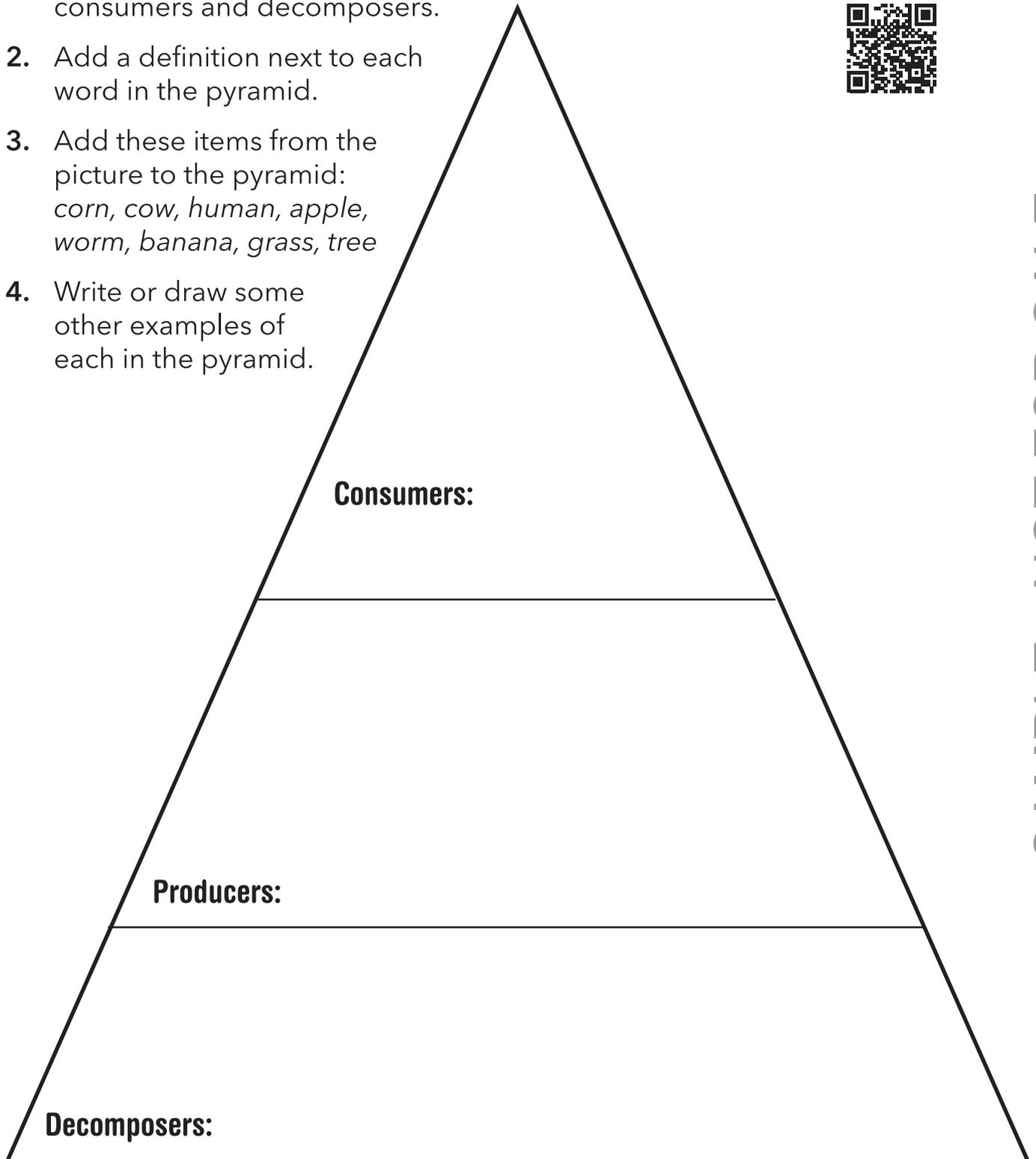


SAMPLE - NOT FOR SALE



Producers, consumers and decomposers

1. Scan the QR code or go to <<https://tinyurl.com/n53qxb>> to read information about producers, consumers and decomposers.
2. Add a definition next to each word in the pyramid.
3. Add these items from the picture to the pyramid:
corn, cow, human, apple, worm, banana, grass, tree
4. Write or draw some other examples of each in the pyramid.

