Herbert Peabody and His Extraordinary Vegetable Patch

These teaching activities are based on the national curriculum for ages 5 years and upwards, and cover the following key learning areas:

1. English and fiction
2. Science
3. Aboriginal and Torres Strait Islander histories and cultures
4. Sustainability and the environment themes

1. English and fiction activities

Before reading:

1. Based on the cover, what do you think *Herbert* Peabody and His Extraordinary Vegetable Patch will be about?
2. How do you think that it will start and end?
3. Where and when do you think it is set?
4. Who do you think is the main character?

Identify the title of the book, the author, the illustrator and the publisher.

Discuss the different roles involved in creating a published text.

1. What is the role of the author and the illustrator?
2. What is the role of the publisher?

Activity 1

i) Provide students with a simple handout that will scaffold their study of genre. It should be in a table form and contain headings such as purpose of the text, characters, settings and plot.

ii) Arrange a trip to the school library. Ask the teacher-librarian to set up five tables containing age-appropriate books (preferably picture books) belonging to five popular genres (e.g. mystery, science fiction, fantasy, historical fiction and realistic fiction).

iii) The librarian or teacher should read a story to the students that belongs to a genre that is not on one of the five tables e.g. traditional fiction (e.g. fairy tales, myths and legends).

iv) The teacher should model how to complete the handout using the story as a springboard for discussion.

v) Ask the students to break into groups. Get them to read through at least one book on their table. If they are unable to read unassisted, ask students to look for genre clues on the cover of the book (e.g. illustrations, title, colours, font, settings and characters).

vi) In their groups, ask the students to conduct a round robin. After this, they should fill in their handouts noting the conventions that appear in their most of the books read by the students sitting at their table.

vii) At the end of the session, students are to nominate a spokesperson for their group and they are to share their findings with the rest of the class. The other students should fill in their own handouts using the information provided by the other groups.

Activity 2

Herbert Peabody and the Incredible Beehive is a mystery story. Create a clearly visible space in the classroom to allow students to list the central conventions of the mystery genre as they encounter them in the story. An alternative approach is that teachers could provide the evidence from the text for the students, allowing them to explain how it is an example of a mystery convention.

Activity 3

Students should already be familiar with the concept of a narrative, but the teacher should refamiliarise students with the basics (orientation, complication, rising action, climax and resolution). Use a graphic organiser such as this one called Story Mountain to give students a chance to see how plot is constructed within narrative texts. As the students work their way through the story, they should plot key events on the graphic organiser.

During reading:

Questions/Comprehension by chapter

The Farmer Called Herbert Peabody

1. Using your senses of sight, smell, taste, touch and sound, describe Herbie's farm (pp.1-3).
2. What does Herbie do when he plants his seeds (pp.3-6)? This process is an example of a ritual. Have a class discussion on what a ritual is and come up with some other examples.
3. Listen to your teacher read Herbie's special poem on pages 5 – 6. Which words rhyme? Is there a strong sense of rhythm to the poem? What does Herbie teach us about plant growth through his poem?

Theo Knead-a-lot's Famous Bakery

1. Who is Theo Knead-a-lot? Why is he famous in Huffelton?
2. What is the big problem that is introduced in this chapter?

Herbie's Very Special Visitors

1. Who are Clementine and Digby? How old are they? Why are they staying with Herbie?

2. What more do we learn about Theo Knead-a-lot in this chapter?
3. *Herbie smiled so much that his eyes crinkled up. Little did he know that something big was about to happen. And that something would change things forever* (p.22). How does the author increase suspense at the end of this chapter?

The Big Lunch Problem

1. What is Digby's favourite pastime?
2. What type of food do the children prefer to eat?
3. Herbie speaks to his friends, the worm and the ladybug about his niece and nephew. What are his concerns?
4. The author shows us that Herbie is not his usual self at the end of this chapter. What changes do we see in Herbie?

The Sad Visit to Huffelton

1. What do Clementine and Digby learn about the tomatoes in the vegetable patch (p.34)?
2. Why is Theo Knead-a-lot washing windows instead of baking?
3. *Herbie, Clementine and Digby picked up their baskets, made their way back to the rumbling green truck and took a long, sad drive back to Mulberry Tree Farm* (p.39). Why is everyone feeling sad as they drive back to Mulberry Tree Farm?

