

# Unit 28: Construct and Maintain Decorative Landscape Features

<b>Unit code:</b>	<b>J/600/9943</b>
<b>QCF Level 3:</b>	<b>BTEC National</b>
<b>Credit value:</b>	<b>10</b>
<b>Guided learning hours:</b>	<b>60</b>

## ● Aim and purpose

This unit aims to provide learners with an understanding of how to construct and maintain specialist landscape features and how these can be applied in practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

## ● Unit introduction

This unit covers the construction and maintenance of decorative areas and features often associated with high maintenance, prestige gardens and landscapes. The design and planning of these features requires a high level of understanding and their effective construction and maintenance requires specialist knowledge and skills.

Traditionally, rock and alpine features are associated with larger gardens where the surrounding landscape can be modified to accommodate them. This unit will enable learners to plan and construct these naturalistic rock gardens and to adapt traditional techniques to suit smaller, modern gardens and landscapes.

Ponds and water features are important components in both traditional and modern gardens. Indeed, the emphasis on wildlife gardens has once again raised the profile of such features. Both designers and landscape practitioners require high levels of knowledge and practical expertise to successfully plan, construct and maintain water features which are aesthetically pleasing, appropriate to their setting, work efficiently and effectively and are safe for all users, including vulnerable groups.

Climbers and wall shrubs feature in most gardens and landscapes and are particularly important in restricted spaces where planting areas are limited. This unit equips learners with the knowledge to select climbers and wall shrubs for all aspects and situations and to understand the special constraints and opportunities associated with walls, fences and other vertical structures. Learners will also acquire the necessary skills to successfully establish and effectively maintain climbers and wall shrubs.

This unit is suitable for garden designers, landscapers and professional gardeners seeking to improve their craft skills and their understanding of specialist, high prestige, garden features.

## ● Learning outcomes

**On completion of this unit a learner should:**

- 1 Be able to construct and maintain rock and water features
- 2 Understand the construction of rock and alpine features
- 3 Understand the construction and maintenance of ponds and water features
- 4 Be able to establish and maintain climbing and wall plants.

# Unit content

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## 1 Be able to construct and maintain rock and water features

*Draw up plans for rock and water features:* produce accurate drawings to scale; select appropriate materials; calculate quantities of materials required

*Construct rock and water features:* construct a naturalistic rock feature; construct a formal rock feature; construct a small pool using a flexible liner; construct a moving water feature (for example waterfall or cascade)

*Plant rock and water features:* select appropriate plants (alpine, marginal, deep water, floating, submerged oxygenator); plant appropriate plants (in planting pockets, fissures, pond baskets)

*Maintain rock and water features:* seasonal maintenance; annual maintenance; long-term maintenance

## 2 Understand the construction of rock and alpine features

*Site requirements:* slope; situation; aspect; context

*Types of rock and alpine features:* on a natural slope; on artificial mounds; pavements; screes and moraines; raised beds; sinks; dry walls

*Materials:* rock types (sedimentary, metamorphic, igneous, sandstone, limestone, slate, granite, tufa, artificial); provenance of materials; environmental impact of removing and using natural rock; loose materials (aggregates, gravels, chippings)

*Composts:* components (loams, sands/grits, organic matter); drainage requirements; fertiliser requirements

*Construction:* sub-base; strata; bedding planes; fracture lines; key stones; planting pockets; planting in vertical fissures; handling materials; disposal of arisings; health and safety (safe lifting and manual handling, working on slopes, personal protective equipment (PPE))

*Plants:* true alpinines; garden alpinines; dwarf trees and shrubs; bulbs (and similar); biological adaptations of true alpinines; practical implications of biological adaptations

## 3 Understand the construction and maintenance of ponds and water features

*Site:* situation; aspect; context

*Types of ponds:* natural (groundwater, on-stream, off-stream, legal considerations when altering the flow of natural watercourses); formal ponds; informal ponds; wildlife ponds; raised ponds; slick pools; barrels, tubs and other containers; bog gardens

*Lining materials:* prefabricated; flexible (butyl, PVC); concrete; puddling clay; advantages/disadvantages of each

*Edging materials:* grass; natural stone; paving; decking

*Aquatic plants:* marginal plants; deep water; free floating; sub-merged (oxygenators); bog plants

*Planting practices:* planting shelves; planting baskets; planting substrates; planting/free water ratio

*Other water features:* stream; rills; waterfalls and cascades; fountains

*Pumping equipment:* submersible pumps, non-submersible pumps; electrical supply (240 V, 12 V, solar powered); associated pipe work and fittings

*Health and safety:* public safety (depth, slope); safety implications of power supplies; environmental impact of ponds and water features

*Maintenance:* seasonal (weed and algae control, monitoring of pests and diseases); annual (division of plants, prevention/removal of autumnal leaf fall, emptying and cleaning); long term (repairs, re-lining, re-planting)

#### **4 Be able to establish and maintain climbing and wall plants**

*Definitions and biology:* wall shrubs; climbers; annual climbers; morphological adaptations for climbing

*Site and situation:* aspect (north, south, east and west facing, exposed sites); arches and pergolas; poles; wigwams; growing through trees and large shrubs

*Support:* wires (horizontal, vertical); tensioning devices; trellis; netting

*Planting and establishment:* soil preparation; planting methodology (seasonality, planting pits, depth of planting); initial training; effective watering-in; mulching

*Maintenance:* trimming and training; pruning; irrigation; feeding; monitoring of pests and diseases

## Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
<b>P1</b> design and construct rock garden features safely [CT, SM, RL, EP]	<b>M1</b> produce accurate cross-sectional drawings of the features	<b>D1</b> produce 3 dimensional projections which accurately depict the features and their surroundings.
<b>P2</b> identify and select appropriate plants and install them in alpine and water features [CT]	<b>M2</b> justify the selection of plants for given cultural conditions	
<b>P3</b> install a small pool or water feature safely [CT, SM, RL, EP]		
<b>P4</b> maintain rock and water features and their plants		
<b>P5</b> explain the principles of rock garden construction; including placement of stones, rock garden features, tools and equipment and the related health and safety considerations add environmental impacts and waste disposal.	<b>M3</b> explain how different types and styles of rock and alpine features are suited to given locations and contexts	
<b>P6</b> evaluate the types of rock available; their characteristics and appropriate uses and the positive and negative environmental impact of their use.		
<b>P7</b> describe typical problems that may be encountered in the construction of rock gardens and methods to overcome them		
<b>P8</b> describe the characteristics of growing media for rock gardens and rock garden features		

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
<p><b>P9</b> review the types of pond and water feature in use including</p> <ul style="list-style-type: none"> <li>◇ the characteristics of sites for which they are suitable</li> <li>◇ the requirements of a suitable pond environment for aquatic plant and animal species</li> </ul>		
<p><b>P10</b> describe the safe construction of ponds and water features, including resource estimation, access routes and levels</p>		
<p><b>P11</b> explain the principles of selecting and positioning pumps, fountains and cascades and the safety issues relating to these</p>	<p><b>M4</b> explain how different types and styles of ponds and water features are suited to given locations and contexts.</p>	
<p><b>P12</b> describe the seasonal, annual and long-term maintenance requirement of water features</p>		
<p><b>P13</b> identify climbing and wall plants and select suitable plants for location and aspect</p>		
<p><b>P14</b> install a structure or support and plant climbing or wall plants</p>		
<p><b>P15</b> evaluate the types of support and materials available for climbing plants</p>		
<p><b>P16</b> explain the annual maintenance of climbing and wall plants and their supports.</p>		

**PLTS:** This summary references where applicable in the pass criteria, in the square brackets, the elements of the personal, learning and thinking skills. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

<b>Key</b>	IE – independent enquirers CT – creative thinkers	RL – reflective learners TW – team workers	SM – self-managers EP – effective participators
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# Essential guidance for tutors

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## Delivery

Delivery of this unit will involve practical assessments, written assessment, visits to suitable collections and will have links to industrial experience placements.

This unit is designed to equip learners with the necessary theoretical understanding and practical skills to design, construct and maintain specialist horticultural features.

