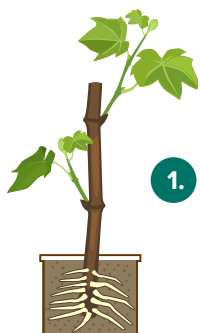


CONCEPT CARTOON

Advantages and Disadvantages of Plant Reproduction Processes

Identify the advantages and disadvantages of each of the forms of plant reproduction below.



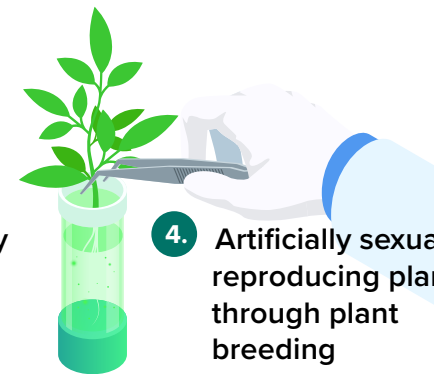
1. Artificially asexually reproducing plants using cuttings



2. Naturally asexually reproducing through runners



3. Naturally sexually reproducing through cross pollination



4. Artificially sexually reproducing plants through plant breeding

Advantages

Disadvantages

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OBSERVATION TASK

Fruit Salad Tree



Image source: Fruit Salad Trees.(n.d.). Citrus Fruit Salad Trees. Retrieved November 30, 2022, from: <https://www.fruitsaladtrees.com/collections/citrus/3-graft-citrus>

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LABELLING TASK

The Anatomy of a Tree



Each part of a tree plays an important role in its survival and ability to reproduce. Scan the QR code or click on the [link](#) to learn about the anatomy of a tree.

▶ Anatomy of a Tree: <https://www.arborday.org/trees/ringstreenatomy.cfm>



1. Record a sentence describing the role of each part of a tree's anatomy.

Outer bark:

Inner bark:

Cambium layer:

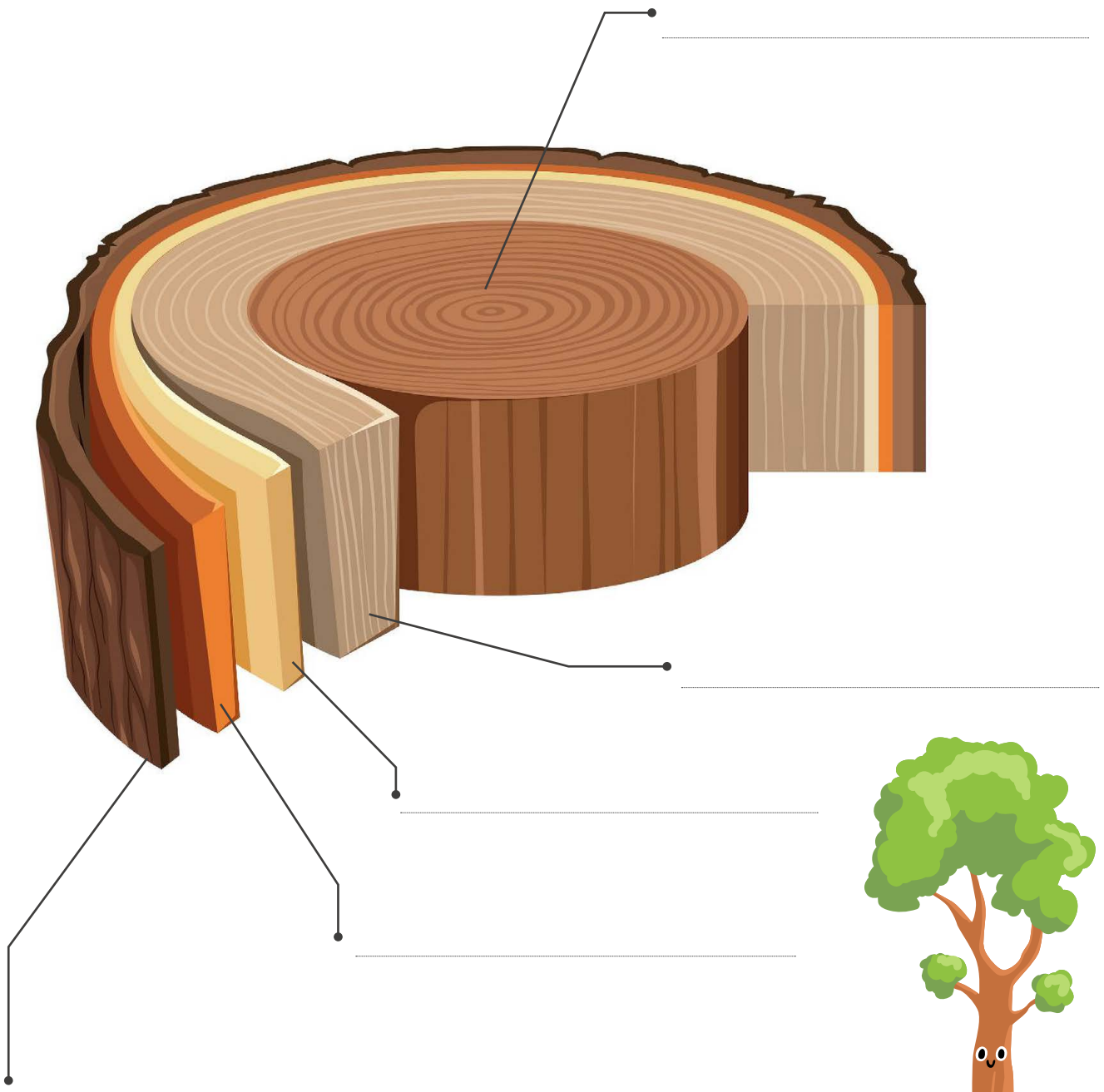
Sapwood:

Heartwood:

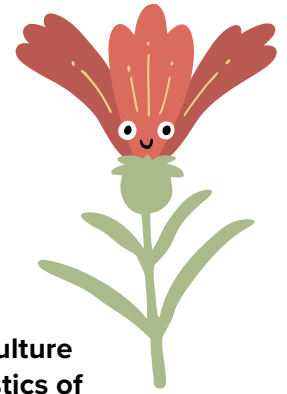
LABELLING TASK

The Anatomy of a Tree (cont.)

2. Label the diagram to show each of the tree layers described in Question 1.



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READ AND RESPONSE TASK

What's So Good About Grafting and Budding

Grafting and budding offer many advantages to plant producers and the horticulture industry as a form of asexual propagation as they allow the positive characteristics of two plant varieties to work together to create a specialised plant.

Scan the QR codes or click on the links to explore the diverse ways grafting and budding can be used to enhance plant production in the nursery industry.



▶ Master Grafter: (5:15)
<https://www.abc.net.au/gardening/how-to/master-grafter/9436096>



▶ Grafted Plants Explained:
<https://www.sgaonline.org.au/getting-grafted-grafted-plants-explained/>

- 1. Record any of the ways grafting and budding are used to improve the sustainability, productivity, and profitability of the nursery industry in the table below.

Productivity	Profitability	Sustainability

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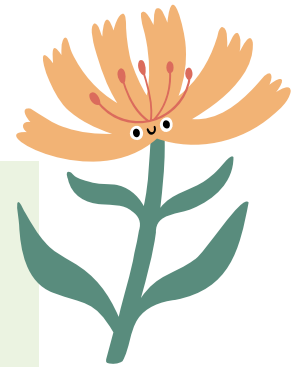


GRAFTING PRACTICAL TASK

Asexual Reproduction Through Grafting – Practical Task

Grafting is a form of asexual plant reproduction commonly used in the horticulture industry. Grafting is the joining together of two varieties of plant of the same genus allowing them to form a hybrid plant. This form of reproduction can be a useful way of propagating plants that are resistant to specific pests and diseases, as well as producing fruit or vegetables with consistent specifications to meet consumer demands.

Follow the steps to complete the grafting practical. Illustrate each of the steps in the boxes provided.



Materials

- Rootstock
- Scion
- Secateurs
- Grafting knife/scalpel
- Grafting tape
- Gloves

Step One

- Slice the top of rootstock into a V-shape by making two 2.5-3cm sloping cuts.

Step Two

- Slice the the scion to make two corresponding cuts of the same length, creating a pointed end.

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GRAFTING PRACTICAL TASK

Asexual Reproduction Through Grafting – Practical Task (cont.)

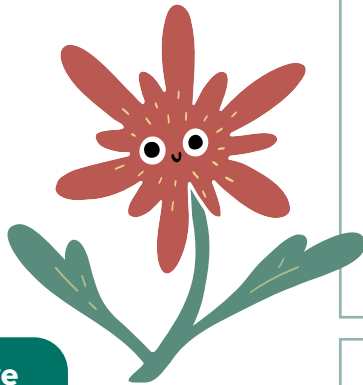
Step Three

- Fit the sliced end of the scion into the V-shaped wedge of the rootstock. Use grafting tape to secure the two pieces together.



Step Four

- Prune back the scion leaving only 2-3 buds on the plant.



Step Five

- When your scion begins to shoot, remove the grafting tape.

