

THE YOUNG STEM LEADER PROGRAMME
Inspiring and developing young people through STEM

Programme Handbook

Contact



youngstemleader@sserc.scot



[@YoungSTEMLeader](https://twitter.com/YoungSTEMLeader)



www.youngstemleader.scot



led by





Welcome

Welcome to the Young STEM Leader Programme (YSLP), an exciting opportunity for young people in Scotland.

Our country has a rich heritage in STEM. It also has rich STEM potential, with many world leading STEM related industries and enterprises located here.

There is however a skills gap. Not enough young people are coming through with appropriate skills, attributes and qualifications.

Funded by the Scottish Government, and delivered by SSERC, the YSLP is an awards programme designed to build important leadership skills and qualities in young people in schools, community groups and other educational settings.

With our young people sharing and celebrating opportunities with more people in more places, it is hoped that others will be further enthused and interested in STEM. It is also hoped that many will be inspired to engage with the incredible potential that STEM related pathways offer.

This handbook provides an overview of the Young STEM Leader Programme and STEM Leader 7. Additional information and resources can be found on the supporting documentation for each of the award levels.

From 2024, the STEM Leader 7 award is available for learners aged 16+. You can find out more about STEM Leader 7 on page 90.

Enjoy the YSLP journey!

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YSLP Handbook



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Programme Overview

Young people in Scotland have the chance to inspire, lead and mentor their peers through the creation and delivery of STEM activities, events and interactions within their learning communities.

The programme aims to inspire more young people to develop an interest in STEM and pursue the study of STEM subjects and relevant future pathways. In its *Strategy for STEM Education and Training (2017)*, the Scottish Government committed to establish ‘a new Young STEM Leader Programme to stimulate and strengthen the development of peer mentoring and inspiration in STEM for young people by young people.’

As well as allowing Young STEM Leaders to develop important leadership, communication and employability skills, working towards a YSLP Award will also motivate young people to progress their STEM studies and perhaps eventually embark on a career in STEM.

Above all else, this programme aims to promote STEM curiosity in young people and to encourage them to learn about the world around them in a fun and engaging way.

The YSLP is funded by the Scottish Government and led by SSERC in partnership with a wide range of supporting organisations.

The STEM Leader 7 award is available for learners aged 16+. You can find out more about STEM Leader 7 on page 86.

The YSLP is offered in two versions:

Non-formal version, aligned to the Curriculum for Excellence

Formal version, aligned to the SCQF, credit rated by Qualifications Scotland.

The **non-formal** version of the programme is offered at CfE Second, Third and Fourth Levels (YSL2, YSL3 and YSL4 (NF)) and is underpinned by a framework that identifies the skills, knowledge and behaviours expected of a Young STEM Leader at each curricular level.



The **formal** version of the programme is offered at SCQF Levels 4, 5, 6 and 7 (YSL4 (F), YSL5, YSL6 and SL7), credit rated by Qualifications Scotland and underpinned by learning outcomes and performance criteria for each level. By completing a formal YSLP award, Young STEM Leaders will achieve SCQF credit points, UCAS tariff points (for YSL6) and – if relevant to the centre – it will contribute to Insight data.



Completing a YSLP award enables young people to build their leadership skills and qualities, engage in interesting STEM experiences and prepare themselves for positive future destinations. Beyond the programme, Young STEM Leaders may become a STEM Ambassador, or continue STEM engagement activities in another way.

The limitless context of STEM

Many people provide traditional examples and definitions when they are asked to describe the contexts and applications of STEM. However, STEM reaches far beyond the individual subjects of science, technology, engineering and mathematics; it is part of our everyday lives and is embedded into everything we do.

This programme aims to engage all learners in STEM and find its presence and impact in places where it may not be obvious; widening the context of STEM is key to increasing participation. Young STEM Leaders and their peers are strongly encouraged to seek out and deliver a broad range of STEM activities through which they will develop social, leadership and employability skills.

Those less engaged with STEM still rely on its benefits and products. Raising their awareness of the STEM hidden within our everyday lives and interests can be a catalyst for their engagement. There is no limit to the STEM context through which the YSLP can be delivered.



Elements of the programme

The four elements of the programme are Discover, Create, Inspire and Lead – the key principles to being a Young STEM Leader. These are represented in the four digital badges that Young STEM Leaders complete in the non-formal awards. As Young STEM Leaders progress to the formal version of the programme, digital badges are replaced with formally assessed learning outcomes and performance criteria.



Who can take part in the programme?

The Young STEM Leader Programme is free for all young people in Scotland to access thanks to support from the Scottish Government. Similarly, the STEM Leader 7 Programme is free for anyone aged 16+ in Scotland, thanks to support from Ocean Winds. The programme can be delivered in any setting, e.g. a school, college, community or youth group, as long as it is led by a trained Tutor Assessor with PVG membership.

The Award can be integrated with existing awards and programmes that a young person may hold or be working towards, or be a stand-alone programme. As it is a learner-centred approach, the delivery should take account of the young person's learning journey.

Centres are encouraged to decide the most appropriate level to offer their young people. The Project Team at SSERC can support with this decision.



For centres

Centres wishing to offer the programme should regularly work with a group of young people that are willing and able to take part. Typically, centres are schools, colleges, community groups or youth organisations.



Staff training

In order to deliver the YSLP, a centre must have at least **one** trained Tutor Assessor (TA). In addition, an Internal Verifier (IV) must support the quality assurance process. Tutor Assessors and Internal Verifiers are trained in the same way – by attending a single Young STEM Leader Tutor Assessor Training session. You can book training by clicking [here](#). To participate in the training all participants must be members of the PVG scheme.

Training is delivered by the Young STEM Leader team at SSERC and – upon completion – the newly trained TA can deliver the programme in their centre and/or act as IV for their own or another centre.

In smaller centres, there may only be one TA, and you can link with an IV from a different centre. For larger centres, for example secondary schools, it is advisable to have two or more TAs. In any case, if there are more people trained to deliver the programme, this maximises the support on offer for Young STEM Leaders and shows a collective commitment to meet the aims of the STEM strategy.



For Young STEM Leaders

For prospective Young STEM Leaders, entry to the programme is at the discretion of the school, community or youth group in which it is offered. There is no requirement for new Young STEM Leaders to have completed a previous level of the programme to participate. The level at which a young person enters the programme should be decided between the centre and young person taking part. Whilst there are no age requirements for entry to the programme, centres should make appropriate decisions on the level of the programme they offer/deliver. The Project Team at SSERC can support centres in this area.



Inclusion

The programme aims to be entirely inclusive and available to any individual. Indeed, as the programme is designed to encourage young people to engage, support and inspire others through STEM, equality, equity and inclusion are core values that run throughout all six levels of the programme. At all levels of the programme, Young STEM Leaders are expected to act as positive role models.

There should be no unnecessary barriers to participation and the needs of all people involved in the programme should be planned for and supported by centres and staff. Young STEM Leaders should also create and deliver STEM activities, events or interactions that are inclusive and accessible to all participants.