Learners will develop an appreciation of how rock work, water features and climbing plants/wall shrubs may be used effectively to enhance gardens and landscapes. They will appreciate the opportunities and constraints offered by different sites and locations and will be able to evaluate the environmental impact of these specialist features.

Learners will gain an understanding of the principles that underpin the construction of specialist features and will be able to apply these principles effectively and safely in their practical work.

Delivery methods should be varied and designed to stimulate and motivate learners. Delivery could include: formal lectures and presentations, site visits, practical demonstrations and supervised practical work. Guided and independent research may be used to develop learners' abilities as independent learners and self-managers. Practical exercises will be useful to develop learners' skills as effective team members. Site visits will widen learners' experience of different types of specialist features and enable them to appreciate the opportunities and constraints offered by different locations.

Health and safety issues must be emphasised throughout this unit. The construction of rock and alpine features is likely to involve the handling of bulky and heavy materials on difficult, sloping sites with restricted access. The planning of water features should take account of the possible 'end users' of the feature (who are likely to include all age groups). The establishment and maintenance of climbers and wall shrubs may involve working at heights. Risk assessments must be undertaken before any practical activities. Appropriate personal protective equipment (PPE) must be provided and used following the production and implementation of suitable risk assessments.

Work placements should be monitored regularly in order to ensure the quality of the learning experience. It would be beneficial if learners and supervisors were made aware of the requirements of this unit before any work-related activities so that naturally occurring evidence can be collected at the time. Guidance on the use of observation records and witness statements is provided on the Edexcel website.

Learning outcome 1 requires learners to construct and maintain rock and water features. Learners should be able to design, specify and construct a naturalistic rock feature (including key stones, secondary stones in appropriate strata, planting pockets with appropriate backfill and mulch) and a formal rock feature such as a raised bed, dry stone wall or alpine sink. These features should be planted with the appropriate alpine plants.

Learners should also be able to design, specify and construct a small pool using a flexible liner and plant it with appropriate plants including marginal plants, deep water and floating aquatic plants. They should be able to design, specify and install a water feature such as a waterfall, cascade or fountain. This feature may be integrated into the pool or may be free standing (for example a 'pebble fountain' feature).

The construction of these features may require learners to work in small teams and all work must be carried out with due regard to the health and safety of all team members.

This learning outcome further requires learners to undertake routine and seasonal maintenance on alpine and water features. These features should be of sufficient size and complexity to enable all learners to undertake the full scope of tasks normally associated with their maintenance.

Learning outcome 2 require learners to understand the principles that underpin the construction of rock and alpine features. They should be able to critically evaluate the types of materials used in their construction and

to be aware of the possible environmental impacts of the use of these materials. Learners should understand the ways in which rocks are arranged and positioned to produce both the desired aesthetic effect and the required growing environment for alpine plants. Learners should appreciate the range of tools and equipment that may be required in the construction of rock features (for example power barrows, ramps, winches) and they must appreciate the health and safety implications of their use.

Learning outcome 3 requires learners to understand the construction and maintenance of pools and other water features. Learners should appreciate the types of ponds and water features that may be used in gardens and landscapes and their appropriate setting and context. They should be able to describe the different construction techniques employed and the different materials and equipment available. They should understand how to select appropriate sites for ponds and other water features and how to assess and adjust levels and access routes. Learners should understand the requirements of a stable aquatic ecosystem and should appreciate the possible environmental impacts of installing a pond or water feature. Learners should appreciate the maintenance requirements of ponds and water features and should be able to outline a programme of seasonal, annual and long-term maintenance tasks. Learners must understand the health and safety implications not only of the construction and maintenance of water features but also of their use by members of the public, especially vulnerable groups such as children and the disabled.

Learning outcome 4 requires learners to understand the use of climbers and wall shrubs in gardens and landscapes. They should appreciate the differences between climbers and wall shrubs and the characteristics of each. They should be able to select the appropriate plant species for different locations and aspects and describe their individual requirements. Learners should be able to select between different supporting structures and appreciate how different structures may suit different plant species and/or different locations. They should be able to install a given support system and explain why it is suitable for the plant species and location chosen. Learners should be able to explain the long- and short-term maintenance of climbers and wall shrubs and should appreciate the particular constraints that may be placed on climbing plants due to their location (for example rain shadows, wall foundations, restricted space) and understand how these constraints may influence maintenance regimes.

## Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan gives **an indication of the volume of learning it would take the average learner** to achieve the learning outcomes. It is **indicative and is one way of achieving the credit value**.

Learning time should address all learning (including assessment) relevant to the learning outcomes, regardless of where, when and how the learning has taken place.

Topic and suggested assignments/activities and/assessment
Introduction to unit. Overview of unit content, delivery and assessment methods.
<b>Assignment 1: Construction of Rock Garden and Alpine Features</b> (P5, P6, P7, P8, P9, M3)
Lecture on principles and techniques for constructing rock gardens and alpine features.
Site visit to inspect rock garden and alpine features.
Site visit to suppliers of materials for rock and alpine features.
Lecture on plants for rock and alpine features.
Guided research towards Assignment 1.
Independent learner research towards Assignment 1.

## Topic and suggested assignments/activities and/assessment

### **Assignment 2: Design, Construct and Maintain Rock Garden Features** (P1, P2, M1, M2, D1)

Discussion on health and safety issues surrounding the construction and maintenance of rock and alpine features.

Demonstrations and practical exercises.

Assessment of practical work.

### **Assignment 3: Construction and Maintenance of Ponds and Water Features** (P10, P11, P12, M4)

The principles and techniques for the construction and maintenance of ponds and water features.

Site visit to inspect ponds and water features.

Site visit to suppliers of materials for ponds and water features.

Guided research towards Assignment 3.

Independent learner research towards Assignment 3.

### **Assignment 4: Design, construct and maintain ponds and water features** (P3, P4)

Discussion on health and safety issues surrounding the construction and maintenance of ponds and water features.

Demonstrations and practical exercises.

Assessment of practical work.

### **Assignment 5: Installation and Maintenance of Climbers and Wall Shrubs** (P13, P14, P15, P16)

Guided research towards Assignment 5.

Independent learner research towards Assignment 5.

Demonstrations and practical exercises.

Assessment of practical work.

Unit review.

## Assessment

For P1, P2, P3 and P4, learners must design, construct and maintain:

- rock and alpine features
- a small pond with a flexible liner
- a moving-water feature (for example waterfall, cascade, rill).

Learners need to produce accurate scale plans of the relevant features. Drawings will be accompanied by specifications of the type and quantities of materials and plants required to construct and plant up each feature. Learners must be assessed on their ability to carry out the necessary practical construction and maintenance work in a safe, efficient and effective manner. Due to the nature of the tasks involved, learners may be required to work in small teams. To ensure fairness, tutors must ensure that the size and complexity of the tasks is the same for all learners. Because of the seasonal nature of many maintenance tasks, the assessment of this part of the unit may be spread over a period of time.

P1, P2, P3, P4 and P5 could be assessed as two separate assignments (one for rock work and alpine features, the other for ponds and water features) or they may be combined into a single assignment (for example a rock feature that includes a pool and waterfall)

To achieve a merit, learners must satisfy all criteria for a pass grade and produce accurate cross-sectional drawings which are to scale and contain sufficient detail to enable the features to be constructed by a third party. Learners should also select plants which are suited to a variety of cultural conditions (for example the sunny and shady sides of larger rocks, different depth of water).

To achieve a distinction grade, learners must satisfy all criteria for a merit grade and produce three-dimensional projections which accurately depict the features and their surroundings.

For P5, P6, P7 and P8, learners could produce a report supported by appropriate illustrations and diagrams. The report will explain the principles of rock garden construction including any preliminary works (for example adjustment of levels, installation of drainage systems) and an evaluation of the materials (rock, composts, top dressings) that may be used. The report should also include a description of the possible problems likely to be encountered as the work progresses, and the characteristics of appropriate growing media and features.

To achieve a merit grade, learners must satisfy all criteria for a pass grade and explain how different types and styles of rock and alpine features are suited to particular locations and contexts (for example areas with naturally occurring rock outcrops; informal gardens and landscapes; contemporary gardens and landscapes).

