



Including examiner comments



R3112

**UNDERSTANDING THE SELECTION & USE OF LANDSCAPING ELEMENTS  
IN THE GARDEN**

Level 3

Thursday 22 June 2023

11:25 – 12:50

Written Examination

Candidate Number: .....

Candidate Name: .....

Centre Name: .....

**IMPORTANT – Please read carefully before commencing:**

- i) The duration of this paper is **85** minutes;
- ii) **ALL** questions should be attempted;
- iii) **EACH** question carries **10 marks**;
- iv) Write your answers legibly in the spaces provided. It is **NOT** necessary that all lined space is used in answering the questions;
- v) Use **METRIC** measurements only;
- vi) Use black or blue ink only. Pencil can be used for drawing purposes only. Ensure that all diagrams are labelled accurately with the line touching the named object;
- vii) Where plant names are required, they should include genus, species and where appropriate, cultivar;
- viii) Where a question requires a specific number of answers; only the first answers given that meet the question requirement will be accepted, regardless of the number of answers offered;
- ix) Please note, when the word '**distinct**' is used within a question, it means that the items have different characteristics or features.













**Q4** Describe the decorative merits and season of interest of **FOUR** plants suitable for a bog garden by completing the table below.

Plant name	Decorative merits	Season of interest

Please see over/.....

**MARKS**

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Total Mark

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**Q6** Select **FIVE** plants from different genera suitable for a sensory garden, describing how **EACH** plant contributes to the stated sense, by completing the table below:

<b>Sense</b>	<b>Plant name</b>	<b>Contribution to sense</b>
<b>Sight</b>		
<b>Sound</b>		
<b>Touch</b>		
<b>Smell</b>		
<b>Taste</b>		

Please see over/.....

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Total Mark

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**The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB.  
Charity Registration Number: 222879/SC038262**

## R3112

# UNDERSTANDING THE SELECTION & USE OF LANDSCAPING ELEMENTS IN THE GARDEN

## Level 3

Thursday 22 June 2023

<b>Candidates Registered</b>	<b>39</b>		<b>Total Candidates Passed</b>	<b>38</b>	<b>100%</b>
Candidates Entered	38	97%	Passed with Commendation	23	61%
Candidates Absent/Withdrawn	1	3%	Passed	15	39%
Candidates Deferred	0	0%	Failed	0	0%

### General comments

Where a plant example is chosen, it is important to write the FULL botanic name and not just a partial name, following the correct naming protocols. Where named plant examples are required, common names are not credited at Level 3.

Spellings of scientific terms and botanic plant names need to be full and accurate - poor spellings may be penalized.

**Questions** - It is essential to read the question carefully and to note the **key words** before starting to write to ensure answers are relevant. Candidates should take account of the command statements in the question e.g. 'list', 'describe', 'explain', together with the mark allocation, to judge the depth of the answer required. Extra information, even if it is accurate, does not gain extra marks.

Where a number of answers were specified in the question and a candidate gave a list with more than that number, **only the first answers** in the list were marked, e.g. where the question stated 'Name **TWO** locations' or 'State **TWO** ways' only the first **TWO** answers were marked even if the correct answers were given further down. It is helpful (but not essential) if the answers are numbered in the text or separate paragraphs or bullet points are used.

**Plant names** - Where named plant examples were asked for, **full botanical names are required** to achieve full marks: genus, species and where appropriate variety, cultivar etc. needed to be written and spelt correctly. Where genus alone was given, all species in that genus need to show the characteristic asked for to gain any credit. **Common names were NOT accepted** and misspellings were penalised. Candidates needed to use unambiguous plant examples from sources such as the RHS Plant Finder and/or the RHS A-Z Encyclopaedia of Plants together with examples given in the syllabus and avoid obscure or difficult to verify plant examples, which risked being not credited.

**Labels on diagrams must be carefully and correctly positioned** to avoid ambiguity. Marks can be easily lost if this is not followed. Labels must actually touch the appropriate part of the diagram and must not be left hanging in mid air. Annotations on diagrams can be accepted as an alternative to description in the text as long as these are clear and answer the question. No marks were awarded for artistic merit or for unlabelled diagrams.

**Continuation sheets** - Where these have been included, it is vital that the relevant question number is included in the left hand margin if information written here is to be considered. These should also be attached to the answer booklet in the appropriate place and candidates should indicate in their answer booklet that they have written part of their answer on the attached sheet/s.

- Q1** a) Describe **ONE** way that a garden bench could be used as a focal point in a garden.
- b) Name **TWO** distinct materials that could be used to construct a garden bench.
- c) Describe **THREE** sustainability considerations for **ONE** of the materials named in b).