The Dreadful Night

1. After his stressful day, Herbie has a terrible nightmare (pp.42 – 48). Summarise what happens in his dream. Dreams sometimes reflect concerns or worries that we have during the daytime. As a class, or individually, describe a scary dream you have had in the past and come up with an alternate ending that is happy or funny.

The Extraordinary Vegetable Patch

1. Early in this chapter, Digby and Clementine make an exciting discovery (pp.51-52). What is it?
2. What are Wellington boots (p.52)? When might someone wear 'wellies'?
3. How do Clementine and Digby react when they venture out to experience the vegetable patch (pp.54-55)?
4. At the end of the chapter, what clues are there to show us that Herbie is feeling happy again (pp.56-59)?

The Magic Pots

1. Using a graphic organiser, draw a flowchart to show the key steps involved in planting vegetable seeds.

The Crazy Idea

1. Whose idea is it to *spread the magic,* by encouraging other kids to grow seeds in pots, too (p.70)?
2. Herbie writes an invitation (pp.71-72) to Digby and Clementine's teachers, asking them to come to Mulberry Tree Farm for a planting day.
    a. What is an invitation?
    b. What is the purpose of an invitation?
    c. What things should appear on an invitation (e.g. title, time, place, address, dress code, what to bring, cost, RSVP)?
    d. What are the language features of invitations (e.g. colons, economy of language, present tense).
    e. Imagine you are Herbie. Using your imagination, write up an official invitation with all of the necessary information on it to Digby and Clementine's teachers.

The Magic Day at Mulberry Tree Farm

1. Why do the children decide to keep their planting activity a secret from Theo Knead-a-lot (p.84)

The Big Surprise

1. List some of the produce the children drop off at Theo's bakery (p.95). How do you think Theo might use this produce in his baking?

The Magic

1. Herbie appears in the local newspaper, *Huffelton News* (p.100). Imagine you are a journalist writing for this newspaper. After discussing the conventions of new stories with your teacher, write the story that would have appeared in the newspaper the day after Herbie and the children dropped off their produce at Theo's bakery.

After reading:

1. What is the purpose of this text (e.g. to tell a story, to offer information, to argue a case)? How can you tell?

2. Who is the audience for this book (e.g. age and interests)? How do you know this?

3. Complete a character profile for Herbert Peabody. What are his strengths and weaknesses? What type of character is he? How is he the hero of the story? What are the characteristics of a typical hero in a narrative?

4. The story shows readers how different life can be if we put down our technological devices and explore our world outside instead. What technology do you use at home that might be preventing you from exploring your garden or local park? As a class, agree to avoid using some technology for a set period (e.g. one evening).

5. The word 'magic' is used lots of times in the narrative. Why do you think the author has chosen to link the idea of magic with growing food? How might it seem 'magical' to many people who live in cities, away from farms where our food is grown?

6. Two of Theo's baked items are referred to a lot in the story: carrot cake and sausage rolls. Can you find a recipe for either of these foods? What are the conventions of a recipe? Attempt to write your own recipe for a simple food that you like to eat (e.g. a ham and salad sandwich).

7. Rewrite a small segment of the story from a different character's perspective, such as the first day when Clementine and Digby arrive at Herbie's house from Digby's perspective, or the climax of the text from Theo Knead-a-lot's perspective, as he is waiting in his bakery for Herbie's delivery.

8. *Herbert Peabody and His Extraordinary Vegetable Patch* explores problem solving. Identify the central problem in the story. How is the problem solved? The narrative finishes after Herbie's heroic act is published in the *Huffelton News*. What do you think happened next? In pairs or individually, write another page for the book.

9. Storyboard the process involved in planting a vegetable patch and, using Claymation, film a segment of the story as an instructional video to illustrate how plants grow. Add subtitles at the bottom of the screen to identify the different stages.