For P9, P10, P11 and P12, learners could produce a report on ponds and water features supported by appropriate illustrations and diagrams. The report will explain the principles involved in the construction of ponds and water features including any preliminary works (for example adjustment of levels, installation of water/power supplies) and an evaluation of the materials (for example pond liners, pumps) that may be used. It should give details of the techniques employed to produce features that are both aesthetically pleasing and suit the cultural requirements of aquatic plants and animals. The report should include recommendations for the seasonal, annual and long term maintenance of ponds and features and must assess the health and safety implications of both the construction and the subsequent use of ponds and water features.

To achieve a merit grade, learners must satisfy all criteria for a pass grade and explain how different types and styles of ponds and water features are suited to particular locations and contexts (for example gardens and landscape used by vulnerable groups).

For P13, P14, P15 and P16, learners need to produce annotated pictorial evidence to demonstrate the morphological adaptations found in climbing plants; the types of support most suited to these adaptations; a selection of plants for different locations and aspects. Learners must also provide information on annual maintenance schedule for a given selection of plants and support systems and will undertake the various maintenance tasks. The given selection will be agreed by learners and their tutor (and workplace supervisor, if applicable) and should reflect the range of plants and systems readily available to the learner.

### Programme of suggested assignments

The following table shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P5, P6, P7, P8, P9, M3	Construction of Rock Garden and Alpine Features	Learners will describe the principles of rock garden construction. They will discuss the techniques and materials that may be used and the characteristics and cultural requirements of alpine plants.	Report supported by diagrams and illustrations.
P1, P2, M1, M2, D1	Design, Construct and Maintain Rock Garden Features	Learners will design and construct a naturalistic and a formal alpine feature. They will specify the materials required and select and install appropriate alpine plants. Learners will undertake appropriate seasonal and annual maintenance of a rock garden and alpine feature.	Plans. Specifications of materials. Assessment of practical work.

Criteria covered	Assignment title	Scenario	Assessment method
P10, P11, P12, M4	Construction and Maintenance of Ponds and Water Features	Learners will describe the principles of pond construction and maintenance. They will discuss the techniques and materials that may be used and the characteristics and cultural requirements of aquatic plants. They will explain how other water features may be used in the garden and describe the techniques for their safe and effective installation.	Report supported by diagrams and illustrations. Maintenance schedule.
P3, P4	Design, Construct and Maintain Ponds and Water Features	Learners will design and construct a small pool and a water feature. They will specify the materials required and select and install appropriate aquatic plants. Learners will undertake appropriate seasonal and annual maintenance of a pool and a water feature.	Plans. Specifications of materials. Assessment of practical work.
P13, P14, P15, P16	Installation and Maintenance of Climbers and Wall Plants	Learners will describe how climbers and wall shrubs may be used in the garden. They will illustrate how climbing plants and wall shrubs may be supported and they will demonstrate the maintenance of both plants and their supports.	Diagrams and illustrations supported by text. Maintenance schedule. Assessment of practical work.

## Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Land-based sector suite. This unit has particular links with:

Level 2	Level 3
Establish and Maintain Plants Outdoors	Unit L24 Construct hard landscape components Unit CU20 Maintain and repair structures and surfaces Unit CU21 Construct new structures and surfaces
Construct Landscape Foundations and Surfaces	Understand the Principles and Practices of Landscape and Garden Design
	Construct Horizontal Landscape Features
	Construct and Restore Walls
	Construct and Maintain Timber Landscape Features

## Essential resources

Learners should have opportunities to carry out practical exercises in all the required activities. Access to sites with a range of rock and water features will enable learners to investigate and analyse features of various styles in diverse locations and contexts. Samples of all common materials should be kept and adequate quantities of all the appropriate materials, tools and equipment must be available as and when the tasks are practised and assessed. All-weather facilities are desirable to complete tasks within a reasonable timescale if undertaken in the winter months.

