

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

Programme Handbook

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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, the YSLP is helping to solve this issue.

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.

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 schools, communities or youth groups.

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 (YSLs) 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 Scottish Government-funded YSLP is led by SSERC in partnership with the four Scottish Science Centres, three Scottish STEM Ambassador Hubs, Science Festivals, Young Scot, YouthLink Scotland, Science Skills Academy, Education Scotland and the Scottish Mentoring Network.



The YSLP is offered in two versions:

Non-formal version, digitally badged or certificated

Formal version, SCQF credit rated by SQA

The **non-formal** version of the programme is offered at CfE Second, Third and Fourth Levels (YSL2, YSL3 and YSL4) 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 and 6 (YSL4, YSL5 and YSL6), credit rated by SQA and underpinned by learning outcomes and performance criteria for each level. SCQF credit points and Insight data are included within the formal version of the programme.



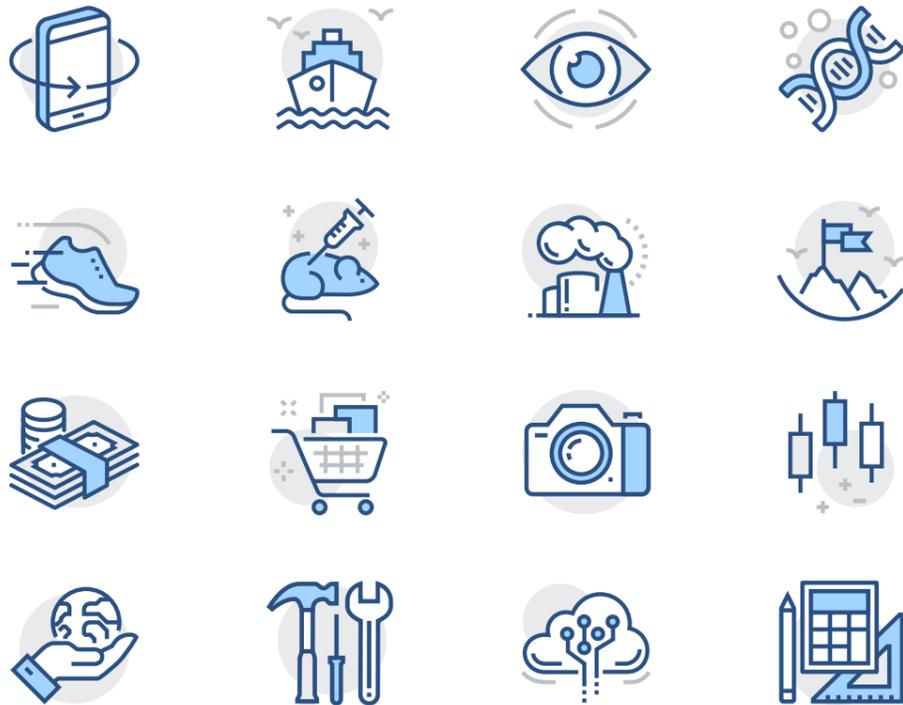
Completing the programme will be of great value to Scotland's young people, increasing access to the many exciting and engaging experiences that STEM offers, building key skills in the process. It is anticipated that YSLs will be inspired to become STEM Ambassadors when they complete the upper levels of the programme.

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. YSLs 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

In the non-formal version of the programme, there are four elements, linked directly to the four badges completed by YSLs: Discover, Create, Inspire and Lead. As YSLs 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 programme is open to all young people in Scotland and it can be delivered within a school, community or youth group setting. It can be integrated with existing awards and programmes that a young person may hold or be working towards.

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 will typically be schools, community groups or registered youth work organisations in Scotland. Any organisation that works with young people and with staff who are members of the PVG scheme can become a YSLP delivering centre.



Staff training

The Project Team at SSERC recommends that a centre has two or more trained Tutor Assessors (TAs): one to deliver the programme and another to act as the Internal Verifier (IV). For centres who have only one trained TA it is acceptable for a trained TA from another delivering centre to act as their IV. The Project Team at SSERC provides training for these roles, available on a rolling basis either online or face-to-face. Training typically takes 1.5 hours (for each version of the programme) and upon completion, the newly trained TA can deliver the programme in their centre and internally verify programme delivery in their own, or another centre.

Centres are encouraged to have as many staff as possible trained to deliver the programme. This maximises the support on offer for YSLs and shows a collective commitment to meet the aims of the STEM Strategy. Having multiple trained TAs in a centre further simplifies the verification process as the TA and IV can easily share information and coordinate their delivery and verification processes.

Trained TAs and YSLP delivering centres will be certificated by SSERC.



For YSLs

For prospective YSLs, 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 YSLs 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, YSLs 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. YSLs should also create and deliver STEM activities, events or interactions that are inclusive and accessible to all participants.



Progression

New YSLs 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. Similarly, for the formal version of the programme, YSL4 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 YSLs 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

Non-formal version of YSLP

Curriculum for Excellence Second, Third and Fourth levels



Primary schools

Secondary schools

Youth and community groups

Formal version of YSLP

SCQF Levels 4, 5 and 6 - Credit rated by SQA



College, FE, apprenticeships

Secondary schools

Youth and community groups

Post YSL6:



Benefits of the programme



For centres

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.

Based on the aims and aspirations of this programme, YSLP delivering centres can be considered as organisations who are motivated to deliver on the aims and objectives of the Scottish Government's Strategy for STEM Education and Training.

The programme also offers a unique and innovative way to deliver on: CfE Experiences and Outcomes; Skills and Benchmarks; Career Education Standard entitlements and expectations; and Learning for Sustainability (LFS).

The opportunities for YSLs to lead others' learning can also be captured and submitted as evidence for the Leadership in STEM element of Education Scotland's STEM Nation Awards programme.

The levels within the formal version of the programme are available on Insight for centres to gain the associated tariff points.



For centre staff

The opportunities for YSLs to lead others' learning can also be captured by the centre and submitted as evidence for the Leadership in STEM element of Education Scotland's *STEM Nation Award*.



For YSLs

The programme allows young people to develop their personal skills, qualities and behaviours in a STEM leadership context. By delivering STEM activities, events or interactions in their schools, community or youth group, YSLs will consolidate their existing knowledge and understanding of the STEM concepts being delivered, as well as:

- developing skills for the 21st century;
- building confidence and resilience through a leadership role;
- developing employability and career-management skills;
- increasing STEM literacy, awareness and appreciation;
- preparing skills and experiences for the ever-changing world.

YSLs can deliver activities, events or interactions individually or as part of a group and can also offer one-to-one support to their peers. The activities, events and interactions delivered by YSLs should be varied and their participants need not always be younger in age than the YSLs.



For participants of the STEM activities, events and interactions

By engaging with their peers, YSLs will have a positive impact on their own STEM capital (STEM-related knowledge, skills, attitudes, experiences and social contacts). It is hoped that participants will be enthused and inspired by these positive role models, encouraging them to consider STEM as a potential pathway. In addition, these participants may consider becoming YSLs themselves.

Evidencing the programme journey in the Log

All the experiences and evidence YSLs gather should be entered in their Log. This is a simple way to collate the evidence which leads to the full YSLP Award for the relevant level.

Entries should be made after any work is completed on the programme. High-frequency entries which fulfil the required standards will allow a YSLP Award to be gained with relative ease. It is acceptable that alternative methods of evidence entry, such as voice recordings, videos and photographs, are used.

YSLs are also encouraged to enter additional STEM experiences in their Log, for example, attending their local science centre or taking part in a STEM talk or challenge. This will add value to the Log, especially if they can evidence that they have reflected on, shared and promoted their experience to others in an inspiring way.

The Log is accessed and completed digitally. Hard copies are available on request.

For digital users, TAs will be alerted each time a Young STEM Leader updates their Log, prompting them to view what has been entered and ideally, approve the evidence with one click.

The Project Team at SSERC provides training and ongoing support regarding the Log and YSLP website.



YSLP Non-formal version

Each element – Discover, Create, Inspire and Lead – in the non-formal version of the programme carries a digital badge and signifies its own unique area of the programme. These are awarded by the TA when YSLs have met the required standards set out in the relevant level support notes and they have evidenced this in their Log. Completing all four elements and gaining the associated badges at one level of the programme earns them their full Young STEM Leader Award. This is the final, overarching award for the programme at that level and they will receive a certificate to recognise this.



In the Discover Badge, YSLs 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 YSLs do, but it is an ideal place to start the journey.



