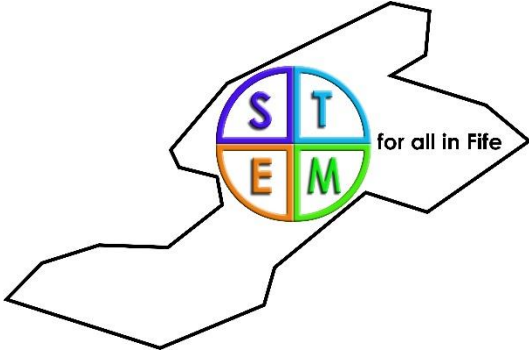
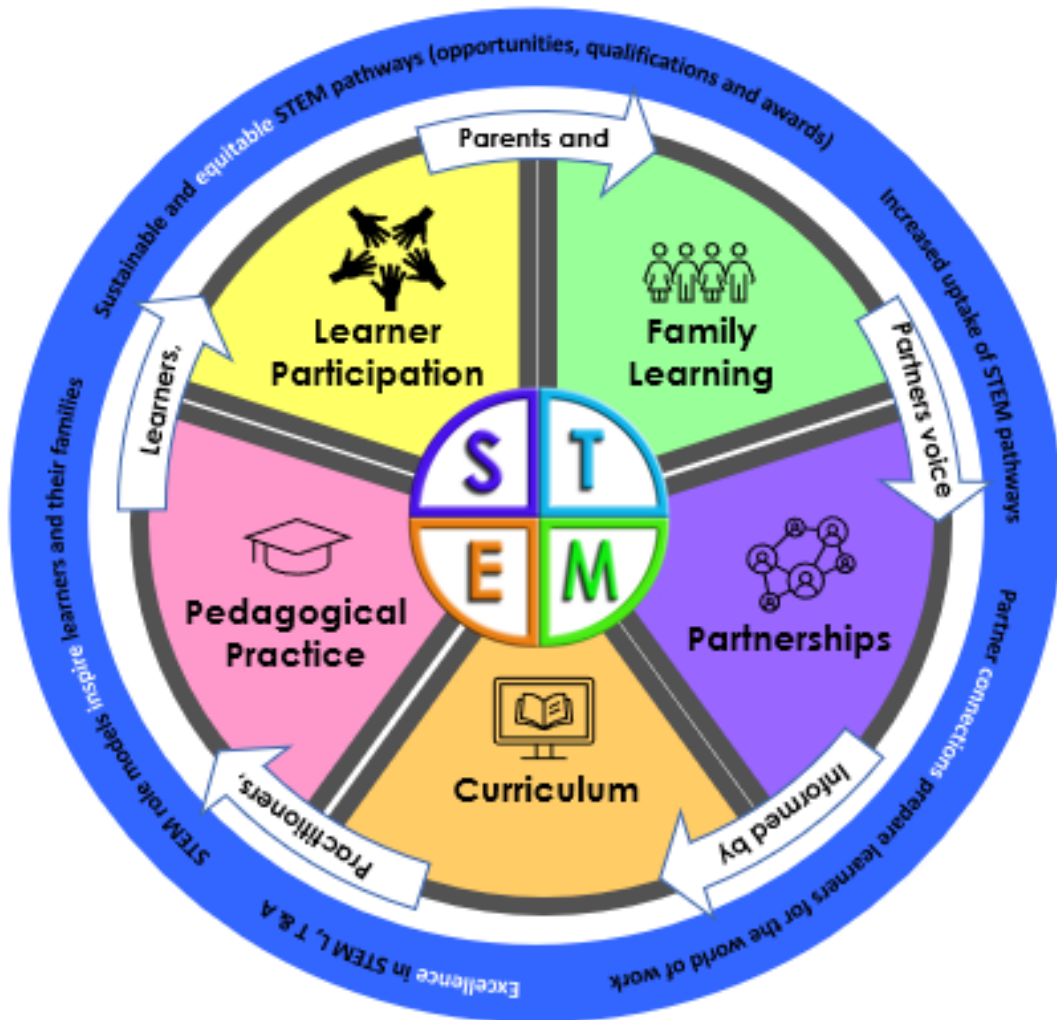




Education & Children's Services  
Improving life chances for all



# Framework 2021- 2024



## STEM for all in Fife Framework

This framework has been aligned to the Scottish Government's [STEM Education and Training Strategy for Scotland](#) (2017), [STEM Education and Training Strategy: Refresh](#) (2022) and the [Fife College STEM Strategy – Training the talent of today for the world of tomorrow](#) (2020), with reference to the following themes:

### Excellence

Labour market information and local partners and industries provides unique STEM contexts for school communities. Schools design a STEM curriculum which promotes STEM for all and is relevant, progressive, engaging, and enjoyable, providing appropriate opportunities for personalisation and choice. Curriculum pathways, design and planning should be responsive to changing labour market conditions and be well considered in terms of new global demands emerging. STEM learning, teaching and assessment is planned collaboratively across the totality of the curriculum providing rich opportunities for interdisciplinary learning. The STEM ethos and culture of Fife schools supports children and young people to develop the four capacities and positively influences future STEM pathways including opportunities for certification and achievement. High quality professional learning supports practitioners to develop the necessary STEM pedagogical knowledge, skills and confidence through learning with and from each other to impact on learners in the classroom.



### Equity

STEM for all in Fife recognises a sustained commitment to dispelling myths and misconceptions, raising awareness of unconscious bias and increasing diversity and equitable access to STEM opportunities (rurality, gender imbalance and social deprivation). Effective learner transitions will be supported by equality of support and resources.



### Inspiration

STEM ambassadors inspire all learners, families, and communities, by fostering positive attitudes and developing STEM capital to promote enhanced engagement with STEM opportunities and careers. Learners' STEM achievements recognised through the development of knowledge, skills and confidence as well as building links with local business and industry.