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GRAFTING MODELLING TASK

Asexual Reproduction Through Grafting – Modelling Task

Grafting is a form of asexual plant reproduction commonly used in the horticulture industry. Grafting is the joining together of two varieties of plant of the same genus allowing them to form a hybrid plant. This form of reproduction can be a useful way of propagating plants that are resistant to specific pests and diseases, as well as producing fruit or vegetables with consistent specifications to meet consumer demands.

Follow the steps to complete to model the grafting process.
Illustrate each of the steps in the boxes provided.



Materials

- 4 coloured straws (two of one colour and two of another colour)
- Scissors
- Sticky tape
- Blu tack or modelling clay
- Adhesive labels or sticky notes

Step One

- Use sticky tape to join the first pair of coloured straws together creating a long thin structure to represent the rootstock. Slice the top of the rootstock model structure into a V-shape by making two sloping cuts with a pair of scissors. Secure your rootstock structure to the table or a hard surface using modelling clay, so that it is able to stand upright as if it were a plant growing in a pot or from the ground.

A large empty rectangular box for drawing, with a yellow pencil icon in the top right corner.

Step Two

- Use sticky tape to join the second pair of coloured straws together creating a long thin structure to represent the scion. Slice the end of the scion model structure to make two corresponding cuts of the same length, creating a pointed end.

A large empty rectangular box for drawing.

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GRAFTING PRACTICAL TASK

Asexual Reproduction Through Grafting – Modelling Task (cont.)



Step Three

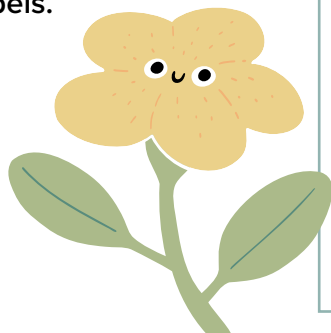
- Fit the sliced end of the scion model into the V-shaped wedge of the rootstock model. Use sticky tape to secure the two pieces together.

Step Four

- Use a small amount of blu tack or modelling clay to create 2-3 small buds on the scion section of the model. During the grafting process, these buds will begin to shoot when the parts of the plant have fused together. When the first shoots appear on the scion the grafting tape should be removed from the plant.

Step Five

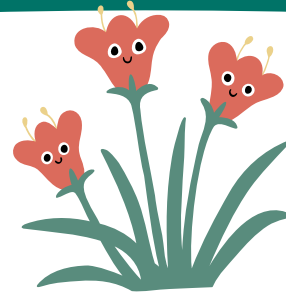
- Label the parts of your grafting model using sticky notes or adhesive labels.



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READ AND RESPONSE TASK

Nursery Careers



Australia's Nursery Industry employs 25,000 people throughout Australia, encompassing plant growers, growing media manufacturers, allied suppliers of plant nutrition and protection products, and retailers (Greenlife Industry Australia, 2021).

Scan the QR code above or click on the [link](#) below to explore the diversity of careers and career pathways in the nursery industry. Study the Greenlife Industry Career Pathways flow diagram to investigate the required qualifications for the various careers in the industry.

▶ Greenlife Industry Career Pathways: <https://www.greenlifeindustry.com.au/greenlife-careers-hub/career-pathways>

1. Using what you've learnt, scan the QR codes or click on the links for the the two Career Pathways Case Studies below. Record the name of the career, the relevant qualifications, and skills required for each.

CASE STUDY ONE – Carole Fudge



▶ <https://www.greenlifeindustry.com.au/static/uploads/files/carole-fudge-careercasestudy-wfevnoqxwvtl.pdf>

Career:

Qualifications:

Skills required:

CASE STUDY TWO – Daniel Ewings



▶ <https://www.greenlifeindustry.com.au/static/uploads/files/danielewings-careercasestudy-wfrmkjkbtozh.pdf>

Career:

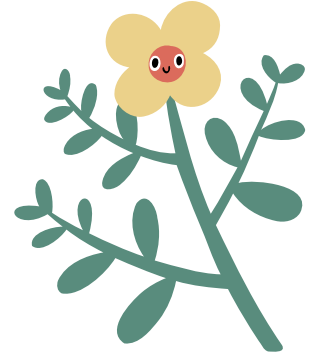
Qualifications:

Skills required:

READ AND RESPONSE TASK



Nursery Careers (cont.)



- 2. Select two of the other careers listed on the [Greenlife Industry Career Pathways](#) flowchart to research. Record the qualifications and skills required for each role.

▶ Greenlife Industry Career Pathways: <https://www.greenlifeindustry.com.au/greenlife-careers-hub/career-pathways>

Career One	Qualifications	Skills required

Career One	Qualifications	Skills required

This resource has been developed by:

