Teacher Notes

Themes

- Plant growth
- Plant adaptations
- Predator and prey relationships
- Food chains

Key learning outcomes

- Plants need nutrients in the soil, as well as sunlight, water and carbon dioxide to grow.
- To grow in nutrient-poor soil, some plants have evolved ways to consume animals.
- Carnivorous plants play important roles in an ecosystem, cycling nutrients and keeping insect populations down.

Key curriculum areas

- **Science:** Science Understanding (Biological sciences)
- **English:** Language
- **The Arts:** Visual arts
- **Cross-curriculum Priority:** Sustainability

Publication details

The Wonderful World of Carnivorous Plants

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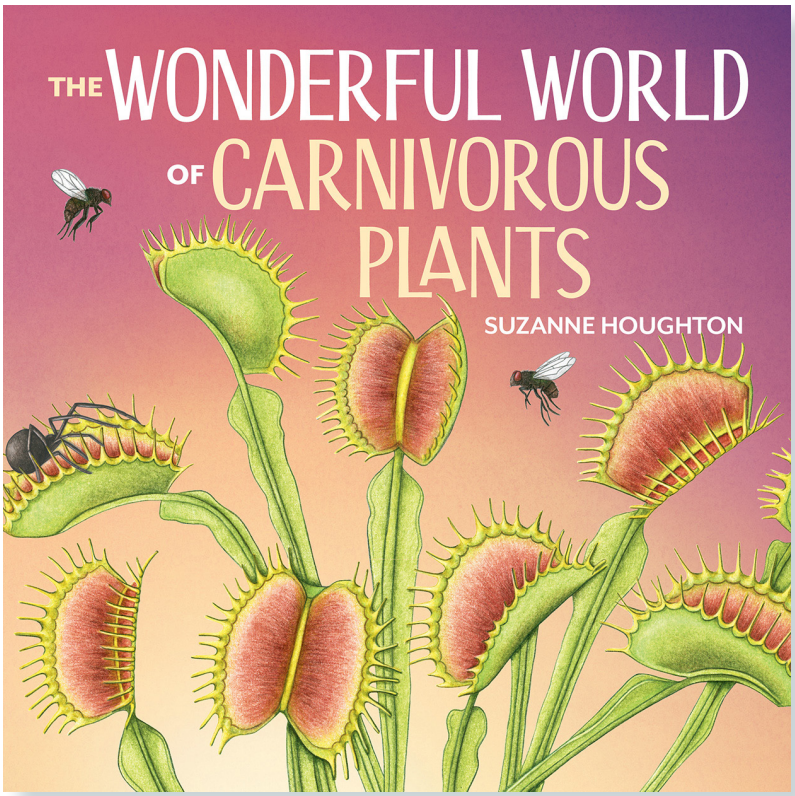
Teacher notes prepared by Mike McRae.

CSIRO Publishing
Private Bag 10
Clayton South, VIC 3169, Australia

Website: www.publish.csiro.au
Tel: 1300 788 000 (local call in Australia)
Email: publishing.sales@csiro.au



The Wonderful World of Carnivorous Plants

Suzanne Houghton

About the book

Have you ever heard of a meat-eating plant? Or a plant that traps spiders and flies?

Welcome to *The Wonderful World of Carnivorous Plants*, where sticky leaves and slippery stems are just some of the fascinating ways some plants capture their food. Explore the unique features and adaptations of these plants and the important role they play in our environment.

Recommended for

Readers aged 5 to 9 (Years 1 to 4)

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About the author/illustrator

Suzanne Houghton is an award-winning author and illustrator who is constantly fascinated with the world around her. Her recent works include *Where Are All the Christmas Beetles?*, and she was also the illustrator of *Fabulous Frogs*, *Life in a Hollow* and *Wonderful Wasps*.

Pre-reading questions or activities

Take a walk through the school grounds to look at the various plants. If the groundskeeper is available, invite them to share their favourite gardens. Ask the students to question the groundskeeper about their job keeping plants alive. What does the groundskeeper need to do regularly to keep the plants healthy? Why might the plants need soil? Why do some plants only grow in some areas?

What do all of the plants have in common? Ask the students to bring a notepad and draw some of their favourite trees, shrubs or garden plants, and label or verbally describe their features.

What features are different? What makes a tree different from the grass?

Discussion questions

Science

1. Ask the students to describe different materials they could use to grow plants, such as soil, mud, sand or even pebbles. Which might be good for growing plants? Which might be bad? Ask them how they might make a good soil to grow foods like vegetables, sharing any experience they've had growing plants at home.
2. Animals called predators catch and kill other animals for food. Frogs catch flies, for example, while lizards might catch small bugs. What are some different methods predators use to catch prey? Are any of these actions similar to the methods used by carnivorous plants in the book?
3. Show the class the picture of tropical pitcher plants surrounded by ants. Ask the students to describe all of the features that make the pitcher plant so good at catching small insects. What features might ants need to avoid becoming prey to this carnivorous plant?
4. Plants also need insects to help spread pollen, which is needed to make seeds for new plants. How might plants attract animals for spreading pollen, spreading seeds and for them to eat? What makes flowers so good at attracting animals such as bees?

Teacher Notes

English

1. Read through each verse in the book, identifying the words that rhyme. Ask the students what makes one word rhyme with another. Why might the author use rhyme to describe carnivorous plants? Does it make the text easier or harder to read than if there was no rhyme?