Learners must have access to both a good horticultural library with an adequate supply of relevant texts and to ICT facilities with internet access and appropriate design software. Where learners are required to produce plans and other illustrative materials without the aid of design software, they should have access to drawing equipment and a suitably clean and spacious learning environment.

## Employer engagement and vocational contexts

This unit is focused on the practical application of learners' knowledge and understanding of the construction and maintenance of specialist landscape features. Centres offering this unit are encouraged to form links with local businesses engaged in the construction of such features or in the provision of specialist plants or materials (for example local aquatic centres and suppliers of natural stone). These links may afford opportunities for learners to gain first hand experience in the design, specification and construction of features and to learn from the experience of professionals either formally (for example guest speakers) or informally (by personal questioning). Links with professional bodies, such as the Alpine garden Society, will also be fruitful as such bodies produce a wealth of information relevant to learners' studies. Work placements are also valuable to broaden learners' experience. These placements should be carefully structured and monitored regularly in order to ensure the quality of the learning experience. It would be essential for learners and supervisors to be aware of the requirements of this unit prior to any work-related activities so that naturally occurring evidence can be collected at the time.

## Indicative reading for learners

### Textbooks

Good J E G and Millward D – *Alpine Plants Ecology for Gardeners* (Batsford, 2007) ISBN 978-0713490176

McGary J ed. – *Rock garden Design and Construction* (Timber Press Ltd., 2003) ISBN 0881925837

Robinson P -*The Practical Rock and Water Garden* (Hermes House, 2002) ISBN 978-1843092964

Stuart Thomas G – *The Rock Garden and Its Plants* (Sagapress Ltd., 1989) ISBN 978-0460047623

Swindells P and Mason D - *The Complete Book of the Water Garden* (Cassell Illustrated, 2002)  
ISBN 1841881716

### Journals

*The Alpine Gardener*

*Journal of the Alpine Garden Society*

### Websites

[www.alpinegardensociety.net](http://www.alpinegardensociety.net)

The Alpine Garden Society

[www.buildapond.co.uk](http://www.buildapond.co.uk)

Advice on construction and suppliers

[www.nargs.org](http://www.nargs.org)

North American Rock Garden Society

[www.watergarten.com](http://www.watergarten.com)

The Water Garden

## Delivery of personal, learning and thinking skills (PLTS)

The following table identifies the PLTS opportunities that have been included within the assessment criteria of this unit:

Skill	When learners are ...
<b>Independent enquirers</b>	researching and evaluating materials for the construction of rock and water features researching and selecting appropriate climbers and wall shrubs for various locations.
<b>Creative thinkers</b>	designing and selecting plants for rock and water features
<b>Reflective learners</b>	identifying and overcoming problems when undertaking practical tasks
<b>Self-managers</b>	working towards agreed goals keeping to agreed timetables for the completion of practical tasks
<b>Effective participators</b>	producing designs for rock and water features that take account of the needs of vulnerable groups.

Although PLTS opportunities are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
<b>Independent enquirers</b>	engaged in independent research and planning and evaluating the results of that research
<b>Creative thinkers</b>	planning and undertaking practical tasks
<b>Reflective learners</b>	setting realistic goals for their research with a clear idea of what constitutes success
<b>Team workers</b>	cooperating with other learners in practical construction and maintenance tasks
<b>Self-managers</b>	organising and managing their time effectively identifying and organising the resources required for their research prioritising research objectives.

## ● Functional Skills — Level 2

Skill	When learners are ...
<b>ICT – Use ICT systems</b>	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	using the internet to undertake independent research
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
<b>ICT – Find and select information</b>	
Select and use a variety of sources of information independently for a complex task	
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
<b>ICT – Develop, present and communicate information</b>	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> <li>• text and tables</li> <li>• images</li> <li>• numbers</li> <li>• records</li> </ul>	
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
<b>Mathematics</b>	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	specifying materials and quantities for the construction of rock and water features
Identify the situation or problem and the mathematical methods needed to tackle it	

Skill	When learners are ...
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	<p>discussing how to overcome problems encountered during practical tasks</p> <p>negotiating with tutors/workplace supervisors when selecting climbing plants and wall shrubs requiring support and maintenance.</p>
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	