In the Create Badge, YSLs put their planning skills and imagination to work. Creativity is everywhere in STEM and YSLs 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. YSLs 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, YSLs 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 YSLs 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 YSLs 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, YSLs 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 YSLs 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

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Discover the meaning and importance of STEM</p> 	<ul style="list-style-type: none"> • the meaning of STEM and examples of how it is relevant and important to our lives; • the wide variety of STEM applications; • the stereotypes, misconceptions and outdated views associated with STEM; • 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. 	<ul style="list-style-type: none"> • demonstrate an understanding of STEM; <ul style="list-style-type: none"> - 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; <ul style="list-style-type: none"> - 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; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - The area/topic, aim, what was learned, etc. 	<p>Log entry for Discover</p>

YSL2 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Create and plan a STEM activity, event or interaction</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • provide a description for each STEM activity, event or interaction the young person will lead; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - Reflect and identify improvements for future events 	<p>Log entry for Create</p>

YSL2 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Inspire others in STEM</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • provide a definition of inspiration; <ul style="list-style-type: none"> - Discuss what it is to be inspired or use own words to describe inspiration • describe how people can be inspired; <ul style="list-style-type: none"> - By others - By events or experiences • research an inspirational person, people, event or development in STEM; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - Discuss with group/team/staff/others how inspirational the activity, event or interaction was 	<p>Log entry for Inspire</p>

YSL2 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Lead a STEM activity, event or interaction</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • provide a definition of leadership; • research inspirational leaders – not necessarily in STEM – and the skills, qualities and behaviours that make them good leaders; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - The views of the young person themselves - The views of anyone who observed or took part in the activity, event or interaction 	<p>Log entry for Lead</p>

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Discover opportunities, pathways and futures in STEM</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • demonstrate an increasing awareness, understanding and appreciation of STEM; <ul style="list-style-type: none"> - 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); <ul style="list-style-type: none"> - 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; <ul style="list-style-type: none"> - 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). <ul style="list-style-type: none"> - 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 	<p>Log entry for Discover</p> <p>Observation Checklist</p>

YSL3 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Create and plan a STEM activity, event or interaction</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • provide a description for each STEM activity, event or interaction the young person will lead; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - Collect feedback from participants and any other people involved - Reflect and identify improvements for future events 	<p>Log entry for Create</p> <p>Observation Checklist</p>

YSL3 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Inspire others in STEM</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • describe how people can be inspired; <ul style="list-style-type: none"> - By others - By events or experiences • identify inspirational content in STEM opportunities, pathways or futures; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - Discuss with group/team/staff/others how inspirational the activity, event or interaction was 	<p>Log entry for Inspire</p> <p>Observation Checklist</p>

YSL3 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Lead a STEM activity, event or interaction</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • research inspirational leaders – not necessarily in STEM – and the skills, qualities and behaviours that make them good leaders; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - The views of the young person themselves - The views of anyone who observed or took part in the activity, event or interaction 	<p>Log entry for Lead</p> <p>Observation Checklist</p>

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Discover the positive impact of STEM</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • demonstrate an increasing awareness, understanding and appreciation of STEM; <ul style="list-style-type: none"> - Research and explain the importance of STEM - Develop knowledge and understanding in unfamiliar areas of STEM • explain the positive impact of STEM; <ul style="list-style-type: none"> - 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; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - Developments, innovations, industries, people, etc. - Past, current or future impact of these examples 	<p>Log entry for Discover</p> <p>Observation Checklist</p>

YSL4 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Create and plan a STEM activity, event or interaction</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • work effectively within their learning community; <ul style="list-style-type: none"> - 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; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - Collect feedback from participants and any other people involved - Reflect and identify improvements for future events 	<p>Log entry for Create</p> <p>Observation Checklist</p>

YSL4 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Inspire others in STEM</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> - 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 	<p>Log entry for Inspire</p> <p>Observation Checklist</p>

YSL4 Support Notes

Element	With support the Young STEM Leader should explore:	The Young STEM Leader should be able to:	Evidence
<p>Lead a STEM activity, event or interaction</p> 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • research successful teams in STEM and elsewhere; <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> - The overall impact - Their own views and anyone who observed or took part - Different ways of sharing feedback 	<p>Log entry for Lead</p> <p>Observation Checklist</p>

YSLP Formal version

Young STEM Leader Awards at SCQF Levels 4, 5 and 6 (YSL4, YSL5 and YSL6) are formal qualifications, credit rated by SQA, that enable young people to support, engage and inspire others in STEM in their schools, communities or youth groups. On completion of these awards, YSLs 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 focusses on identifying the impact of STEM on people, society and the environment locally, nationally and internationally. Young STEM Leaders (YSLs) will deliver activities, events or interactions which share this impact with others. In addition, YSLs 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. YSLs will deliver activities, events or interactions which share these current and future opportunities with others. In addition, YSLs 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, YSLs 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, YSLs will learn the importance of health and safety and safeguarding when leading learning experiences for others.