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- Q1** a) This was generally well answered with strongest answers both stating how a bench could be used as a focal point, with the most popular response being located at the ends of a pathway, and then applying context to exemplify how this could work in a garden setting.

Expected answers included:

- Bench placed at the end of a pathway with symmetrical planting either side to frame it
- Bench painted in a bright colour and placed on the edge of a lawn in line of sight of the house
- Bench placed half way down a herbaceous border that can be viewed along its length, recessed into the border with symmetrical planting either side to frame the bench.

- b) Expected answers included:

Softwood, hardwood/named hardwood, steel, aluminium, plastic

This was well answered with most candidates gaining full marks. Some candidates only gained a half mark for stating 'wood' or 'metal'; at level 3 candidates are expected to be more specific, e.g., hardwood/softwood, type of metal.

- c) Wood was the most commonly chosen material.

Candidates demonstrated a strong understanding of sustainability factors relating to their chosen material, with most relating their answers to carbon footprint, lifespan or durability and need for replacement, ability to recycle or avoid contributing to landfill. Candidates gaining full marks named the sustainability factor and detailed it, e.g., 'aluminium does not rust so it is a long-lasting material and doesn't need replacing'

Expected answers included:

For Plastic:

- carbon footprint of manufacture: plastic is derived from oil which is a finite resource
- carbon footprint of transport: plastic is often transported long distances and not produced locally, so contributes carbon emissions from vehicular transport
- Longevity: either UV resistant plastic is long lasting so doesn't need to be replaced often or low-quality plastic can be prone to damage from UV and needs to be replaced after a few years
- Disposal: plastic does not biodegrade and contributes to landfill

For Wood: (Softwood/hardwood)

- Can be sourced from FSC managed woodlands, ensuring trees used in manufacture are replaced
- Treated softwood/hardwood is long lasting and doesn't need to be replaced often, it can be repaired unlike plastic benches and can be re-treated to extend its life
- Wood, even if treated, will eventually biodegrade and therefore doesn't need to be disposed of in landfill
- Wood is heavy and has a high carbon footprint from transport

For Metal: (named)

- Manufacture of metal requires a lot of energy and has an associated high carbon footprint
- Transport of metal is has a high carbon footprint because metal is a heavy material
- Aluminium has a lower transport carbon footprint than other metals because it is lighter
- Metal can be recycled and doesn't need to contribute to landfill
- Metal is very long lasting and doesn't need to be replaced often
- Aluminium does not rust so is a very long-lasting material and doesn't need to be replaced

Some candidates could not gain full marks where they didn't link their points to sustainability factors, e.g., 'plastic is made from oil' needs detailing to describe why oil is unsustainable. Several candidates only linked their material to negative points about sustainability; the question asked for 'sustainability considerations' generally so both positive and negatives were worth marks.

- Q2** a) For a wildlife pond in a garden, describe **TWO** distinct hazards and an associated risk for **EACH**.
- b) Describe **THREE** ways of reducing the risks associated with wildlife ponds

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- Q2** a) Candidates were asked to describe two distinct hazards and an associated risk for a garden wildlife pond. Many candidates confused hazard and risk and some did not relate their answers to a wildlife pond.

Strongest answers demonstrated a clear differentiation between hazard and risk, linked directly to a wildlife garden pond. Hazard is what could cause harm to a person (e.g., open water). Risk is the harm that could occur as a result of an accident (e.g., falling in and getting hypothermia or drowning). Misunderstandings largely arose from stating the accident that could happen (e.g., falling in) as the hazard, rather than e.g., 'open water' as the hazard.

Expected answers included:

- Hazard: deep water; risk: falling in and drowning
  - Hazard: water is very cold in winter; risk: hypothermia if a person falls in
  - Hazard: plants obscure edge of pond; risk: user loses footing and slips in leading to drowning or hypothermia
  - Hazard: when plants or lawn to edge of pond is wet or frozen it's a slip hazard; leading to falling in and drowning or hypothermia
  - Hazard: plants growing around the edge of the pond or near access paths can have thorns, prickles or spines; risk: cuts or scratches on passing users
  - Candidates were asked to describe three ways of reducing the risks associated with wildlife ponds.
- b) This was generally well answered with candidates linking a way of reducing risk with how it will work, for example, warning signs ... to highlight risk to user. Marks were not gained where candidates didn't detail their answers. Describe command words typically require a statement backed with context/detail to fully demonstrate knowledge.

