



Hands-on Horticulture

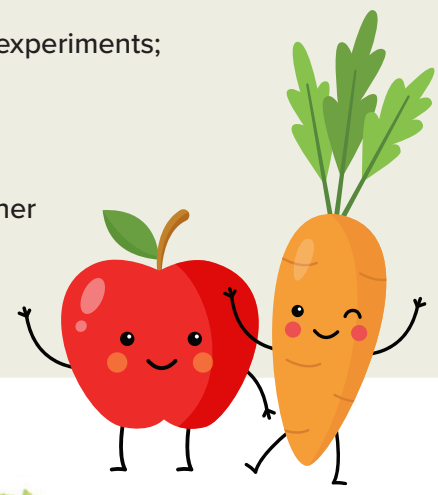
Answers

FOUNDATION – YEAR 6

Answers to the **Hands-on Horticulture** lessons will vary significantly between individual classes and students depending on various factors, such as:

- time availability for the duration of the experiments;
- the variety, size and ripeness of fruits and vegetables used in the experiments;
- student predictions; and
- consistency of data collection during the experiment.

Where applicable, suggested answers have been provided to for teacher and student guidance.



This resource has been developed by:



Hands-on Horticulture

Foundation – Year 2

› Seasons and Seeds Investigation

Student answers will vary.

› Transpiration Investigation

1–4. Student answers will vary.

5.

The diagram illustrates the seasons and the types of produce associated with each. Each season's box contains the same set of produce: a strawberry, cauliflower, avocado, and lettuce. The Summer box also includes a lettuce leaf. The Autumn, Winter, and Spring boxes include a carrot. The Summer box includes a lettuce leaf.

6.

The Fruits box contains: blueberries, bananas, an orange, an apple, and a strawberry. The Vegetables box contains: celery, onions, broccoli, carrots, and basil.

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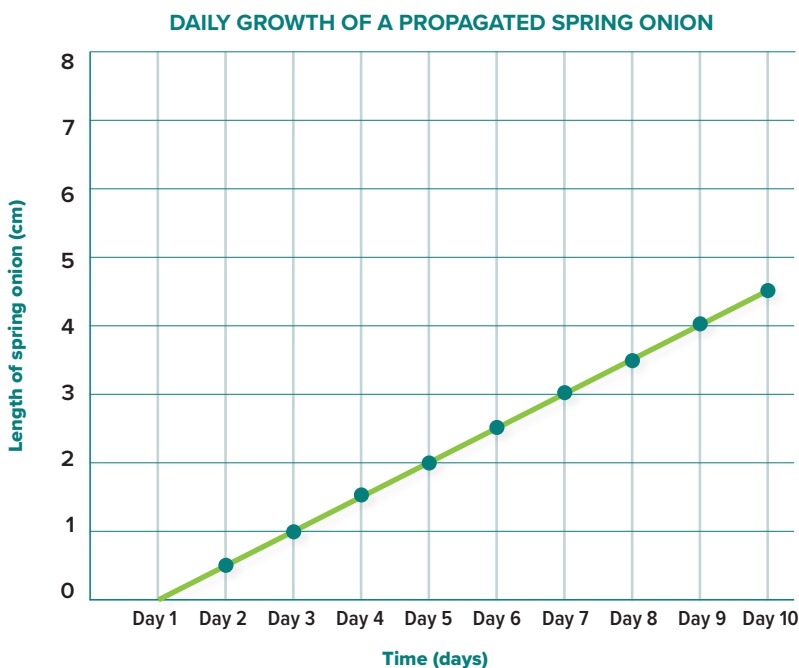
Year 3–4

> Taste the pH Rainbow

- 1–9. Student answers will vary depending on the type and ripeness of the citrus fruits used in the experiment.
10. **Suggested answer:** The taste of food can be affected by its pH level. Acidic foods (with low pH levels), like lemons often taste tangy or sour, while alkaline (basic) food and drinks (with higher pH levels) are often bitter.