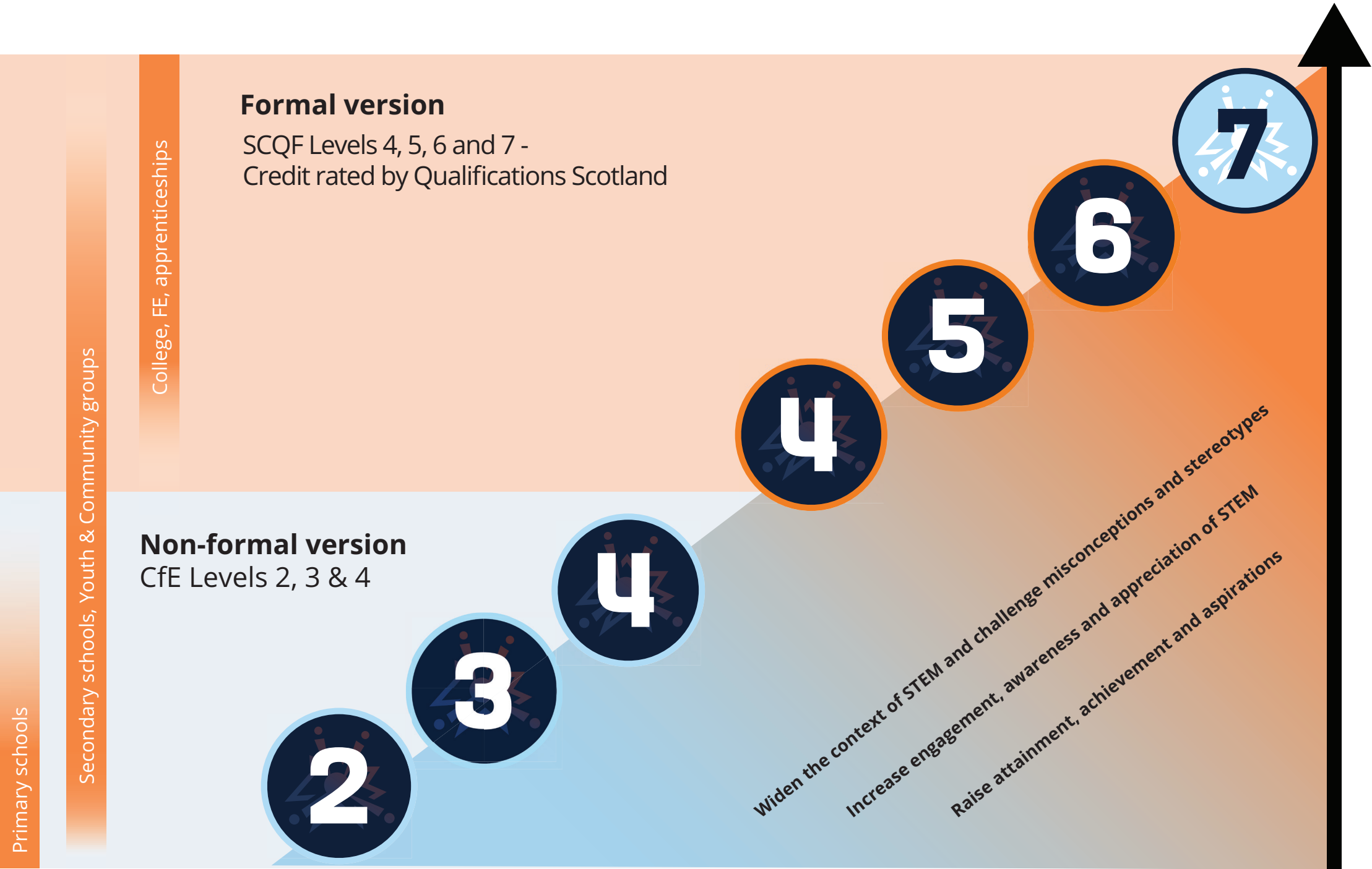
Progression

New Young STEM Leaders can enter the programme at any level. For the non-formal version of the programme, YSL2 is seen as a precursor to YSL3 and YSL4 (NF). Similarly, for the formal version of the programme, YSL4 (F) is seen as a precursor to YSL5 and YSL6. Individual badges or learning outcomes can be completed in any order or by adopting a stand-alone approach. For example, a centre may wish to work towards the Discover Badge of YSL2 only and not the entire level.

Centres and Young STEM Leaders can choose to continue through the programme levels in a linear fashion, progressing from the non-formal version into the formal version across a number of academic years. This would ultimately form the pathway to the young person becoming a STEM Ambassador beyond their completion of the YSLP. Please see the next page for a programme progression infographic.

Programme progression

STEM Pathways



Benefits of the programme



For centres

- The programme is free to access and supported by the Scottish Government. It offers a unique and innovative way to:
- Deliver a learning centred approach that reflects the 4 capacities for learning; Experiences and Outcomes; Skills and Benchmarks; Career Education Standard entitlements and expectations; and Learning for Sustainability (LfS).
 - Enable staff to engage in free Tutor Assessor and Internal Verifier Training at a time that suits them. <https://www.youngstemleader.scot/events>
 - Gather evidence of learning around STEM in your setting through Young STEM Leader's log books. These can be used alongside other awards or qualifications allowing the YSLP to complement and enhance existing learning. The logs may also provide evidence for other awards and programmes too, for example, Education Scotland's STEM Nation Award. <https://blogs.glowscotland.org.uk/glowblogs/stemnation/stem-nation-award/>
 - Gain access to networks and free STEM Resources that support delivery of the Award.
 - Build and share professional judgement as Tutor Assessors and Internal Verifiers work together in their own timeframe to support the Young STEM Leaders.
 - Gain tariff points for centres delivering the Formal Awards as these levels are available on Insight.

All centres taking part in the YSLP will be individually registered by SSERC as a YSLP delivering centre. A certificate will be provided to the centre, recognising that they are offering their young people the opportunity to inspire, lead and mentor their peers through the creation and delivery of STEM activities, events or interactions.

Level	Specific themes	LOs	SCQF	IPs	UCAS
YSL4(F) SCQF 4	The impact of STEM and its ability to solve problems; Scotland's role in STEM	8	3	3	
YSL5 SCQF 5	Opportunities, pathways and futures in STEM; YSL's own potential in STEM	8	3	5.5	
YSL6 SCQF 6	Challenging stereotypes, misconceptions and outdated views in STEM	8	4	18.7	7
SL7 SCQF 7	Generating and leading your own project question; Analysing and presenting findings	6	6	51	

LOs - Learning Outcomes SCQF - SCQF Credit Points IPs - Insight Points UCAS - UCAS Points



For Young STEM Leaders

- The programme allows young people to:
- develop their leadership skills, building valuable attributes for life, learning and future careers
 - improve confidence and communication skills
 - consolidate existing knowledge and understanding of the STEM concepts
 - build STEM Capital and ownership over their STEM Learning
 - gain SCQF credit points at the formal levels and UCAS points at Level 6
- Young STEM Leaders can deliver activities, events or interactions individually or as part of a group and can also offer one-to-one support to any participants of their choice. The activities, events and interactions delivered by Young STEM Leaders should be varied and can involve peers, participants in the early years, family groups, adults etc. In fact, there is no expectation on the number or diversity of participants and the programme is a great platform to engage communities and families, or other participants within your centre.



For participants of the STEM activities, events and interactions

By engaging with their peers, families, communities etc, Young STEM Leaders will have a positive impact on their own STEM capital (STEM-related knowledge, skills, attitudes, experiences and social contacts) as well as boosting that of their participants. Participants will be enthused and inspired by the Young STEM Leaders, seeing them as positive role models and STEM Leaders. Perhaps opening their eyes and breaking down barriers to the stereotypes that exist around what a leader of STEM may look like. Participants may be encouraged themselves to consider STEM as a potential pathway and may consider becoming Young STEM Leaders.

Gathering evidence for a Young STEM Leader award

During the award, Young STEM Leaders should gather evidence to demonstrate their understanding and development throughout the level they are working at. Most Young STEM Leaders do this in a *Log*.

YSLP Logs provide a simple way to collate evidence, leading to a full YSLP award upon completion. Entries to the Log should be made after any work is completed on the programme. High-frequency entries that fulfil the required standards will allow a YSLP award to be gained with relative ease.

The most common way to complete the Log is via SSERC's bespoke online Young STEM Leader platform. On the platform, accessed via www.youngstemleader.scot, Tutor Assessors can create accounts for Young STEM Leaders, who can then complete their evidence digitally by adding text, photos, videos or audio files. This evidence can be marked by the Tutor Assessor who can provide written feedback and approve or reject evidence.

The Log can also be completed on paper – these can be printed in your centre or, if this is not possible, you can request postal copies from SSERC by emailing youngstemleader@sserc.scot.

Evidencing the programme can be achieved in a number of ways. When considering alternative forms of evidence, TAs should consider the evidence requirements of the award that Young STEM Leaders are completing. These requirements are detailed in the relevant support notes for each level.

- Writing in the Log (on paper or online)
- Using photos, videos, audio recording or other digital methods in place of written evidence.
- Written or audio description of activities by TAs
- The completion of YSLP activities from Activity Packs
- The completion of TA- or centre-devised activities



YSLP Non-formal version

Each level of the non-formal programme comprises four elements – Discover, Create, Inspire and Lead. Each of these elements carries a digital badge signifying the unique areas of the programme. These badges are awarded to Young STEM Leaders by the TA upon the completion of the required standards set out in the level's support notes, for example, when they have been evidenced in the Log. Completing all four elements and gaining the associated badges at one level of the programme earns a full Young STEM Leader award for that level. The award is certificated by SSERC following the completion of relevant quality assurance processes, detailed in SSERC's Young STEM Leader Quality Assurance and Verification Policy.



In the Discover Badge, Young STEM Leaders will explore the meaning and importance of STEM. They will investigate the limitless context and applications of STEM, identifying the positive impact that STEM has had on the world and the many current and future opportunities it holds for them. Discover does not need to be the first badge Young STEM Leaders do, but it is an ideal place to start the journey.



In the Create Badge, Young STEM Leaders put their planning skills and imagination to work. Creativity is everywhere in STEM and Young STEM Leaders will design their own STEM activities, events or interactions that they will lead. Considering the area of STEM they would like to share, its positive impact and the opportunities it offers are all part of the Create Badge. Young STEM Leaders should also plan for the type of audience who could benefit from their leadership and how they intend to engage them in a safe and inspiring way.



In the Inspire Badge, Young STEM Leaders explore what it means to be inspired and who or what inspires them. What type of skills, qualities and behaviours do inspirational people possess and how will the Young STEM Leaders themselves demonstrate these when they deliver their activities, events or interactions? The people, developments and innovations in STEM are all truly inspirational and inspire others to take part. When Young STEM Leaders have delivered a STEM activity, event or interaction, they will have the chance to reflect on it and ask others how inspirational it was.



In the Lead Badge, Young STEM Leaders are encouraged to think of leaders who have the skills, qualities and behaviours to make a difference to others, for example: communication, cooperation, coaching, supporting and building confidence in others. The Lead Badge allows Young STEM Leaders to build, develop and display their own leadership skills to deliver inspiration in STEM.

Centres are encouraged to celebrate the success of all Young STEM Leaders through assemblies, awards ceremonies, social media and other events to identify the positive impact young people are making in their learning community via the programme.



Non-formal version Support Notes

Extra Badges

Young STEM Leaders can **opt** to complete 'extra' digital badges online. This is not compulsory but can add a different dimension to their Award. There are two Extra badges available at Non-Formal Levels:



The Dynamic Earth Badge can be completed at YSL2, YSL3 or YSL4 (NF) and awarded digitally. The badge was developed in partnership with the learning team at Dynamic Earth and contains a series of interactive videos about the ocean and associated careers. It is important to note that completion of this badge can enable 'Discover' to be awarded or, it can be a stand alone 'Extra Badge'.



The Gender Equality Non-Formal Badge can be completed at YSL2, YSL3 or YSL4 (NF) and awarded digitally. The badge challenges YSLs with questions and resources around gender equality in STEM. This badge is an optional 'Extra Badge' awarded digitally.



Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Discover the meaning and importance of STEM 	• the meaning of STEM and examples of how it is relevant and important to our lives; • the wide variety of STEM applications; • careers involving STEM, both locally and in the wider world; • the stereotypes, perceptions, and misconceptions associated with STEM; • how to promote equality, equity and inclusion in STEM; • the wide range of STEM contexts by taking part in STEM learning; • issues that impact STEM participation such as gender, ethnicity, geography, socio-economic, etc.	• demonstrate an understanding of STEM; - Acronym and what it means - Example(s) of how we use STEM in everyday life: the classroom, school, home and wider surrounding area/community - Careers and the STEM skills they involve • give a description of at least one STEM career that interests them; - Understand the relevance of STEM in an increasing range of careers and occupations - Identify STEM in less traditional settings: sports, TV and film, food and drink, agriculture, animal welfare, social media, web design, music technology, fashion, cosmetics, entertainment, etc. • describe at least one stereotype, misconception or outdated view in STEM and how they could positively challenge it; - What are stereotypes, misconceptions and outdated views? - What STEM stereotypes, misconceptions and outdated views exist? - Suggest ways to challenge stereotypes, misconceptions and outdated views - Identify ways to increase STEM awareness and appreciation • communicate/demonstrate a description of at least one STEM practical learning experience they have taken part in. - The area/topic, aim, what was learned, etc.	Log entry for Discover

YSL2 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Create and plan a STEM activity, event or interaction 	• how to select an appropriate and purposeful activity, event or interaction for a specific person or group; • how to plan and create safe learning experiences and minimise risks; • how to organise resources; • how to structure an effective STEM activity, event or interaction with appropriate steps; • the Learning for Sustainability (LfS) theme(s) which can be covered in the STEM activity, event or interaction; • how to complete trial run(s) with the resources to be used in the STEM activity, event or interaction; • how to make appropriate adjustments based on the trial run(s); • how to develop confidence and resilience for the final delivery of the STEM activity, event or interaction.	• provide a description for each STEM activity, event or interaction the young person will lead; - The activity, event or interaction - Appropriate and effective use of resources - Safety rules or other considerations • link Learning for Sustainability (LfS) theme(s) to their activity, event or interaction; • lead and deliver a trial run of their STEM activity, event or interaction. - Reflect and identify improvements for future events	Log entry for Create

YSL2 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Inspire others in STEM 	• how to inspire others, the skills required and the importance of behaviours, personal qualities, resources, interactions, language etc.; • what makes a learning experience inspirational; • how to plan, organise and lead inspirational STEM activities, events and interactions.	• provide a definition of inspiration; - Discuss what it is to be inspired or use own words to describe inspiration • describe how people can be inspired; - By others - By events or experiences • research an inspirational person, people, event or development in STEM; - State facts/features of your chosen person, people, event or development that you find inspirational • give a description of how they plan to make their chosen STEM activity, event or interaction inspirational; • demonstrate inspirational behaviour during the delivery of their STEM activity, event or interaction, such as language used, motivational behaviour, body language, approach etc.; • evaluate the STEM activity, event or interaction for inspiration by seeking the views of others. - Discuss with group/team/staff/others how inspirational the activity, event or interaction was	Log entry for Inspire

YSL2 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Lead a STEM activity, event or interaction 	- the skills, qualities and behaviours of a good leader; - how to promote fairness and equality through leadership; - how leadership links with being a positive role model; - how to lead inspirational STEM activities, events and interactions.	- provide a definition of leadership; - research inspirational leaders – not necessarily in STEM – and the skills, qualities and behaviours that make them good leaders; - Describe skills, qualities and behaviours that make a good leader - complete a self-evaluation exercise to discover the leadership skills and qualities they possess, for example, the materials on My World of Work; - describe the leadership skills, qualities or behaviours that they aim to demonstrate in their STEM activity, event or interaction from their self-evaluation; - describe the personal quality or qualities that makes, or will make, them a positive role model in STEM; - deliver a STEM activity, event or interaction demonstrating their leadership skills and qualities; - evaluate, using any method or format, the overall impact of the STEM activity, event or interaction they delivered. - The views of the young person themselves - The views of anyone who observed or took part in the activity, event or interaction	Log entry for Lead

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Discover opportunities, pathways and futures in STEM 	• their awareness, understanding and appreciation of STEM; • their strengths, skills and interests; • the STEM opportunities, pathways and futures available to them at a local, national and international level; • in more depth, the opportunities, pathways, and futures in STEM that interest/excite them; • requirements and possible barriers to their participation in the opportunities, pathways, and futures in STEM that interest/excite them and explain how they can be met/overcome.	• demonstrate an increasing awareness, understanding and appreciation of STEM; - Research and explain the importance of STEM - Investigate and identify STEM content in a range of familiar and unfamiliar contexts • identify their strengths, skills and interests (current self); - Skills, talents, abilities, knowledge and understanding that they currently have - Why these are useful in STEM • investigate STEM opportunities, pathways and futures at a local, national and international level that interest/excite them; - Competitions, challenges, events, talks, courses, projects, apprenticeships, etc. - Why are these interesting and exciting? - What are the main attractions and benefits? - Are they or can they become accessible and achievable? • identify the strengths, skills and interests they would like to develop (future self). - Skills, talents, abilities, knowledge and understanding that they want to have - Why are these useful in STEM? - Identify requirements and possible barriers to their participation in the chosen opportunities, pathways and futures	Log entry for Discover Observation Checklist

YSL3 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Create and plan a STEM activity, event or interaction 	• how to select an appropriate and purposeful activity, event or interaction for a specific person or group; • how to plan and create safe learning experiences and minimise risks; • how to organise resources; • how to structure an effective STEM activity, event or interaction with appropriate steps that demonstrate opportunities, pathways and futures in STEM; • the Learning for Sustainability (Lfs) theme(s) which can be covered in the STEM activity, event or interaction; • how to make appropriate adjustments based on trial runs with resources to be used in the STEM activity, event or interaction; • how to develop confidence and resilience for the final delivery of the STEM activity, event or interaction.	• provide a description for each STEM activity, event or interaction the young person will lead; - The desired audience - The aim of the activity, event or interaction - Appropriate and effective use of resources - Success criteria - The opportunities, pathways and/or futures in STEM they will link to or share with their audience - Safety rules and other relevant considerations • link Learning for Sustainability (Lfs) theme(s) to their activity, event or interaction; • lead and deliver a trial run of their STEM activity, event or interaction. - Collect feedback from participants and any other people involved - Reflect and identify improvements for future events	Log entry for Create Observation Checklist

YSL3 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Inspire others in STEM 	• inspiration from the world around them; • how to inspire others, the skills required and the importance of behaviours, personal qualities, resources, interactions, language etc.; • what makes a learning experience inspirational; • how to plan, organise and lead an inspirational STEM activity, event or interaction.	• describe how people can be inspired; - By others - By events or experiences • identify inspirational content in STEM opportunities, pathways or futures; - Inspirational people, events or experiences - Describe why they are inspirational - Link inspirational content in the activity, event or interaction they lead • give a description of how they plan to make their chosen STEM activity, event or interaction inspirational; • demonstrate inspirational behaviour during the delivery of their STEM activity, event or interaction; such as language used, motivational behaviour, body language, etc.; • evaluate the STEM activity, event or interaction for inspiration by seeking the views of others. - Discuss with group/team/staff/others how inspirational the activity, event or interaction was	Log entry for Inspire Observation Checklist

YSL3 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Lead a STEM activity, event or interaction 	- the skills, qualities and behaviours of a good leader; - how to promote equality, equity and inclusion through leadership; - how leadership links with being a positive role model; - their own leadership skills, qualities and behaviours; - opportunities and techniques to gain feedback on their chosen activity, event or interaction.	research inspirational leaders – not necessarily in STEM – and the skills, qualities and behaviours that make them good leaders; - Compare different types of leaders and the skills, qualities and behaviours they demonstrate/possess describe the leadership skills, qualities or behaviours that they aim to demonstrate in their STEM activity, event or interaction; complete a personal evaluation tool/questionnaire, for example, the materials on My World of Work; deliver an activity, event or interaction that highlights opportunities, futures and pathways in STEM; evaluate, using any method or format, the overall impact of the STEM activity, event or interaction they delivered. - The views of the young person themselves - The views of anyone who observed or took part in the activity, event or interaction	Log entry for Lead Observation Checklist