2. Science activities

Key vocabulary

Food, grow, leaf, light, sun, plant, seed, water, soil, compost, season, rotate, angle, weather, worm, nutrient, organic, matter

Seasons and Weather

Herbie describes his wisteria plant blooming during springtime (p.1).

- Have you noticed that different activities take place in the garden during different seasons?
- In pairs, create a large poster to display in your classroom on the topic 'Four Seasons'. Cut out pictures from magazines that best represent the various activities, clothes, foods and weather patterns that we associate with the four seasons (summer, autumn, winter, spring).

Depending on the weather and the season, we all wear different clothes to suit our external environment.

- Organise a fashion parade, taking it in turns to show the different clothes that you wear in different seasons. For example, you could wear ski gear such as a warm jacket and a beanie to show how we protect ourselves from the cold. Discuss why we need to wear different clothes in different seasons.

Why do we have different seasons? If you have a globe in your classroom, your teacher can demonstrate how the earth revolves around the sun once every year.

- Our earth is tilted on an angle (23.5°). Choose an object to represent the sun and then move your globe around this item, making sure that you maintain a constant angle.
- You will be able to see that when the earth is on one side of the sun, the southern hemisphere is tilted towards the sun, while the northern hemisphere is tilted away from the sun.
- What season do you think it will be in the southern hemisphere? What season will it be in the northern hemisphere?
- Watch as your teacher moves the globe around to the other side of the sun. Now the northern hemisphere is tilted towards the sun, and the southern hemisphere is tilted away. The seasons are now reversed.

Monitor your local weather patterns as they change throughout the year.

- Keep a daily record of temperature, rainfall and other observable weather patterns.
- If there is no time for this extended activity, ask your teacher for some weather data for your local area from the Bureau of Meteorology (www.bom.gov.au/climate/data). Based on this information, try to predict the weather for the next month, including the rainfall and highest and lowest temperatures.

What does it mean when we describe a fruit or vegetable being 'in season'? Why are we able to access fruits and vegetables these days even when they are not

actually ‘in season’? If possible, ask your local green grocer why it is better to each produce when it is ‘in season’.

Soil and Compost

Herbie needed very good soil in the vegetable patch to help the vegetables grow… (p.3). The dirt and mud that is all around us is very important for our natural environment. Soil is the material in which plants grow. It provides plants with vital nutrients.

Complete a KWHL chart on soil. Draw four columns and under each explain what you already know about soil (K), what you want to find out before you start experimenting (W), how you will find out this information (H) and, once you’ve finished your investigations, summarise what you have learnt about soil (L).

In small groups, walk around your school grounds, collecting samples of different types of soils. Use a trowel to dig up your sample and then place the soil in a clean, small container. Make sure that each group collects soil from a different area. Using a marker pen, label each container with a description of the area from which it was taken (e.g. playground or bush track). You may also like to bring in soil samples from other places.

When you return to the classroom, tip out your soil sample onto a piece of newspaper. Observe your soil closely, taking note of its colour, texture, smell, plant matter and any microorganisms. You could use a magnifying glass so that you can see the different elements that make up the soil much more easily.

- Compare your findings to those of other groups, who have taken their samples from different places.
- What conclusions can you draw about how and why soils are different depending on where they come from?
- Why do different plants thrive in different soils?
- Do some soils seem more nutrient-rich and healthier than others? Why?

Did you know that most plants prefer more neutral soils? Complete a simple pH test on your soil sample. pH is be measured on a scale, from 1 to 14. Your teacher will show you an illustration of a graph to show the differences between a strong alkaline solution, which will have a pH near 14, while a strong acid will have a pH value close to 1. Pure water has a pH of 7. A pH of 6.2 to 6.5 ideal for most food plants. Incorrect soil pH affects plant growth.

- Compare the pH values of the different soils that you have taken from different locations.

Experiment with your soil by making soil soup! Fill an old jar about a third full with soil. This experiment works best with sandy soils. Fill the rest of the jar with water. Screw on the lid and shake the jar vigorously, so that the soil and water are well mixed. Leave your jar overnight to allow time for the soil to settle. When you return to your experiment, what can you observe about the layers of particles? The heavier particles (sand and pebbles) should be at the bottom, while the silt particles will form the next layer, with the lighter clay particles resting on top. The water may be cloudy and discoloured due to organic matter that has broken down and dissolved in the water. There may be another layer of organic matter and humus floating on the top of the water.