> Propagation Investigation

- 1–4. Student answers will vary depending on the type and size of spring onions used, amount of water, amount of sunlight, etc.
5. Suggested answer below (using sample data):

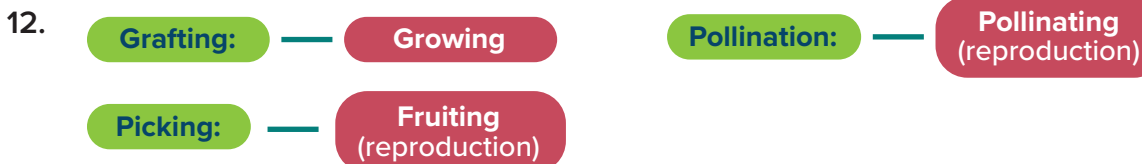


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> Propagation Investigation (continued)

- 6–8. Student answers will vary depending on the type and size of spring onions used, amount of water, amount of sunlight, etc.
9. **Suggested answer:** Factors that might have influenced how much the spring onion grew include the variety of spring onion, amount of sunlight, how often water was changed, etc.
11. Student answers will vary.



Year 5–6

> Veggie Voltage

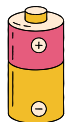
1.



Bulb



Switch



Battery



Wire

2. a. – Battery b. – Wire c. – Switch d. – Bulb
4. Electrons flow through the electrical circuit, causing the lightbulb to light up as they make their way from the potatoes/fruits through the wires to the bulb.
5. The **potato** or fruit is the power source for this battery. When the chemical reaction between the acidic juices and the **metals** occurs, **electrons** are released. The conductors in this electric circuit are the zinc **nail**, the copper **coin** or strip, and the **wires** that connect them. The load is the **lightbulb**, which is powered by the electrons as they move through the electric circuit.
6. Student answers will vary depending on the number of fruits/potatoes and wires used in their battery.

Hands-on Horticulture

Year 5–6

> Osmosis Investigation

- 1–4. Student answers will vary depending on the type, ripeness and size of carrot used.
5. Student answers will vary depending on the type, ripeness and size of carrot used.

Suggested answer: a. Solution One b. Solution Three

6. Student answers will vary.

Suggested answer: The water was moving out of the carrots in solution three because they decreased in mass after soaking.

7. Student answers will vary.
8. Student answers will vary.
9. Student answers will vary.
10. Student answers will vary.

Suggested answer: Soaking and dehydrating the carrot slices in Solution One a was reversible change because they gained mass while soaking in the solution but decreased in mass again after being dehydrated.

- 11–12. Student answers will vary.

13. Student answers will vary.

Suggested answer: Soaking the carrot slices in a high concentration of salt was a reversible change because they lost mass while soaking in the solution but gained mass again after being soaked in pure water.

14. **Drip Irrigation:** This is a method where water drips slowly to the roots of plants through a network of valves, pipes, tubing, and emitters. Drip irrigation is commonly used for fruits like grapes and tomatoes. It conserves water by delivering it directly to the plant roots, reducing evaporation and runoff.

Sprinkler Irrigation: This is a system that sprays water into the air, which then falls like rain onto the crops. This method is often used for leafy vegetables like lettuce and fruit crops such as strawberries. Sprinklers cover large areas and are suitable for various soil types.



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> Osmosis Investigation (continued)

Subsurface Irrigation: Water is applied below the soil surface, directly to the root zone through a network of buried pipes and tubes. Subsurface irrigation is used for crops like carrots and potatoes. It reduces water loss from evaporation and minimises weed growth.

Furrow Irrigation: Water flows through shallow channels, or furrows, dug between crop rows. Commonly used for row crops like beans and corn. Furrow irrigation is less efficient than other methods but is simple and inexpensive to set up.

15. **Hail marks on spring onions:** Irreversible

Harvesting crops: Irreversible

Sun damage to cauliflower: Irreversible

Irrigating crops: Reversible

Fertilising crops: Irreversible

Seeds growing into plants: Irreversible

16. The change is irreversible as the cauliflower cannot be returned to its original, raw, whole form.

Foundation – Year 6

> Powerful Pollinators – Design a Bee Hotel

2. Student answers will vary. **Suggested answer:** A good bee hotel provides a variety of hollow tubes or drilled holes of different sizes made from natural materials, placed in a sunny, sheltered location, and protected from moisture and predators.