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Discover the positive impact of STEM 	• their increasing awareness, understanding and appreciation of STEM; • the positive impact of STEM locally, nationally and internationally; • how STEM has improved their own life and the lives of others; • ways to challenge or overcome any negative impacts of STEM; • how to increase access to the benefits of STEM for everyone; • Scotland's role in STEM.	• demonstrate an increasing awareness, understanding and appreciation of STEM; - Research and explain the importance of STEM - Develop knowledge and understanding in unfamiliar areas of STEM • explain the positive impact of STEM; - To solve local, national or international problems - On their own life - On people, society and the environment • identify negative issues in STEM and suggest ways to challenge or overcome them; - Impact on people, society and the environment - Social, economic, political or other barriers to accessing the benefits of STEM • identify examples of Scotland's role in STEM. - Developments, innovations, industries, people, etc. - Past, current or future impact of these examples	Log entry for Discover Observation Checklist

YSL4 (NF) Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Create and plan a STEM activity, event or interaction 	• how to work effectively within their learning community; • how to select appropriate and purposeful activities, events or interactions for a specific person or group; • how to plan and create safe learning experiences and minimise risks; • how to organise resources; • how to structure an effective STEM activity, event or interaction with appropriate steps that demonstrate the positive impact of STEM; • the Learning for Sustainability (LfS) theme(s) which can be covered in the STEM activity, event or interaction; • how to make appropriate adjustments based on trial runs of the STEM activity, event or interaction; • how to develop confidence and resilience for the final delivery of the STEM activity, event or interaction.	• work effectively within their learning community; - Select and identify people to collaborate with e.g. other STEM leaders, community/youth group representatives, teachers, staff members, employers, STEM Ambassadors, etc. - Recognise the contributions of other people - ‘Give and take’ fairly when working with others • provide a description for each STEM activity, event or interaction they will lead; - The desired audience - The aim of the activity, event or interaction - The skills which will be shared and/or developed - Appropriate and effective use of resources - Success criteria - The positive impact(s) of STEM they will share with their audience - Identified risks and ways to minimise them - A plan to ensure that deadlines are met • link Learning for Sustainability (LfS) theme(s) to their activities, events or interactions; • lead and deliver a trial run of their STEM activity, event or interaction. - Collect feedback from participants and any other people involved - Reflect and identify improvements for future events	Log entry for Create Observation Checklist

YSL4 (NF) Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Inspire others in STEM 	• inspiration from the world around them; • how to inspire others, the skills required and the importance of behaviours, personal qualities, resources, interactions, language, etc.; • what makes a learning experience inspirational; • how to plan, organise and lead inspirational STEM activities, events and interactions.	• describe examples of how people have collaborated in STEM in an inspiring way; • give a detailed description of how they plan to make their chosen STEM activity, event or interaction inspirational; • demonstrate inspirational behaviour during the delivery of their STEM activity, event or interaction, such as language used, motivational behaviour, body language, etc.; • evaluate the STEM activity, event or interaction for inspiration by seeking the views of others. - Discuss with the group/team/staff/others how inspirational the activity, event or interaction was - Understand how the audience felt about the activity, event or interaction	Log entry for Inspire Observation Checklist

YSL4 (NF) Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
Lead a STEM activity, event or interaction 	• successful collaborative working; • the skills, qualities and behaviours of a good leader; • how to promote equality, equity and inclusion through leadership and collaborative working; • how leadership links with being a positive role model; • opportunities and techniques to gain feedback on their chosen activity, event or interaction.	• research successful teams in STEM and elsewhere; - Factors contributing to their success - How they dealt with challenges or initial failure - Examples of effective team working - Effective leadership in teams • describe the leadership skills, qualities or behaviours that they aim to demonstrate in their STEM activity, event or interaction, making sure to promote equality, equity and inclusion; • deliver an activity, event or interaction that highlights at least one positive impact of STEM; • identify ways of collecting and understanding feedback on the activities, events or interactions they have led. - The overall impact - Their own views and anyone who observed or took part - Different ways of sharing feedback	Log entry for Lead Observation Checklist

YSLP Formal version

Young STEM Leader Awards at SCQF Levels 4, 5 and 6 (YSL4 (F), YSL5 and YSL6) are formal qualifications, credit rated by Qualifications Scotland, that enable young people to support, engage and inspire others in STEM in their schools, communities or youth groups. On completion of these awards, Young STEM Leaders will be able to plan, lead and evaluate STEM activities, events and interactions.

Each level within the formal version of the programme carries credit points for the young people and the award is available on Insight for centres to gain the associated tariff points.



YSL4 Formal (YSL4 (F)) focusses on identifying the impact of STEM on people, society and the environment locally, nationally and internationally. Young STEM Leaders will deliver activities, events or interactions which share this impact with others. In addition, Young STEM Leaders are encouraged to explore and improve their own leadership and teamworking skills and qualities within their learning community.



YSL5 focusses on identifying current and future opportunities in STEM that are available to young people locally, nationally and internationally. Young STEM Leaders will deliver activities, events or interactions which share these current and future opportunities with others. In addition, Young STEM Leaders are encouraged to explore their own potential in STEM and how they may access the opportunities that STEM offers.



YSL6 focusses on identifying the skills, qualities and behaviours of good leaders and positive role models. At this level, Young STEM Leaders are encouraged to explore the challenges and issues that exist in STEM such as stereotypes, misconceptions and outdated views and how they can positively challenge these through the delivery of activities, events or interactions. In addition, Young STEM Leaders will learn the importance of health and safety and safeguarding when leading learning experiences for others.



STEM Leader 7 is supported by Ocean Winds and enables candidates +16 years to improve their leadership skills and qualities through the ownership and development of a STEM research project. STEM Leaders will actively reflect on their leadership as they generate their own research question and undertake independent research. STEM Leaders will manage, document and share results of their work in manner of their own choice eg a report, a science poster, a podcast etc. This qualification is designed for learners in secondary schools, further and higher education, community settings and in employment.

Centres are encouraged to celebrate the success of all Young STEM Leaders through assemblies, awards ceremonies, social media and other events to identify the positive impact young people are making in their learning community via the programme.



credit rated by



Formal version Support Notes

Extra Badges

Young STEM Leaders can **opt** to complete an 'extra' digital badge online. This is not compulsory but can add a different dimension to their Award. There is one Extra badge available at Formal Levels:



The Gender Equality Formal Badge can be completed at YSL4 (F), YSL5 or YSL6 and awarded digitally. The badge challenges YSLs with questions and resources around gender equality in STEM. This badge is an optional 'Extra Badge' awarded digitally.



YSL4 Formal (F) Support Notes

Award Information

Objective:

The SCQF Level 4 Young STEM Leader Award is a nationally recognised qualification that enables young people to support, engage and inspire others in STEM in their school, community or youth group.

The course focusses on identifying the impact of STEM on people, society and the environment locally, nationally and internationally. Young STEM Leaders will deliver activities, events or interactions which share this impact with others. In addition, Young STEM Leaders are encouraged to explore and improve their own leadership and teamworking skills and qualities within their learning community.

This can be demonstrated by:

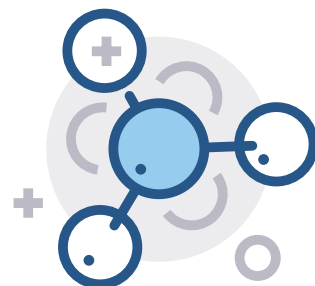
planning, creating and delivering STEM activities, events or interactions alone or in a team
supporting and developing STEM knowledge and understanding for individuals or small groups
collaborating and sharing on STEM research and outreach

On completion of the award, the Young STEM Leader will be able to plan, lead and evaluate STEM activities, events and interactions which promote the impact of STEM.

The approximate completion time is 30 hours.

On completion Young STEM Leaders will gain 3 SCQF credit points.

The award is included on Insight.



Gathering and Approving Evidence

The Young STEM Leader Project Team at SSERC has provided a YSL4 (F) Log for this qualification. Young STEM Leaders should complete this as they progress through the programme. Evidence is gathered and entered by the young person which is then assessed and approved by the trained Tutor Assessor (TA). The YSL4 (F) Log can be completed, assessed and approved using the following methods:

practical observation or videos/photos/voice recordings
questioning of underpinning knowledge and understanding – verbally or via worksheets
completion of plans and evaluations during the course
any other suitable/reasonable method

The YSL4 (F) Log is available via the online platform or as a hard copy.

Accessibility

Reasonable adjustments can and should be made to support young people to complete the YSL4 (F) Log. There should be no unnecessary barriers to participation and the needs of all should be planned for and supported by the centre.



YSL4 (F) Support Notes

Assessment Tasks

Evidence and Assessment Requirements

Young STEM Leaders must complete and be assessed and approved on the tasks below. The YSL4 (F) Log contains guidance and templates for completing the tasks. Assessment/approval decisions and feedback to the young person can also be completed in the YSL4 (F) Log.