- Sketch and label a picture of your jar and its contents to illustrate your findings.
- Complete a concept map describing each of the components of soil (sand particles, clay particles, silt particles, air, water, animals and organic matter). This is a helpful resource for teachers: http://goo.gl/UXec5o.

Herbie liked the rich dark colour of the soil. It was like a crumbly chocolate cake. And the worms who lived there liked the soil as much as Herbie liked chocolate cake. They ate all day and night, making the soil healthy and ready to be planted with seeds (p. 3).

Worms are very important for healthy soil. They feed on organic material and leave behind castings which are rich in minerals. The castings help to fertilise the soil. The worms also churn the soil, mixing the different layers. Their burrowing

action makes channels which allows rainwater to move through the soil, delivering important nutrients to plant roots.

- Build a worm farm in your classroom. You could buy a readymade kit or you could make your own. This site has lots of ideas for building worm farms: http://goo.gl/HULJ6p. This is another excellent resource for teachers who are interested in teaching all about worms: http://goo.gl/wZLToz.

Compost is a wonderful addition to any garden. Herbie has a compost heap and he uses it to make sure that his vegetable patch is healthy and productive. Either at home or at school, have a go at making your own compost. You could either buy a composting kit or make your own. You could have a compost pile somewhere in your garden or make a structure to contain all of your compost. Your compost heap should have a mixture of 'green stuff', which is high in nitrogen, and 'brown stuff', which is high in carbon. You can recycle many things around your house in your compost, including egg shells, pesticide-free grass clippings, fruit and vegetable scraps, tea bags, leaves, saw dust, coffee grounds – the list is very long. Your teacher can show you a full list of what you can include in your compost. There are some items that you should never put in your compost heap. Some of these definite no-no's include diseased plants, animal proteins, plastics, oil or cat litter.

- Create a quiz to test your fellow students' knowledge of what can and can't be composted.
- Construct a sign to be left near your own compost heap that identifies clearly what can and what cannot be safely composted.

Plant Growth

The main parts of a flowering plant are its leaves, stems, roots, flowers and seeds. Either in the classroom or somewhere around your school, observe a plant up close. Your teacher will provide you with an illustration of a plant and you will need to label its main parts (leaf, flower, roots, stem and stamen). Try to

repeat this process with a different plant species. Can you identify any similarities and differences between the different species?

Attempt to germinate some seeds. Think about what they need in order to grow.

- Vary the conditions in which you place the seeds, for example, place some in a dark place and some in the sunlight.
- You might like to include some casings from your worm farm with some of the soil. Try to grow a couple of different types of seeds in the same conditions to see if they all grow at the same rate.
- Make predictions about what will happen with their rates of growth (hypothesis).
- Summarise your findings in a report, where you detail the materials used, your hypothesis, the steps, your results and your conclusion.
- Here is a comprehensive unit overview for a similar activity on plant germination: http://goo.gl/Bw3tDr.

When Clementine and Digby's classmates arrive at Herbert Peabody's farm, they are astonished to observe how all of the plants actually grow (p. 83). Quite often we only ever see fruits and vegetables after they have been picked, washed and packaged for sale in a supermarket.

- Choose three different vegetables or fruits, and find pictures on the internet that illustrate how your chosen plants grow. It would be ideal to find several pictures that show the stages of growth.
- Share your findings with a small group of students.

Imagine that you have been asked to debate the value of starting an edible garden at your school.

- Using the PCQ (pros, cons and questions) critical thinking tool, draw a three-column table.
- Fill in the 'pros' column, listing all of the advantages and positives of this proposal.

- After this, complete the 'cons' column, listing the disadvantages, negatives and difficulties that you can think of in relation to starting an edible garden.
- Finally, in the 'questions' column, enter all of the questions that you have about this idea.
- If there is time, share your arguments in a class debate.