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.



YOUNGSTEM
leader

credit rated by



Formal version
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 (YSLs) will deliver activities, events or interactions which share this impact with others. In addition, YSLs 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

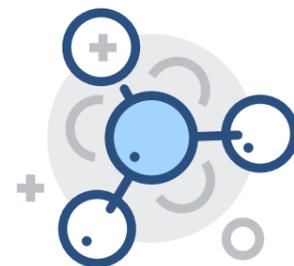
collaborating and sharing on STEM research and outreach

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 YSLs 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 Log for this qualification. YSLs 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 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 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 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

YSLs must complete and be assessed and approved on the tasks below. The YSL4 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 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 Log	N/A		Session 7	Sign off the YSL4 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



YSL4 Log



YSL4 Activity Pack



Verification and Quality Assurance documents

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. Registration for training can be done online at www.youngstemleader.scot

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 YSLs 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)	Assessment time (A)	Independent learning (I)	Total time	Credits
Unit 1 – Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions	Contact time with tutor, acquisition of knowledge and understanding, tutor-led interaction, learning and teaching 12 hrs	Completion of the YSL4 Log and other activities (by the young person) 3 hrs	Developing skills, consolidating knowledge and understanding, planning, practice, reflection, research and study time *Includes minimum 4 hours delivery of STEM activities, events or interactions 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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
1. Understand the skills and qualities needed for effective, inclusive leadership	1.1 Identify the skills that are important for a leader to have	Identify three skills that are important for a leader to have	Session 2 Task 1 – Improving leadership skills and qualities
	1.2 Identify the qualities that are important for a leader to have	Identify three 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	Identify at least two strengths in their own leadership skills and two strengths in their own leadership qualities	
	2.2 Outline how their own leadership skills and qualities can be improved	Identify at least one leadership skill and one leadership quality to improve as a Young STEM Leader	
	2.3 Improve leadership skills and qualities	Act to improve at least one leadership skill and one leadership quality as a Young STEM Leader	



YSL4 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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
<p>3. Understand how to work as part of a team in their learning community</p>	<p>3.1 Identify factors that contribute to a successful team, in STEM or elsewhere</p>	<p>Identify four factors of a successful team</p> <p>Identify at least two successful teams that have each shown at least one of these factors</p>	<p>Session 3</p> <p>Task 2 – Leadership and teamwork</p>
	<p>3.2 Identify members of their own learning community that could support the planning or delivery of a STEM activity, event or interaction</p>	<p>Identify at least three members of their learning community that could support the planning and delivery of STEM activities, events or interactions, such as:</p> <ul style="list-style-type: none"> • peers • adults • family • STEM Ambassadors 	
	<p>3.3 Outline how to use their own skills and qualities to contribute to the success of a team</p>	<p>Outline how the Young STEM Leader will use their own skills and qualities to contribute to the success of a team</p>	



YSL4 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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
4. Understand how STEM activities, events and interactions can be used to demonstrate the impact of STEM	4.1 Identify positive impacts of STEM	Identify one positive impact STEM has had for each of the following: <ul style="list-style-type: none"> • their own life • society • the environment 	Session 4 and 5 Task 3 – The impact of STEM
	4.2 Outline issues relating to the impact of STEM	Identify at least one negative impact of STEM State how the negative impact(s) could be challenged	
	4.3 Identify STEM developments in Scotland	Identify two past or current examples of developments in STEM in Scotland, such as: <ul style="list-style-type: none"> • inventions • people • industries Identify the impact of each STEM development	
	4.4 Outline the positive impact(s) of STEM that will be shared through the delivery of activities, events or interactions	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	

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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
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	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
	5.2 Identify risks with a given STEM activity, event or interaction	Identify at least two risks associated with a STEM activity, event or interaction that will be or is being led	
6. Plan STEM activities, events or interactions	6.1 Plan a STEM activity, event or interaction	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

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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
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	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
	7.2 Encourage participants to explore the positive impact of STEM	Encourage participants to explore at least one positive impact of STEM relevant to the activity, event or interaction that is being delivered	
	7.3 Use effective communication when leading STEM activities, events or interactions	Make use of verbal and non-verbal communication methods on at least one occasion	
	7.4 Conclude a STEM activity, event or interaction effectively	Conclude a STEM activity, event or interaction effectively to include: <ul style="list-style-type: none"> • a recap • collecting feedback from participants 	
8. Be able to review a STEM activity, event or interaction	8.1 Evaluate a STEM activity, event or interaction	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 (YSLs) will deliver activities, events or interactions which share these current and future opportunities with others. In addition, YSLs 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

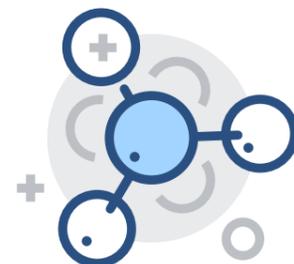
collaborating and sharing on STEM research & outreach

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 25 hours.