What the young person needs to complete	Learning Outcomes, Performance Criteria and activity sessions associated to the task			What the Tutor Assessor needs to complete
Task 1 Improving leadership skills and qualities	LO1, 2	PC 1.1, 1.2, 2.1, 2.2	Session 2	Assessment table for Task 1
Task 2 Leadership and teamwork	LO3	PC 3.1, 3.2, 3.3	Session 3	Assessment table for Task 2
Task 3 The impact of STEM	LO4	PC 4.1, 4.2, 4.3, 4.4	Sessions 4 and 5	Assessment table for Task 3
Task 4 Identifying risks in STEM activities, events and interactions	LO5	PC 5.1, 5.2	Session 6	Assessment table for Task 4
Task 5 Plan, lead and evaluate STEM activities, events and interactions	LO2, 6, 7, 8	PC 2.3, 6.1, 7.1, 7.2, 7.3, 7.4, 8.1	Session 6 (Session 7 for Evaluation)	Assessment table for Task 5 - evidence assessment and practical observation assessment
YSL4 (F) Log	N/A		Session 7	Sign off the YSL4 (F) Log

Resources

The following documents are provided by SSERC to support the delivery and assessment of this qualification:


Programme Support Notes


YSL4 (F) Log


YSL4 (F) Activity Pack


YSL4 (F) Masterclass Slides


YSL4 (F) Standards Guidance


Verification and Quality Assurance documents [formal levels]

Training

The Young STEM Leader Project Team at SSERC offers ongoing support to each centre throughout their delivery of the Programme. The following training is offered:

- **Tutor Assessor training** – a minimum of one person per centre should complete Tutor Assessor (TA) training prior to delivery.
- **Internal Verifier training** – delivering centres require a second trained TA to internally verify a sample of Young STEM Leaders Logs. Where this is not possible or practicable, a trained TA from another centre can act as your IV.
- **Using the Young STEM Leader online platform.** Please see the videos and help guides on the website.

Training sessions for this level last between 1-2 hours. To register for training visit www.youngstemleader.scot or get in touch.

Policies

When agreeing to the Terms and Conditions, all delivering centres have acknowledged that the following policies are in place and accessible to both Young STEM Leaders and TAs as required:

- **Complaints policy**
- **Malpractice and maladministration policy**
- **Appeals policy**
- **Quality Assurance and Verification Policy**

SSERC will provide the above policies to centres on registration to deliver the Programme.

YSL4 (F) Support Notes

Qualification Units and Assessment Requirements

Unit title and outline	Teaching time (T)
	Contact time with tutor, acquisition of knowledge and understanding, tutor-led interaction, learning and teaching
Unit 1 – Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions	12 hrs

Assessment time (A)	Independent learning (I)	Total time	Credits
Completion of the YSL4 (F) Log and other activities (by the young person)	Developing skills, consolidating knowledge and understanding, planning, practice, reflection, research and study time *Includes minimum 4 hours delivery of STEM activities, events or interactions		
3 hrs	15* hrs	30	3

Units, Learning Outcomes and Assessment Criteria

Unit 1 –
Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
1. Understand the skills and qualities needed for effective, inclusive leadership	1.1 Identify the skills that are important for a leader to have
	1.2 Identify the qualities that are important for a leader to have
2. Be able to improve leadership skills and qualities	2.1 Identify strengths in their own leadership skills and qualities
	2.2 Outline how their own leadership skills and qualities can be improved
	2.3 Improve leadership skills and qualities

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Identify three skills that are important for a leader to have	Session 2 Task 1 – Improving leadership skills and qualities
Identify three qualities that are important for a leader to have	
Identify at least two strengths in their own leadership skills and two strengths in their own leadership qualities	
Identify at least one leadership skill and one leadership quality to improve as a Young STEM Leader	
Act to improve at least one leadership skill and one leadership quality as a Young STEM Leader	

YSL4 (F) Support Notes

Unit 1 –
Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
3. Understand how to work as part of a team in their learning community	3.1 Identify factors that contribute to a successful team, in STEM or elsewhere
	3.2 Identify members of their own learning community that could support the planning or delivery of a STEM activity, event or interaction
	3.3 Outline how to use their own skills and qualities to contribute to the success of a team

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Identify four factors of a successful team Identify at least two successful teams that have each shown at least one of these factors	Session 3 Task 2 – Leadership and teamwork
Identify at least three members of their learning community that could support the planning and delivery of STEM activities, events or interactions, such as: • peers • adults • family • STEM Ambassadors	
Outline how the Young STEM Leader will use their own skills and qualities to contribute to the success of a team	

YSL4 (F) Support Notes

Unit 1 –
Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
4. Understand how STEM activities, events and interactions can be used to demonstrate the impact of STEM	4.1 Identify positive impacts of STEM
	4.2 Outline issues relating to the impact of STEM
	4.3 Identify STEM developments in Scotland
	4.4 Outline the positive impact(s) of STEM that will be shared through the delivery of activities, events or interactions

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Identify one positive impact STEM has had for each of the following: • their own life • society • the environment	Session 4 and 5 Task 3 – The impact of STEM
Identify at least one negative impact of STEM State how the negative impact(s) could be challenged	
Identify two past or current examples of developments in STEM in Scotland, such as: • inventions • people • industries Identify the impact of each STEM development	
Select at least one positive impact of a given area of STEM that will be shared in the activities, events or interactions that will be led	

YSL4 (F) Support Notes

Unit 1 –
Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
5. Understand the importance of health and safety when leading STEM activities, events or interactions	5.1 Explain the importance of risk assessments for STEM activities, events and interactions
	5.2 Identify risks with a given STEM activity, event or interaction
6. Plan STEM activities, events or interactions	6.1 Plan a STEM activity, event or interaction

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Give two reasons why risk assessments are important for STEM activities, events and interactions	Session 6 Task 4 – Identifying risks in STEM activities, events or interactions
Identify at least two risks associated with a STEM activity, event or interaction that will be or is being led	
Plan a STEM activity, event or interaction that demonstrates the positive impact of STEM	Session 6 Task 5 – Plan, lead and evaluate STEM activities, events and interactions

YSL4 (F) Support Notes

Unit 1 –
Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
7. Be able to lead STEM activities, events or interactions (with reasonable assistance, supervision and/or support)	7.1 Lead a STEM activity, event or interaction
	7.2 Encourage participants to explore the positive impact of STEM
	7.3 Use effective communication when leading STEM activities, events or interactions
	7.4 Conclude a STEM activity, event or interaction effectively
8. Be able to review a STEM activity, event or interaction	8.1 Evaluate a STEM activity, event or interaction

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Lead a minimum total of 4 hours of STEM activities, events or interactions	STEM Leadership Hours Task 5 – Plan, lead and evaluate a STEM activity, event or interaction
Encourage participants to explore at least one positive impact of STEM relevant to the activity, event or interaction that is being delivered	
Make use of verbal and non-verbal communication methods on at least one occasion	
Conclude a STEM activity, event or interaction effectively to include: - a recap - collecting feedback from participants	
Review the STEM activity, event or interaction that has been led	Session 6 Session 7

Award Information

Objective:

The SCQF Level 5 Young STEM Leader Award is a nationally recognised qualification that enables young people to support, engage and inspire others in STEM in their school, community or youth group.

The course focusses on identifying current and future opportunities in STEM that are available to young people locally, nationally and internationally. Young STEM Leaders will deliver activities, events or interactions which share these current and future opportunities with others. In addition, Young STEM Leaders are encouraged to explore their own potential in STEM and how they may access the opportunities that STEM offers.

This can be through:

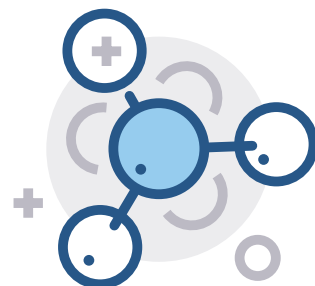
planning, creating and delivering STEM activities, events or interactions
supporting and developing STEM knowledge and understanding with individuals or small groups
collaborating and sharing on STEM research & outreach

On completion of the award, the Young STEM Leader will be able to plan, lead and evaluate STEM activities, events and interactions which promote opportunities in STEM.

The approximate completion time is 30 hours.

On completion Young STEM Leaders will gain 3 SCQF credit points.

This award is included on Insight.



Gathering and Approving Evidence

The Young STEM Leader Project Team at SSERC has provided a YSL5 Log for this qualification. Young STEM Leaders should complete this as they progress through the programme. Evidence is gathered and entered by the young person which is then assessed/ approved by the trained Tutor Assessor (TA). The YSL5 Log can be completed and assessed/ approved using the following methods:

practical observation or videos/ photos/ voice recordings
questioning of underpinning knowledge and understanding – verbally or via worksheets
completion of plans and evaluations during the course
any other suitable/ reasonable method

The YSL5 Log is available via an online platform or as a hard copy.

Accessibility

Reasonable adjustments can and should be made to support young people to complete the YSL5 Log. There should be no unnecessary barriers to participation and the needs of all should be planned for and supported by the centre.

Assessment Tasks

Evidence and Assessment Requirements

Young STEM Leaders must complete and be assessed/ approved on the tasks below. The YSL5 Log contains guidance and templates for completing the task. Assessment/ approval decisions and feedback to the young person can also be completed in the YSL5 Log.