After you have completed your PCQ chart, your class could work collaboratively to create a Human Continuum.

- Place a long piece of masking tape on the floor, with arrows on either end. Label one end 'Agree' and the other end 'Disagree'.
- You will need to stand somewhere on the continuum, depending on whether you strongly agree that you should start an edible garden at school, or not.
- Be prepared to justify your reasoning using supporting evidence from your PCQ chart.
- You could experiment with other controversial topics that link the themes and issues present in the picture book.

Begin your own edible garden at your school. This will probably work best if it is a whole-school initiative. If this is not possible, try to start a garden at home. It doesn't have to be very big; even small gardens on windowsills and balconies can be very rewarding for their owners.

- Before you plant anything, research the best crops for the season, the ideal placement of the vegetable patch, the best soil to use and companion planting.
- Celebrate your harvests with a feast that uses the seasonal produce that you have grown in your edible garden.

3. Aboriginal and Torres Strait Island people

Aboriginal and Torres Strait Island people were Australia's first farmers. If possible, participate in an excursion to a local bush trail where local Aboriginal people or guides can talk to you about 'bush tucker'.

Aboriginal and Torres Strait Islander people are very connected to the land. Their knowledge of weather patterns and seasons has developed over thousands of years. Their understanding of seasons differs to a European view of seasons.

- Your teacher will show you a calendar belonging to an indigenous clan to highlight their description of the different weather events and corresponding seasons https://www.csiro.au/en/Research/Environment/Land-management/Indigenous/Indigenous-calendars
- Based on a knowledge of your local area, how do you think indigenous Australians would have identified the different seasons?

Connect your knowledge of seasons to the vegetable patch. In pairs, complete a silent card shuffle, matching the different activities in the garden to their respective seasons.

Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place throughout all of Australia

Aboriginal and Torres Strait Islander Peoples have unique belief systems and are spiritually connected to the land, sea, sky and waterways.

4. Sustainability

The biosphere is a dynamic system providing conditions that sustain life on Earth.

All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.

Sustainable patterns of living rely in the interdependence of healthy social, economic and ecological systems.

Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.

Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

See https://www.plt.org/educator-tips/ecosystem-activities-elementary-students

To summarise your learnings

Using an Alpha Ladder (a structured brainstorming tool), create a vertical list from A to Z down your page. You could complete this as a group activity on a class wiki. For each letter, write a word beginning with that letter that helps to summarise something that you have learnt about seasons, soil and plant growth as a result of reading *Herbert Peabody and His Extraordinary Vegetable Patch*.

These sources were helpful in compiling this resource:

Burton, N., Daly, P. & Dowsett, B. (1997). *Ideas for science and technology*. Letterland International Ltd: Cambridge, England.

Clutterbuck, P. (2000). *Understanding science*. Blake Education: Glebe, New South Wales.

Cranfield University. (2014). *Soil safari*. Retrieved from http://www.soil-net.com/downloads/SoilSafari_TeacherNotes.pdf

Department of Education Queensland. (1981). *Year 3 primary science source book*. Queensland: Author.

Department of Primary Industries LandLearn. (2008). *Wonderful wiggly worms*. Retrieved from http://www.maroochycatchmentcentre.org.au/catchment/wp-content/uploads/2013/10/Wonderful-Wiggly-Worms.pdf.

Kingsley, D. (2003). *The lost seasons*. Retrieved from ABC: http://www.abc.net.au/science/features/indigenous/

Queensland Studies Authority. (2014). *Germinate: Australian curriculum prep year science sample assessment.* Retrieved from https://www.qsa.qld.edu.au/downloads/p_10/ac_sa_sci_prep_germinate.pdf.

Queensland Studies Authority. (2013). *Aboriginal and Torres Strait Islander histories and cultures resources: Science.* Retrieved from http://www.qsa.qld.edu.au/downloads/aust_curric/ac_ccp_atsi_cultures_science.pdf.

Primary science B. (2002). R.I.C. Publications: Balcatta, Western Australia.

Thurman, R. (1997). *On the spot science*. Addison, Wesley Longman Australian Pty Ltd: Melbourne.