On completion YSLs 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. YSLs 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

YSLs 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	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	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	Assessment table for Task 3
Task 4 Duty of care in STEM activities, events or interactions	LO4	PC 4.1, 4.2	Assessment table for Task 4
Task 5 Identifying risks in STEM activities, events or interactions	LO5	PC 5.1, 5.2	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	Assessment table for Task 6 - evidence assessment and practical observation assessment
YSL5 Log	N/A		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



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 YSL5 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 YSLs 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)	Assessment time (A)	Independent learning (I)	Total time	Credits
Unit 1 – Developing skills and qualities to plan, lead and evaluate STEM activities, events or interactions	Contact time with tutor, acquisition of knowledge and understanding, tutor-led interaction, learning and teaching 12 hrs	Completion of the YSL5 Log and other activities (by the young person) 3 hrs	Developing skills, consolidating knowledge and understanding, planning, practice, reflection, research and study time *Includes minimum 4 hours delivery of STEM activities, events or interactions 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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
1. Understand the skills and qualities needed for effective, inclusive leadership	1.1 Describe the skills that an effective leader will need	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
	1.2 Describe the qualities that an effective leader will need	Describe at least three qualities that an effective STEM leader will need and why they are necessary	
2. Be able to evaluate and develop leadership skills and qualities	2.1 Identify strengths in their own leadership skills and qualities	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
	2.2 Identify own leadership skills and qualities that can be improved	Identify at least two leadership skills and two leadership qualities to improve as a Young STEM Leader	
	2.3 Create an action plan for development of own leadership skills and qualities	Create an action plan for the development of their own leadership skills and qualities as a Young STEM Leader	
	2.4 Develop leadership skills and qualities	Act to improve at least two leadership skills and two leadership qualities as a Young STEM Leader	



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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
3. Understand how STEM activities, events and interactions can be used to promote opportunities in STEM	3.1 Outline the opportunities that STEM offers	Outline: <ul style="list-style-type: none"> • three local • two national • one international current or future opportunities in STEM	Task 3 – Identify the challenges involved with promoting opportunities in STEM
	3.2 Map own interests and skills against the opportunities that are available in STEM	Compare own skills and interests against: <ul style="list-style-type: none"> • three local • two national • one international current or future opportunities in STEM	
	3.3 Outline the opportunities in STEM which can be shared through the delivery of activities, events and interactions	Outline three opportunities in STEM from each setting below: <ul style="list-style-type: none"> • further education • higher education • the apprenticeship family 	
	3.4 Describe the issues/challenges involved with promoting opportunities in STEM	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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
4. Understand how duty of care affects the safeguarding of participants	4.1 Describe what is meant by 'duty of care'	Describe what is meant by 'duty of care'	Task 4 – Duty of care in STEM activities, events or interactions
	4.2 Explain what the duty of care responsibilities are for a Young STEM Leader	Explain at least two responsibilities for a 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	Give three reasons why risk assessments are important for STEM activities, events and interactions	Task 5 – Identifying risks in STEM activities, events or interactions
	5.2 Identify risks with a given STEM activity, event or interaction	Identify at least three risks associated with a STEM activity, event or interaction that will be or is being led	
6. Plan STEM activities, events or interactions	6.1 Plan a STEM activity, event or interaction	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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
7. Be able to lead STEM activities, events or interactions	7.1 Lead a STEM activity, event or interaction	Lead a minimum total of 4 hours of STEM activities, events or interactions	Task 6 – Plan, lead and evaluate STEM activities, events or interactions
	7.2 Encourage participants to explore opportunities that are available in STEM	Encourage participants to explore the range of current and future opportunities that are available in STEM	
	7.3 Use effective communication when leading STEM activities, events or interactions	Use a range of verbal and non-verbal communication methods effectively on more than one occasion	
	7.4 Set ground rules for participants	Set two ground rules effectively on one occasion	
	7.5 Show how the level of challenge of an activity, event or interaction can be changed	Explain how to make a change to the level of challenge of an activity, event or interaction on at least one occasion	
	7.6 Conclude a STEM activity, event or interaction effectively	Conclude a STEM activity, event or interaction effectively to include: <ul style="list-style-type: none"> • a recap • collecting feedback from participants 	
8. Be able to evaluate a STEM activity, event or interaction	8.1 Evaluate a STEM activity, event or interaction	Evaluate the STEM activity, event or interaction that has been led	Task 6 – Plan, lead and evaluate STEM activities, events or interactions

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 YSLs can act as positive role models. It also encourages YSLs 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

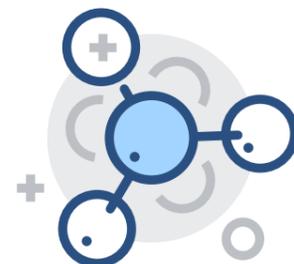
collaborating and sharing on STEM research & outreach

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 30 hours.

On completion YSLs 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 YSL6 Log for this qualification. YSLs 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

YSLs 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



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 YSL6 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 YSLs 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)	Assessment time (A)	Independent learning (I)	Total time	Credits
Unit 1 – Developing skills and qualities to plan, lead and evaluate a series of STEM activities, events or interactions	7 hrs	6 hrs	Developing skills, consolidating knowledge and understanding, planning, practice, reflection, research and study time *Includes minimum 4 hours delivery of STEM activities, events or interactions	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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
1. Understand the skills and qualities needed for effective, inclusive leadership	1.1 Describe the skills that an effective leader will need	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
	1.2 Describe the qualities that an effective leader will need	Describe at least five qualities that an effective STEM leader will need and why they are necessary	
	1.3 Explain why the identified skills and qualities will be necessary for effective, successful leadership	Describe one positive effect that each skill and quality will have on: <ul style="list-style-type: none"> • The young person • The STEM activity, event or interaction a young person will lead • The participants 	
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	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>
	2.2 Analyse the evaluation of leadership skills and leadership qualities to identify areas in need of own development	Highlight at least two leadership skills and two qualities to improve on as a STEM leader	
	2.3 Create a Personal Development Plan to improve their own leadership skills and leadership qualities	Create a Personal Development Plan that explains how they will improve at least two leadership skills and two qualities as a STEM leader	
	2.4 Develop leadership skills and leadership qualities	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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
3. Understand the purpose of STEM activities, events and interactions	3.1 Outline the challenges that STEM activities, events or interactions aim to overcome	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
4. Understand how duty of care affects the safeguarding of participants	4.1 Describe what is meant by 'duty of care'	Describe what is meant by 'duty of care'	Session 5 Task 4 – Duty of care and safeguarding when leading STEM activities, events and interactions
	4.2 Explain what the 'duty of care' responsibilities are for a STEM leader	Explain at least two responsibilities for a STEM leader	
	4.3 Describe what is meant by 'safeguarding'	Describe what is meant by 'safeguarding'	
	4.4 Describe how they will fulfil the duty of care they have towards those they lead	Describe at least two ways that they will fulfil their duty of care responsibilities to those that 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	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
6. Plan a series of STEM activities, events or interactions	6.1 Plan a series of 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>	Minimum action required <i>The young person must...</i>	Associated activity sessions and tasks
7. Be able to lead a series of STEM activities, events or interactions	7.1 Lead a series of STEM activities, events or interactions	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)
	7.2 Use effective motivational methods to inspire the participants in STEM activities, events or interactions	Use a range of motivational methods to inspire participants effectively on more than one occasion	
	7.3 Use effective communication when leading STEM activities, events or interactions	Use a range of verbal and non-verbal communication methods effectively on more than one occasion	
	7.4 Use effective strategies to manage the quality of participant(s)	Use quality management methods effectively on at least one occasion	
	7.5 Adapt the session effectively in line with the needs of the participant(s)	Adapt a session in line with the participant(s) needs on at least one occasion	
	7.6 Conclude a STEM activity, event or interaction effectively	Conclude a STEM activity, event or interaction effectively to include: <ul style="list-style-type: none"> • A recap of the activity • Gaining feedback from participants • Issuing instructions for future sessions 	
8. Be able to evaluate a series of STEM activities, events or interactions	8.1 Evaluate a series of STEM activities, events or interactions	Evaluate at least three linked STEM activities, events or interactions that have been led	Session 7 STEM Leadership Log



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