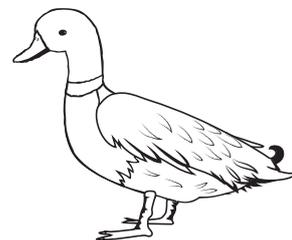
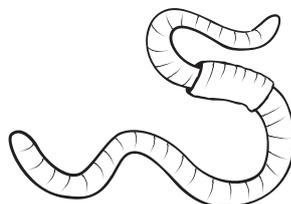
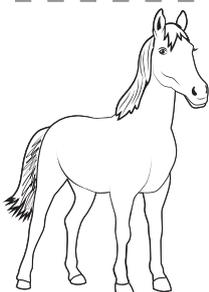
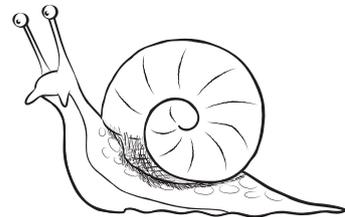
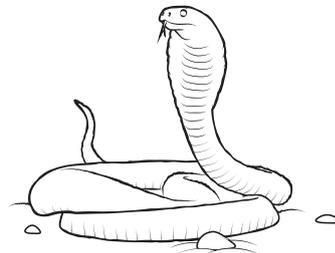
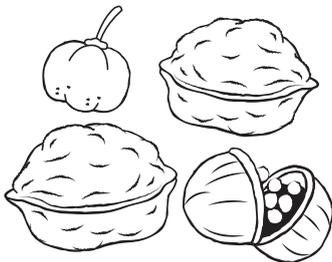
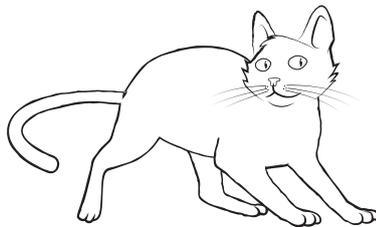
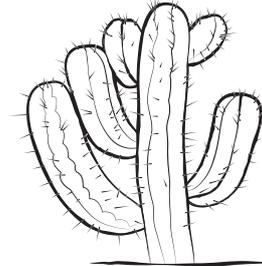
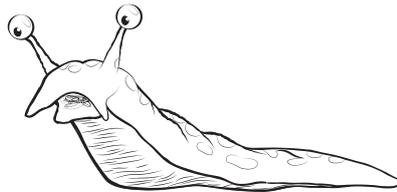
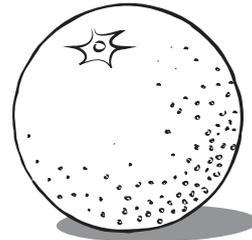
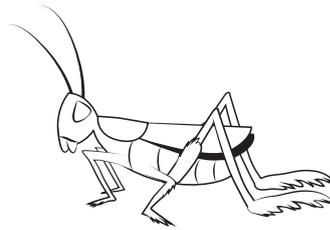
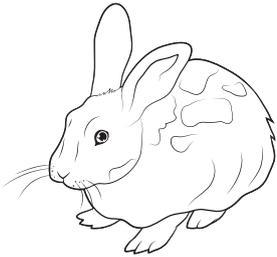
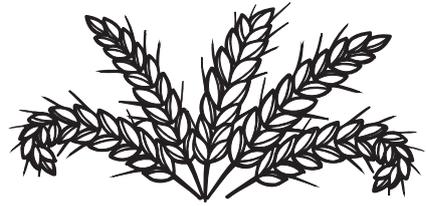
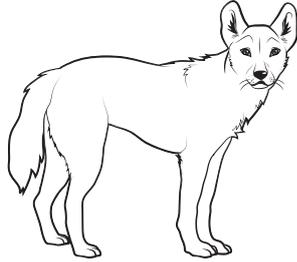


5. Now test your knowledge by playing a game!
Using a computer, go to <<https://tinyurl.com/avcxuf>>.

SAMPLE - NOT FOR SALE



Card sort



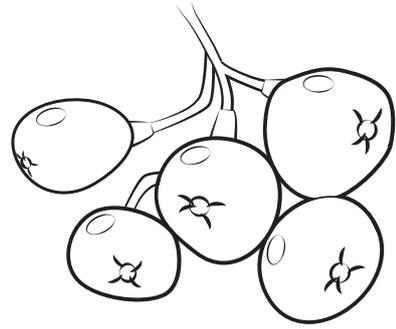
SAMPLE - NOT FOR SALE



Daintree producers, consumers and decomposers



White mushroom



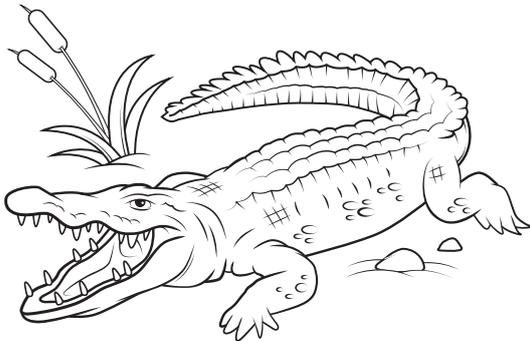
Blue quondong



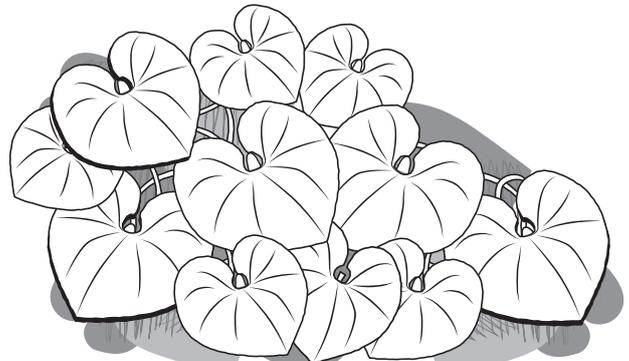
Musky rat kangaroo



Ulysses butterfly



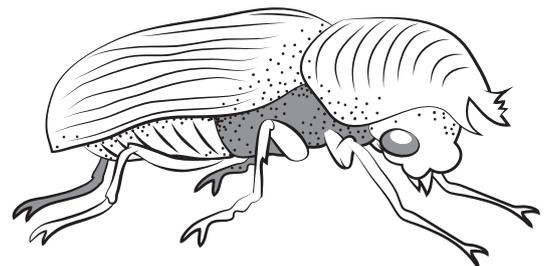
Crocodile



Wild ginger



Mangrove



Auger beetle

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