Expected answers included:

To reduce risk of falling in and drowning or hypothermia:

- warning signs can be displayed to highlight risk to user
- pond can be fenced off to reduce ease of access to higher risk groups e.g., children
- cover pond with metal mesh to prevent children falling into water
- ensure paths and access to pond area are well lit to ensure users can see pond and path clearly and are less likely to lose their footing
- install a pathway with good grip to access point of pond to reduce risk of slippage and falling into pond

To reduce risk of scratches and cuts from plants:

- Ensure plants are pruned back from paths on a regular basis to reduce chance of users coming into contact with them.

- Q3** a) State **FOUR** maintenance tasks for a recreational area of turf, giving a suitable time of year for **EACH** task.
- b) Describe **THREE** ways of improving the biodiversity of an area of turf whilst maintaining its use for recreation

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**Q3** a) Expected answers included:

- Mowing undertaken regularly as needed or weekly/twice weekly when the grass is growing rapidly from spring to autumn
- Scarifying in autumn or spring
- Aerating in autumn or spring
- Topdressing in spring or autumn
- Over-sowing in spring or autumn
- Feeding in spring/early summer with a summer feed or autumn with a high potash/phosphate feed/autumn feed
- Irrigate during dry summer weather

This part was well answered with most candidates gaining full marks. Some marks could not be awarded for stating times of year which were not appropriate for the task mentioned. e.g., aerating in summer, as this is not a suitable time of year.

b)

Generally, candidates had a good understanding of factors that could increase the biodiversity of a turfed area, with most describing increasing cutting height, stopping usage of selective herbicides, sowing lawn wildflower seeds and planting bulbs. Full marks were gained for linking the action to how it will improve biodiversity.

Expected answers included:

- Raise cutting height as more species can live in slightly longer grass
- Do not use selective herbicides which would allow dicotyledonous plants to grow in the lawn, increasing species diversity
- Vary cutting heights in different areas, (e.g., slightly longer on the periphery) to allow a greater variety of species that survive in the different niches
- Sow lawn-suitable wildflowers to improve the plant species diversity and associated fauna
- Plant lawn-suitable bulbs e.g., *Crocus tommasinianus* to increase species diversity and provide nectar for pollinators

Many candidates described allowing an area of turf to become a wildflower meadow, which does not maintain its use for recreation and could not gain marks.

**Q4** Describe the decorative merits and season of interest of **FOUR** plants suitable for a bog garden by completing the table below.

| Plant name | Decorative merits | Season of interest |
|------------|-------------------|--------------------|
|            |                   |                    |
|            |                   |                    |
|            |                   |                    |
|            |                   |                    |

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**Q4**

Prepared candidates scored well here, with many gaining full marks. A number of candidates included plants that are not suitable for bog gardens such as large trees, and these were not awarded marks.

A number of candidates correctly stated '*Lobelia cardinalis*' which has bright red flowers in summer on tall stems but gave the foliage colour as purple. This is true of the cultivar 'Queen Victoria' but not the type species, which has glossy, bright green leaves throughout spring, summer and autumn. It is important that candidates understand the importance of cultivar selection and their specific desired characteristics vs. the type species.

Expected plants suitable for a permanently damp site included *Darmera peltata*, *Iris pseudacorus*, *Lobelia cardinalis*, *Osmunda regalis*, *Gunnera manicata* etc.

Decorative interests include flower colour, leaf colour/hue, texture, shape.

Season of interest included flowering time and duration of foliage interest.

**Q5** Describe **FIVE** distinct ways in which steps can contribute to the aesthetics of a garden.

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**Q5** Candidates were asked to describe five distinct ways in which steps can contribute to the aesthetics of a garden. Answers to this question were mixed with well-prepared candidates gaining full marks for linking a way in which steps contribute to aesthetics with exemplification; candidates could not gain full marks without this level of detail. Most candidates could state five ways in which steps aesthetically contribute to a garden and nearly all gained high scores for their answer. Popular answers included unity of materials; placing of planters; movement and focal points.