What the young person needs to complete	Learning Outcomes, Performance Criteria and activity sessions associated to the task			What the Tutor Assessor needs to complete
Task 1 The skills, qualities and behaviours required for STEM leadership	LO1	PC 1.1, 1.2	Session 1 and/or 2	Assessment table for Task 1
Task 2 Set an action plan to develop STEM leadership skills, qualities and behaviours	LO2	PC 2.1, 2.2, 2.3, 2.4	Session 3	Assessment table for Task 2
Task 3 Identify the challenges involved with promoting opportunities in STEM	LO3	PC 3.1, 3.2, 3.3, 3.4	Session 4	Assessment table for Task 3
Task 4 Duty of care in STEM activities, events or interactions	LO4	PC 4.1, 4.2	Session 5	Assessment table for Task 4
Task 5 Identifying risks in STEM activities, events or interactions	LO5	PC 5.1, 5.2	Session 5	Assessment table for Task 5
Task 6 Plan, lead and evaluate STEM activities, events or interactions	LO6, 7, 8	PC 6.1, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 8.1	Session 6 (Session 7 for evaluation)	Assessment table for Task 6 - evidence assessment and practical observation assessment
YSL5 Log	N/A		Session 7	Sign off the YSL5 Log

Resources

To assist you with the delivery and assessment of this qualification SSERC will provide access to the following documents electronically:


Programme Support Notes


YSL5 Log


YSL5 Activity Pack


YSL5 Masterclass Slides


YSL5 Standards Guidance


Verification and Quality Assurance documents [formal levels]

Training

The Young STEM Leader Project Team at SSERC offers ongoing support to each centre throughout their delivery of the Programme. The following training is offered:

- **Tutor Assessor training** – a minimum of one person per centre should complete Tutor Assessor (TA) training prior to delivery.
- **Internal Verifier training** – delivering centres require a second trained TA to internally verify a sample of Young STEM Leaders Logs. Where this is not possible or practicable, a trained TA from another centre can act as your IV.
- **Using the Young STEM Leader online platform.** Please see the videos and help guides on the website.

Training sessions for this level last between 1-2 hours. To register for training visit www.youngstemleader.scot or get in touch.

Policies

When agreeing to the Terms and Conditions, all delivering centres have acknowledged that the following policies are in place and accessible to both Young STEM Leaders and TAs as required:

- **Complaints policy**
- **Malpractice and maladministration policy**
- **Appeals policy**
- **Quality Assurance and Verification Policy**

SSERC will provide the above policies to centres on registration to deliver the Programme.



Qualification Units and Assessment Requirements

Unit title and outline	Teaching time (T)
	Contact time with tutor, acquisition of knowledge and understanding, tutor-led interaction, learning and teaching
Unit 1 – Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions	12 hrs

Assessment time (A)	Independent learning (I)	Total time	Credits
Completion of the YSL5 Log and other activities (by the young person)	Developing skills, consolidating knowledge and understanding, planning, practice, reflection, research and study time *Includes minimum 4 hours delivery of STEM activities, events or interactions		
3 hrs	15* hrs	30	3

Units, Learning Outcomes and Assessment Criteria

Unit 1 –
Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
1. Understand the skills and qualities needed for effective, inclusive leadership	1.1 Describe the skills that an effective leader will need
	1.2 Describe the qualities that an effective leader will need
2. Be able to evaluate and develop leadership skills and qualities	2.1 Identify strengths in their own leadership skills and qualities
	2.2 Identify own leadership skills and qualities that can be improved
	2.3 Create an action plan for development of own leadership skills and qualities
	2.4 Develop leadership skills and qualities

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Describe at least three skills that an effective STEM leader will need and why they are necessary	Task 1 – The skills, qualities and behaviours required for STEM leadership
Describe at least three qualities that an effective STEM leader will need and why they are necessary	
Identify at least two strengths in their own leadership skills and two strengths in their own leadership qualities	Task 2 – Set an action plan to develop STEM leadership skills, qualities and behaviours
Identify at least two leadership skills and two leadership qualities to improve as a Young STEM Leader	
Create an action plan for the development of their own leadership skills and qualities as a Young STEM Leader	
Act to improve at least two leadership skills and two leadership qualities as a Young STEM Leader	

Unit 1 –
Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
3. Understand how STEM activities, events and interactions can be used to promote opportunities in STEM	3.1 Outline the opportunities that STEM offers
	3.2 Map own interests and skills against the opportunities that are available in STEM
	3.3 Outline the opportunities in STEM which can be shared through the delivery of activities, events and interactions
	3.4 Describe the issues/challenges involved with promoting opportunities in STEM

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Outline: • three local • two national • one international current or future opportunities in STEM	Task 3 – Identify the challenges involved with promoting opportunities in STEM
Compare own skills and interests against: • three local • two national • one international current or future opportunities in STEM	
Outline three opportunities in STEM from each setting below: • further education • higher education • the apprenticeship family	
Describe three issues/challenges involved with promoting opportunities in STEM State how the planned activity, event or interaction aims to overcome at least one of these issues/challenges	

YSL5 Support Notes

Unit 1 – Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
4. Understand how duty of care affects the safeguarding of participants	4.1 Describe what is meant by 'duty of care'
	4.2 Explain what the duty of care responsibilities are for a Young STEM Leader
5. Understand the importance of safety when leading STEM activities, events or interactions	5.1 Explain the importance of risk assessments for STEM activities, events and interactions
	5.2 Identify risks with a given STEM activity, event or interaction
6. Plan STEM activities, events or interactions	6.1 Plan a STEM activity, event or interaction

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Describe what is meant by 'duty of care'	Task 4 – Duty of care in STEM activities, events or interactions
Explain at least two responsibilities for a STEM leader	
Give three reasons why risk assessments are important for STEM activities, events and interactions	Task 5 – Identifying risks in STEM activities, events or interactions
Identify at least three risks associated with a STEM activity, event or interaction that will be or is being led	
Plan a STEM activity, event or interaction that includes promoting the range of current and future opportunities that are available in STEM	Task 6 – Plan, lead and evaluate STEM activities, events or interactions

YSL5 Support Notes

Unit 1 – Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
7. Be able to lead STEM activities, events or interactions	7.1 Lead a STEM activity, event or interaction
	7.2 Encourage participants to explore opportunities that are available in STEM
	7.3 Use effective communication when leading STEM activities, events or interactions
	7.4 Set ground rules for participants
	7.5 Show how the level of challenge of an activity, event or interaction can be changed
	7.6 Conclude a STEM activity, event or interaction effectively
8. Be able to evaluate a STEM activity, event or interaction	8.1 Evaluate a STEM activity, event or interaction

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Lead a minimum total of 4 hours of STEM activities, events or interactions	Task 6 – Plan, lead and evaluate STEM activities, events or interactions
Encourage participants to explore the range of current and future opportunities that are available in STEM	
Use a range of verbal and non-verbal communication methods effectively on more than one occasion	
Set two ground rules effectively on one occasion	
Explain how to make a change to the level of challenge of an activity, event or interaction on at least one occasion	
Conclude a STEM activity, event or interaction effectively to include: - a recap - collecting feedback from participants	Task 6 – Plan, lead and evaluate STEM activities, events or interactions
Evaluate the STEM activity, event or interaction that has been led	

Award Information

Objective:

The SCQF Level 6 Young STEM Leader Award is a nationally recognised qualification that enables young people to support, engage and inspire others in STEM in their school, community or youth group.

The course focusses on the skills, qualities and behaviours of a good leader and how Young STEM Leaders can act as positive role models. It also encourages Young STEM Leaders to consider how they can positively challenge the stereotypes, misconceptions and outdated views that exist in STEM.

This can be through:

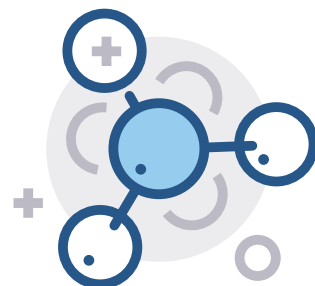
supporting and developing STEM knowledge and understanding with individuals or small groups
planning, creating and delivering a series of STEM activities, events or interactions
collaborating and sharing on STEM research & outreach

On completion of the award, the Young STEM Leader will be able to plan, lead and evaluate a series of STEM activities, events or interactions to engage and inspire others in STEM.

The approximate completion time is 40 hours.

On completion Young STEM Leaders will gain 4 SCQF credit points.

This award is included on Insight.



Gathering and Approving Evidence

The Young STEM Leader Project Team at SSERC has provided a YSL6 Log for this qualification. Young STEM Leaders should complete this as they progress through the programme. Evidence is gathered and entered by the young person which is then assessed/approved by the trained Tutor Assessor (TA). The YSL6 Log can be completed and assessed/ approved using the following methods:

practical observation or videos/ photos/ voice recordings
questioning of underpinning knowledge and understanding – verbally or via worksheets
completion of plans and evaluations during the course
any other suitable/ reasonable method

The YSL6 Log is available via an online platform or as a hard copy.

Accessibility

Reasonable adjustments can and should be made to support young people to complete the YSL6 Log. There should be no unnecessary barriers to participation and the needs of all should be planned for and supported by the centre.

Assessment Tasks

Evidence and Assessment Requirements

Young STEM Leaders must complete and be assessed/ approved on the tasks below. The YSL6 Log contains guidance and templates for completing the task. Assessment/ approval decisions and feedback to the young person can also be completed in the YSL6 Log.