The Arts

1. Each page in the book clearly features one of the carnivorous plants, with an example of its prey or an animal that helps it grow. Ask the students to choose a favourite picture and describe it in their own words. Why do they think the creator of the book used coloured illustrations and not photographs? How do drawings make them feel?

Sustainability

1. Plants are usually considered important as a source of food for animals. How might carnivorous plants be useful in an ecosystem? What would happen if they were removed?

Activities

Science

What do seeds need?

You will need

- 3 or 4 different varieties of seed (sprouts, beans and peas work well)
- 3 egg cartons with lids
- Marker pen
- Cotton wool
- Tap water

What to do

1. Place a small wad of cotton wool into each well of the three egg cartons.
2. Decide how many of each seed or bean you will place into a carton. For example, if you have three types of plant, place four seeds or beans into each. Use the marker pen to record which seeds or beans were placed into which wells in the egg carton.

3. Write 'Light and no water' on the inside of a lid of one of the egg cartons. Leave this carton open, sitting in a bright location.
4. Write 'Water and no light' on the top of a lid of a second egg carton. Add water to each of the wells so that the cotton wool is thoroughly damp.
5. Write 'Water and light' on the inside of a lid of the third egg carton. Add water to each of the wells so that the cotton wool is thoroughly damp. Leave this carton open, sitting in a bright location.
6. Add more water to the second and third cartons each day so that the cotton wool doesn't dry out.
7. Observe all three egg containers for two weeks. Which seeds and beans look healthy? Which don't grow at all?

What's happening?
Seeds contain nutrients that give them a good start in life. Most will only need to be kept moist for an extended period to be triggered into using their energy reserve to grow roots and a stem. Without water, seeds will remain dormant. Once a seed's reserve of energy has been used, it will need to absorb sunlight. A healthy plant will make a green pigment called chlorophyll to do this. Without sunlight, plants will quickly use up their seeds' store of energy and have none left to grow green and healthy.

Grow a carnivore
Venus flytraps can be cheaply bought through most nurseries. Research online how to care for a Venus flytrap, and invite students to discuss how to prepare a terrarium that could keep a plant healthy. What might it need? Where could they find materials for the terrarium?

Invite an expert from a plant nursery or a local botanic garden to discuss how carnivorous plants should be cared for. Arrange with the class a plan for who will care for the plant, ensuring it has all the materials it needs to thrive.

English

Rhyme time
Rhyme is commonly used in poetry and prose to evoke emotional responses, aid in reading difficult words, assist in memory and generally make reading an enjoyable experience.

Invite students to choose one of the plants in the story to write a poem on. They can focus on the plant seeking a meal, or on its prey avoiding becoming lunch. Encourage them to read more about the plant on the internet, including where it might be found, what species it eats, and how it catches and digests its prey.

Invite the students to use rhyme in their poems, allowing them to express themselves by turning their poem into song, following different styles of poetry or simply rhyming different words as they feel.

Provide art supplies so students can illustrate and share their finished work, and share them in a poetry reading or as a gallery on a wall.

The Arts

Rubbish plant

Safety: *This activity could include allowing capable students to cut materials using scissors or craft knives. Be mindful of students' abilities, assisting those who need help or restricting cutting to simpler materials such as coloured paper where appropriate.*

Ask students to choose a carnivorous plant in the book and find images of a similar species online. Alternatively, students can invent their own carnivorous plant that uses a different means of catching prey.

Instruct the students to design a sculpture of their carnivorous plant using waste materials, writing and sketching their ideas on paper with coloured pencils. List example materials on the white board, which could include cardboard tubes, plastic lids and bottles, or scraps of cloth.

Provide students with an assortment of art materials including paints, plasticine, cardboard, pipe cleaners and glue. Allowing students to change their designs based on materials at hand, instruct the class to build a sculpture of their carnivorous plant.

Australian Curriculum Links (Version 9.0)

Year level	Learning area: Science	Other learning areas
Years 1/2	**Science Understanding: Biological sciences** • Identify the basic needs of plants and animals, including air, water, food or shelter, and describe how the places they live meet those needs (AC9S1U01)	**English: Language** • Explore how repetition, rhyme and rhythm create cohesion in simple poems, chants and songs (AC9E1LA04) • Understand that images add to or multiply the meanings of a text (AC9E2LA08) **The Arts: Visual arts** • Experiment and play with visual conventions, visual arts processes and materials (AC9AVA2D01)
Years 3/4	**Science Understanding: Biological sciences** • Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (AC9S3U01) • Explain the roles and interactions of consumers, producers and decomposers within a habitat and how food chains represent feeding relationships (AC9S4U01)	**English: Language** • Identify how images extend the meaning of a text (AC9E3LA09) • Explore the effect of choices when framing an image, placement of elements in the image and salience on composition of still and moving images in texts (AC9E4LA10) **The Arts: Visual arts** • Use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (AC9AVA4C01)
All	**Cross-curriculum Priority: Sustainability** • All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival (SS1)	

Related books from CSIRO Publishing

By the same creator:

- *Fabulous Frogs* (https://www.publish.csiro.au/book/8139)
- *Where Are All the Christmas Beetles?* (https://www.publish.csiro.au/book/8140)
- *Wonderful Wasps* (https://www.publish.csiro.au/book/8057)

For older readers:

- *Plantastic! A to Z of Australian Plants* (https://www.publish.csiro.au/book/7956)
- *Plantabulous! More A to Z of Australian Plants* (https://www.publish.csiro.au/book/8103)

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