Expected answers included:

- Providing a focal point, for example a flight of steps at the end of a lawn encouraging exploration of the garden
- Providing interest through the materials' texture or colour, e.g., rough textured Yorkstone paving
- Providing unity or repetition through the materials, e.g., sandstone paving and brick risers used for the steps in a similar combination as a nearby patio.
- Providing structure, form, architectural interest to the garden, e.g., a semi-circular flight of steps
- Providing contrast with the surrounding garden, e.g., hard lines of paving edges against soft planting
- Providing contrast within the steps e.g., dark blue engineering brick risers against light paving slabs
- Symmetrically positioned as part of a formal layout, e.g., four flights of steps, one at each corner of a sunken lawn

**Q6** Select **FIVE** plants from different genera suitable for a sensory garden, describing how **EACH** plant contributes to the stated sense, by completing the table below:

| Sense | Plant name | Contribution to sense |
|-------|------------|-----------------------|
| Sight |            |                       |
| Sound |            |                       |
| Touch |            |                       |
| Smell |            |                       |
| Taste |            |                       |

~~~~~

**Q6**

This question was well answered with nearly all candidates scoring full marks.

Expected answers are detailed in the table below:

Sense	Plant name	Contribution to sense
Sight	<i>Helianthus annuus</i>	Bright yellow flowers with a dark centre
Sound	<i>Miscanthus sinensis</i>	Grass stems/leaves rustle in the wind
Touch	<i>Stachys byzantina</i>	Hirsute leaves feel soft to the touch
Smell	<i>Helichrysum italicum</i>	Curry-like scent is released into the surrounding air from the foliage
Taste	<i>Mentha spicata</i>	Mint leaves can be used in drinks or cooking to add flavouring

- Q7** a) Compare the use of stone and bark for the surface of garden paths under **EACH** of the following headings:
- i) aesthetics
  - ii) functional requirements
- b) State **TWO** ways in which a brick path can be made more sustainable as a garden feature

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- Q7** a) Candidates generally answered this question with many valid points; however, a significant portion of answers did not directly compare materials and instead wrote about each separately. 'Compare' command words required sentences to integrate 'whereas', 'however' etc. to ensure materials are directly compared. Where comparisons could be found candidates were awarded marks accordingly. If points were made about each material but not compared then half marks were awarded.

Expected answers included:

- i)
  - Stone would fit with both informal and formal garden styles, whereas bark is better suited to an informal style such as a woodland path
  - Stone is available in a variety of colours, such as yellow sandstone/grey limestone, bark will range from a dull brown to a brighter red/brown for pine bark
  - Stone could provide unity with material used for the house or garden walls bark could provide unity in a countryside/woodland setting
  - Stone provides different textures such as polished or riven surface, bark has a rough texture varying according to grade.
- ii) Expected answers included:
  - Bark needs regular topping up as it breaks down, stone doesn't need this but may need repairs/repointing
  - Bark may need weed control; stone may need weed control between slabs/setts
  - Bark will need careful raking to remove debris, stone will require brushing/washing to keep clean

- b) This was generally well answered by candidates. Strongest answers related the way to make brick paths more sustainable with how this links to sustainability. Popular answers included using reclaimed bricks to avoid landfill and sourcing locally to reduce transport carbon footprint.

Expected answers included:

- Source reclaimed bricks to reduce number going to landfill, reduce carbon footprint of manufacture or reduce need to quarrying for raw materials, which destroys habitat.
- Source bricks locally to reduce the carbon footprint from transport
- Use locally sourced aggregate such as builders' rubble as sub-base for path to reduce carbon-footprint of transport
- Use sand between bricks over a permeable sub-base to create a permeable surface to reduce run-off into drains

**Q8** Describe **FIVE** ways in which a garden open to the public can be made more accessible to a visitor with limited mobility.

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**Q8**

This was one of the best answered questions on the paper. Candidates generally demonstrated a high level of understanding with full marks awarded to those who linked the way a garden can be made more accessible with detail about each way, e.g., giving slope gradients, handrail heights, type of path surface that is level with good grip, such as resin bound aggregate. Many candidates were able to demonstrate knowledge of widths and heights of paths and handrails. Provision of ramps at the right gradient and parking facilities were all awarded full marks.

Expected answers included:

- Provision of smooth path surfaces e.g., resin bound aggregate or tarmac, avoid uneven paving or gravel/chippings
- Suitable width of paths and entrances, minimum width of 1.5m
- Provision of ramps for access to different levels, of suitable gradient no greater than 1:12
- Steps – install handrails at suitable height e.g., 900mm
- Provision of seating at regular intervals to provide rest-breaks
- Suitable information – online information on accessibility
- Maps showing accessible routes with signage in garden to show accessible routes
- Disabled parking at convenient access point near entrance or further into garden near facilities
- Provision of mobility buggies or transport around gardens
- Provision of disabled facilities such as disabled toilets
- Install meandering shallow-gradient sloped paths for changes in level to reduce the difficulty in ascending and descending with regular rest points

Some candidates did not include these details and could not gain full marks for their answers; however, the majority gave a good level of detail.

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