What the young person needs to complete	Learning Outcomes, Performance Criteria and activity sessions associated to the task			What the Tutor Assessor needs to complete
Task 1 The skills and qualities required for STEM leadership	LO 1	PC 1.1, 1.2, 1.3	Session 2	Assessment table for Task 1
Task 2 Evaluate and develop STEM leadership skills and qualities (Personal Development Plan)	LO 2	PC 2.1, 2.2, 2.3, 2.4	Session 3 (and Session 7)	Assessment table for Task 2
Task 3 Research and identify issues and challenges in STEM	LO 3	PC 3.1	Session 4	Assessment table for Task 3
Task 4 Duty of care and safeguarding when leading STEM activities, events or interactions	LO 4	PC 4.1, 4.2, 4.3, 4.4	Session 5	Assessment table for Task 4
Task 5 Completing risk assessments for STEM activities, events or interactions	LO 5	PC 5.1	Session 5	Assessment table for Task 5
Task 6A Plan, lead and evaluate a series of STEM activities, events or interactions	LO 6	PC 6.1	Session 6	Sign off planning template for task 6A
Task 6B, 7A/B and 8A/B Plan, lead and evaluate a series of STEM activities, events or interactions	LO 6, 7, 8	PC 6.1, 7.1, 7.2, 7.3, 8.1	Delivery of activities, events or interactions Session 7	Sign off planning templates for 7A, 8A, associated risk assessments, Practical Observation checklist and assessment table for task 6-8.
YSL6 Log	NA		Session 7	Sign off the YSL6 Log

Resources

To assist you with the delivery and assessment of this qualification SSERC will provide access to the following documents electronically:


Programme Support Notes


YSL6 Log


YSL6 Activity Pack


YSL6 Masterclass Slides


YSL6 Standards Guidance


Verification and Quality Assurance documents [formal levels]

Training

The Young STEM Leader Project Team at SSERC offers ongoing support to each centre throughout their delivery of the Programme. The following training is offered:

- **Tutor Assessor training** – a minimum of one person per centre should complete Tutor Assessor (TA) training prior to delivery.
- **Internal Verifier training** – delivering centres require a second trained TA to internally verify a sample of Young STEM Leaders Logs. Where this is not possible or practicable, a trained TA from another centre can act as your IV.
- **Using the Young STEM Leader online platform.** Please see the videos and help guides on the website.

Training sessions for this level last between 1-2 hours. To register for training visit www.youngstemleader.scot or get in touch.

Policies

When agreeing to the Terms and Conditions, all delivering centres have acknowledged that the following policies are in place and accessible to both Young STEM Leaders and TAs as required:

- **Complaints policy**
- **Malpractice and maladministration policy**
- **Appeals policy**
- **Quality Assurance and Verification Policy**

SSERC will provide the above policies to centres on registration to deliver the Programme.



Qualification Units and Assessment Requirements

Unit title and outline	Teaching time (T)
	Contact time with tutor, acquisition of knowledge and understanding, tutor-led interaction, learning and teaching
Unit 1 – Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions	12 hrs

Assessment time (A)	Independent learning (I)	Total time	Credits
Completion of the YSL6 Log and other activities (by the young person)	Developing skills, consolidating knowledge and understanding, planning, practice, reflection, research and study time *Includes minimum 4 hours delivery of STEM activities, events or interactions		
8 hrs	20* hrs	40	4

Units, Learning Outcomes and Assessment Criteria

Unit 1 –
Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
1. Understand the skills and qualities needed for effective, inclusive leadership	1.1 Describe the skills that an effective leader will need
	1.2 Describe the qualities that an effective leader will need
	1.3 Explain why the identified skills and qualities will be necessary for effective, successful leadership
2. Be able to evaluate and develop leadership skills and qualities	2.1 Select and use methods and tools to evaluate their own leadership skills and leadership qualities
	2.2 Analyse the evaluation of leadership skills and leadership qualities to identify areas in need of own development
	2.3 Create a Personal Development Plan to improve their own leadership skills and leadership qualities
	2.4 Develop leadership skills and leadership qualities

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Describe at least five skills that an effective STEM leader will need and why they are necessary	Session 2 Task 1 – The skills and qualities required for STEM leadership
Describe at least five qualities that an effective STEM leader will need and why they are necessary	
Describe one positive effect that each skill and quality will have on: • The young person • The STEM activity, event or interaction a young person will lead • The participants	
Evaluate at least five of their own leadership skills and five of their own leadership qualities using at least one evaluation method	Session 3 Task 2 – Evaluate and develop STEM leadership skills and qualities <i>(Action Plan Review to be completed at the end of the Programme)</i>
Highlight at least two leadership skills and two qualities to improve on as a STEM leader	
Create a Personal Development Plan that explains how they will improve at least two leadership skills and two qualities as a STEM leader	
Review Personal Development Plan of at least two leadership skills and two qualities as a STEM Leader <i>(to be completed at the end of the Programme)</i>	

YSL6 Support Notes

Unit 1 –

Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
3. Understand the purpose of STEM activities, events and interactions	3.1 Outline the challenges that STEM activities, events or interactions aim to overcome
4. Understand how duty of care affects the safeguarding of participants	4.1 Describe what is meant by 'duty of care'
	4.2 Explain what the 'duty of care' responsibilities are for a STEM leader
	4.3 Describe what is meant by 'safeguarding'
	4.4 Describe how they will fulfil the duty of care they have towards those they lead
5. Understand how to maximise safety when leading STEM activities, events or interactions	5.1 Complete risk assessments for STEM activities, events or interactions
6. Plan a series of STEM activities, events or interactions	6.1 Plan a series of STEM activities, events or interactions

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Outline two local, two national and two international challenges in STEM State one challenge in STEM that the planned activity, event or interaction aims to overcome	Session 4 Task 3 – Research and identify issues and challenges in STEM
Describe what is meant by 'duty of care'	Session 5 Task 4 – Duty of care and safeguarding when leading STEM activities, events and interactions
Explain at least two responsibilities for a STEM leader	
Describe what is meant by 'safeguarding'	
Describe at least two ways that they will fulfil their duty of care responsibilities to those that they lead	
Complete a risk assessment for a high-risk activity, event or interaction Complete a risk assessment for a low-risk activity, event or interaction	Session 5 Task 5 – Completing risk assessments for STEM activities, events or interactions
Plan a minimum of three linked STEM activities, events or interactions that show progression from one activity to the next	Session 6 Task 6A – Plan, lead and evaluate a series of STEM activities, events or interactions

YSL6 Support Notes

Unit 1 – Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions (continued)

Learning Outcome (LO) <i>The young person will...</i>	Performance Criteria (PC) <i>The young person must be able to...</i>
7. Be able to lead a series of STEM activities, events or interactions	7.1 Lead a series of STEM activities, events or interactions
	7.2 Use effective motivational methods to inspire the participants in STEM activities, events or interactions
	7.3 Use effective communication when leading STEM activities, events or interactions
	7.4 Use effective strategies to manage the quality of participant(s)
	7.5 Adapt the session effectively in line with the needs of the participant(s)
	7.6 Conclude a STEM activity, event or interaction effectively
8. Be able to evaluate a series of STEM activities, events or interactions	8.1 Evaluate a series of STEM activities, events or interactions

Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
Lead a minimum total of 4 hours of STEM activities, events or interactions	STEM Leadership Hours Task 6B (once first activity, event or interaction has been delivered) Task 7A & 7B (linked to delivery of the second activity, event or interaction) Task 8A & 8B (linked to delivery of the third activity, event or interaction)
Use a range of motivational methods to inspire participants effectively on more than one occasion	
Use a range of verbal and non-verbal communication methods effectively on more than one occasion	
Use quality management methods effectively on at least one occasion	
Adapt a session in line with the participant(s) needs on at least one occasion	
Conclude a STEM activity, event or interaction effectively to include: • A recap of the activity • Gaining feedback from participants • Issuing instructions for future sessions	
Evaluate at least three linked STEM activities, events or interactions that have been led	Session 7 STEM Leadership Log

SL7 Support Notes

Award Information

The SCQF Level 7 Award in STEM Leadership has been developed in partnership with Ocean Winds. It enables candidates +16 years (STEM Leaders) to improve their leadership skills and qualities through ownership and development of a STEM research project. Leadership is embedded throughout the programme as candidates will :

actively reflect on their leadership skills and qualities
generate their own research question whilst considering how it links to the UN Sustainable Development Goals and Learning for Sustainability themes.
undertake independent research to answer their question with support from relevant others, to ensure they are setting their work in context of real-life factors.
manage, document and share the results of their work

The approximate completion time for the award is 60 hours.

On completion STEM Leader will gain 6 SCQF Credit Points.

This Award is included in Insight.

“Ocean Winds made an early commitment to support STEM education in Scottish schools by partnering with SSERC. Part of the strength in that partnership has been SSERC’s understanding of needs and opportunities. We therefore welcomed the chance to fund SL7, extending the well regarded Young STEM Leader programme. The feedback about SL7 and the Ocean Winds support has been fantastic and reinforces our belief that we are making a difference in encouraging students towards STEM related careers, including in our offshore wind sector.”

Mark Baxter, Caledonia Offshore Wind Farm Project Director



Gathering and Approving Evidence

The Young STEM Leader project Team at SSERC has provided a SL7 Log for this Award. SLs should complete this as they progress through the programme. Evidence is gathered and entered by the STEM Leader which is then assessed/approved by the trained Tutor Assessor (TA). The SL7 Log can be completed and assessed/approved using the following methods:

practical observation or videos/photos/voice recordings
questioning of underpinning knowledge and understanding – verbally or via worksheets
completion of plans and evaluations during the course
any other suitable/reasonable method

The SL7 Log is available via an online platform or as a hard copy.

Accessibility

Reasonable adjustments can and should be made to support young people to complete the SL7 Log. There should be no unnecessary barriers to participation and the needs of all should be planned for and supported by the centre.

An icon depicting two stylized human figures, one slightly behind the other, representing support or accessibility.

SL7 Support Notes

Assessment Tasks

Evidence and Assessment Requirements

STEM Leaders (SLs) must complete and be assessed/approved on the tasks below. The SL7 Log contains guidance and templates for completing the task. Assessment/approval decisions and feedback to the STEM Leader can also be completed in the SL7 Log.

What the STEM Leader needs to complete	Learning Outcomes, Performance Criteria and activity sessions associated to the task			What the Tutor Assessor needs to complete
Task 1A and 1B Evaluating and improving leadership skills and qualities	LO 1	PC. 1.1, 1.2, 1.3	Session 1	Assessment table for Task 1A and 1B
		PC. 1.4	Session 2	
Task 2 Developing your project question	LO 2	PC 2.1, 2.2, 2.3, 2.4	Session 3 & Session 4	Assessment table for Task 2
Task 3 Identifying others who may support your project	LO 3	PC 3.1, 3.2, 3.3, 3.4	Session 5	Assessment table for Task 3 (ensuring you have approved 3.4, the final project question)
Task 4 Develop a method and timeline to gather evidence for their project question	LO 4	PC 4.1, 4.2, 4.3	Session 6	Assessment table for Task 4
Task 5 Gathering, analysing and processing your data	LO 5	PC 5.1, 5.2, 5.3	Session 7	Assessment table for Task 5
Task 6 Presenting your findings and evaluating impact	LO 6	PC. 6.1, 6.2, 6.3, 6.4, 6.5	Session 8 & Session 9 Presentation of results in chosen format	Assessment table for Task 6
SL7 Log	N/A			Sign off the SL7 Log

Resources

To assist you with the delivery and assessment of this Award, SSERC will provide access to the following documents electronically:



**Programme
Support Notes**



**SL7
Log**



**SL7
Activity Pack**



**Verification and Quality
Assurance documents**

Training

The Young STEM Leader Project Team at SSERC offers each centre ongoing support throughout their delivery of the Programme. The following training is offered:

- **Tutor Assessor training** – a minimum of one person per centre should complete Tutor Assessor (TA) training prior to delivery. Registration for training can be done online at www.youngstemleader.scot
- **Internal Verifier training** – delivering centres will require someone other than the TA to internally verify a sample of completed SL7 Logs. Where this is not possible or practicable, the project team can act to support the centre.
- **Using and interacting with the Young STEM Leader online platform.**

All training is offered online or face-to-face.

Policies

When agreeing to the Terms and Conditions, all delivering centres have acknowledged that the following policies are in place and accessible to both SLs and TAs as required:

- **Complaints policy**
- **Malpractice and maladministration policy**
- **Appeals policy**
- **Quality Assurance and Verification Policy**
- **Privacy and GDPR Compliance Policy**

Available on our website under the Programme tab. SSERC will provide the above policies to centres on registration to deliver the Programme.



SL7 Support Notes

Qualification Units and Assessment Requirements

Unit title and outline	Teaching time (T)	Assessment time (A)	Independent learning (I)	Total time	Credits
	Contact time with tutor, acquisition of knowledge and understanding, tutor-led interaction, learning and teaching	Completion of the SL7 Log and other activities (by the STEM Leader)	Developing skills, consolidating knowledge and understanding , planning, researching, gathering and analysing evidence, presenting and reflection time		
Unit 1 – Developing leadership skills and qualities to plan, lead, evaluate and present an independent STEM research project	10 hrs	10 hrs	40 hrs	60	6

SL7 Support Notes

Units, Learning Outcomes and Assessment Criteria

Learning Outcome (LO) <i>The STEM Leader will...</i>	Performance Criteria (PC) <i>The STEM Leader must be able to...</i>	Minimum action required <i>The STEM Leader must...</i>	Associated activity sessions and tasks
1. Evaluate and improve their own existing leadership skills and qualities	1.1 Research and describe the skills and qualities that are required for successful leadership	Describe five key leadership skills and five key leadership qualities they will measure and evaluate in themselves	Session 1 Session 2 Task 1A and 1B – Evaluating and improving leadership skills and qualities
	1.2 Use research tools, methods or resources that allow leadership skills and qualities to be measured and evaluated by self and others	Identify an appropriate tool, method or resource that will be used to measure and evaluate their own leadership skills and qualities	
	1.3 Measure and evaluate own leadership skills and qualities using the views of self and others (at the start of the project)	Carry out an evaluation of their own leadership skills and qualities using their own views and the views of at least two other people, one of which should have leadership experience	
	1.4 Explain how they will improve leadership skills and qualities	Create a Personal Development Plan that explains how they will improve leadership skills and qualities	
2. Identify a research project question considering the UN Sustainable Development Goals and Learning for Sustainability (LfS) Themes	2.1 Demonstrate an understanding of the UN Sustainable Development Goals in the context of society, the environment or the economy (people, planet or prosperity)	Describe two UN Sustainable Development Goals that relate to each of the following contexts: • Society (people) • Environment (planet) • Economy (prosperity)	Session 3 Session 4 Task 2 – Developing your project question
	2.2 Develop a draft project question	State a draft project question	
	2.3 Identify relevant UN Sustainable Development Goals as the project question is developed	Identify at least one specific UN Sustainable Development Goal that links to the project question	
	2.4 Identify relevant LfS theme(s) that link to the project question	Identify at least one relevant LfS theme(s) that links to the project question and justify the choice	

SL7 Support Notes

Units, Learning Outcomes and Assessment Criteria

Learning Outcome (LO) <i>The STEM Leader will...</i>	Performance Criteria (PC) <i>The STEM Leader must be able to...</i>	Minimum action required <i>The STEM Leader must...</i>	Associated activity sessions and tasks
3. Appraise how an identified individual(s), group(s) or organisation(s) can support their project	3.1 Identify a relevant individual(s), group(s) or organisation(s) whose work relates to, and can support the project	Identify at least one individual, group or organisation that could inform, advise or contribute to the project	Session 5 Task 3 – Identifying others who may support your project
	3.2 Describe the potential impact that the support from the individual(s), group(s) or organisation(s) might have on the project	Describe the intended outcome(s) that the information, advice or contributions from the individual(s), group(s) or organisation(s) will have on the project	
	3.3 Review the draft project question with the individual(s), group(s), organisation(s) whose work relates to the project and/or with the Tutor Assessor, to support the development of the final project question	Review the draft project question, using information, advice or contributions from the individual(s), group(s) or organisation(s) to produce the final project question	
	3.4 Develop a final project question	State a final project question	
4. Develop a method and timeline to gather evidence for their project question	4.1 Investigate the range of ways that STEM professionals gather evidence and report findings	Investigate and identify at least three methods that STEM professionals use to gather evidence and report findings	Session 6 Task 4 – Planning your research
	4.2 Select an appropriate method for the project to be completed using the SMART framework	Produce a method statement for the project using SMART Goals headings	
	4.3 Produce a project timeline for gathering results, analysing and sharing results and finding solutions	Create a project timeline that details how and when the STEM Leader will gather, analyse and share results of the project.	

SL7 Support Notes

Units, Learning Outcomes and Assessment Criteria

Learning Outcome (LO) <i>The STEM Leader will...</i>	Performance Criteria (PC) <i>The STEM Leader must be able to...</i>	Minimum action required <i>The STEM Leader must...</i>	Associated activity sessions and tasks
5. Gather, analyse and share results using appropriate methods	5.1 Gather and analyse results/data for the project question	Use appropriate methods to gather results/data that are relevant to the project question	Session 7 Task 5 – Gathering, analysing and processing your data
	5.2 Share the results of the project with the supporting individual(s), group(s), organisation(s) and/ or Tutor Assessor to gather their feedback/advice, making appropriate adjustments or amendments as required	Engage with the supporting individual(s), group(s), organisation(s) or Tutor Assessor to discuss and review the progress of the project	
	5.3 Identify ways to share the final project	Identify and select one method which will be used to share the final project	
6. Presenting your findings and evaluating impact	6.1 State a conclusion that answers the project question	State at least one conclusion that answers the project question	Session 8 Session 9 Task 6 – Presenting your findings and evaluating impact
	6.2 Evaluate the impact of the project in terms of the identified UN Sustainable Development Goals	Evaluate how successfully the research question has been answered, linking to the identified UN Sustainable Development Goal(s)	
	6.3 Present the project findings to an identified audience	Present using an appropriate method, the completed project findings to an identified audience	
	6.4 Gather and evaluate feedback from the audience	Use at least one method to gather and evaluate feedback from the audience on the impact and/or success of the project	
	6.5 Explain how they have improved their leadership skills and qualities	Explain how they have improved the leadership skills and qualities set out in their Personal Development Plan	



Contact



youngstemleader@ssec.scot



[@YoungSTEMLeader](https://twitter.com/YoungSTEMLeader)



www.youngstemleader.scot



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Carbon Captured Material