### Connection

Well embedded partner connections support Fife children and young people to develop the necessary STEM employability skills to enter future sustainable STEM pathways and the world of work.

### Other policy, documentation, and consultation

Additionally, this framework has been designed taking cognisance of:

- [OECD Scotland's Curriculum for Excellence Into the Future \(2021\)](#)
- [National Improvement Framework \(2017 – Priority 4\)](#)
- [Developing the Young Workforce: Scotland's Youth Employment Strategy \(2014\)](#)
- [STEM Self-evaluation and Improvement Framework](#)
- [Improving Gender Balance Self-Evaluation Framework](#)
- [Education and Children's Services Directorate Improvement Plan](#)
- [SDS Regional Skills Assessments Data Matrix](#)



Education Scotland, Fife College, DYW Fife, Fife Culture of Enterprise, ESP, RAiSE, and SSERC have been key collaborative partners in devising and quality assuring the Fife STEM for all Framework.

## National and Local Context

With a long-standing history of invention and innovation, Scotland remains deeply committed to equipping our young people with the STEM skills, knowledge, and capability to adapt and thrive in the 21<sup>st</sup> century. STEM (**science, technology, engineering, and mathematics**) education forms a core part of Curriculum for Excellence to inspire and develop the capacity of future generations.

There is no single definition for STEM. STEM can be conceived as a set of inter-related disciplines and required skills. STEM education seeks not only to develop expertise and capability in each individual field, but also to develop the ability to work across disciplines and generate new knowledge, ideas and products through inter-disciplinary learning (adapted from [Defining STEM](#), Education Scotland 2017).

The demand for STEM skills and associated qualifications is particularly high within the Kingdom of Fife which is home to many local, national and multinational employers. There is a huge need for Fife schools, Fife College, DYW Fife and business partners to work together productively to ignite opportunities and improve the pipeline of STEM learners through school to higher education and into future training and employment. Placing a focus on raising the STEM capital of children, young people and their families will open new horizons and awareness of the value of STEM employment opportunities.

Fife provides a unique and diverse context for a wealth of STEM opportunities now and in the future. Key STEM sectors include energy and renewables, manufacturing, finance and business, tourism, food and drink, health and social care, ICT, construction. Raising awareness of these employability opportunities and a sustained focus on growing these sectors, will ensure continued growth of Fife's economic prosperity.

## STEM Skills Gap

Scotland's Future Skills: action plan (Scottish Government 2021) places a strong emphasis on the demand for a future highly skilled workforce. However, from Labour Market Information it is evident that there is a mismatch between the skills in supply and demand required and that there is a STEM skills gap. Scotland's future workforce requires high levels of technical and core skills – such as interpersonal, problem-solving, enterprise and team-working. This can be achieved through a balance of school-based and in-work learning which develops STEM talent. Aligned to Fife College's Key Performance Indicators, this framework is aimed at getting the right people in the right places with the right skills

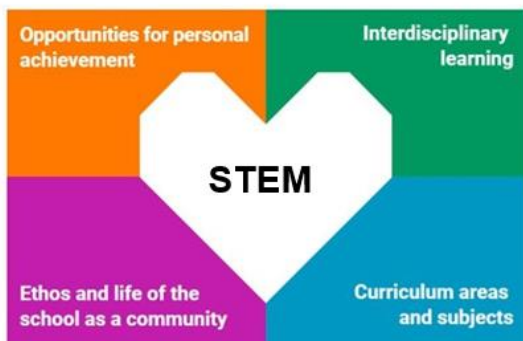
It is also recognised that STEM skills are closely entwined with the curriculum entitlement Learning for Sustainability (LfS). STEM skills are vital for researching, developing innovative approaches to sustainable solutions. Additionally, a focus on combining STEM and LfS literacies in authentic ways as part of the curriculum will ensure Fife's children and young people develop as global citizens who contribute to a sustainable flourishing future for the environment.

## Rationale

STEM education is a highly motivating and relevant way for children and young people to learn, within the broad general education phase of Curriculum for Excellence. As such STEM should be carefully planned and embedded through the totality of the curriculum as a rich interdisciplinary



learning experience which promotes the opportunities and benefits of STEM learning and future careers.



Further information and resources to support STEM school improvement can be accessed via the [Fife Curriculum Glow site](#).

Strong links between STEM and other interdisciplinary themes such as Learning for Sustainability, Digital Skills and Creativity provide opportunities for children and young people to explore their STEM learning in depth. Carefully planned learning opportunities can therefore support closing the future STEM skills gap by explicitly ensuring appropriate STEM progressive pathways and skills development. Additionally outdoor learning provides learners with opportunities to learn about the impact and contribution STEM makes to their lives, their communities and society.

As well as the new National Qualifications, which offer increased flexibility with a greater focus on skills and applying learning to real-life situations, there are also a wide range of SQA vocational qualifications and wider achievement awards linked to STEM which young people can take as part of their senior phase curriculum. Some examples include:

#### Learner recognition

- [Foundation Apprenticeships](#)
- [Young STEM Leader](#)
- [Crest Award](#)
- [Industrial Cadets Award](#)

#### School recognition

- [STEM Nation Award](#)
- [Digital Schools Award](#)
- [Green Flag Award \(Eco-schools\)](#)

Creating a STEM community which empowers schools, parents, learners and partners to foster links and engagement in positive STEM experiences will support an embedded and necessary focus on skills-based learning which raises STEM Capital. A focus on a core offer of sustainable programmes, experiences and opportunities will also ensure that learners build a portfolio of progressive learning and skills development throughout their journey 3-18 and beyond. (Appendix A)





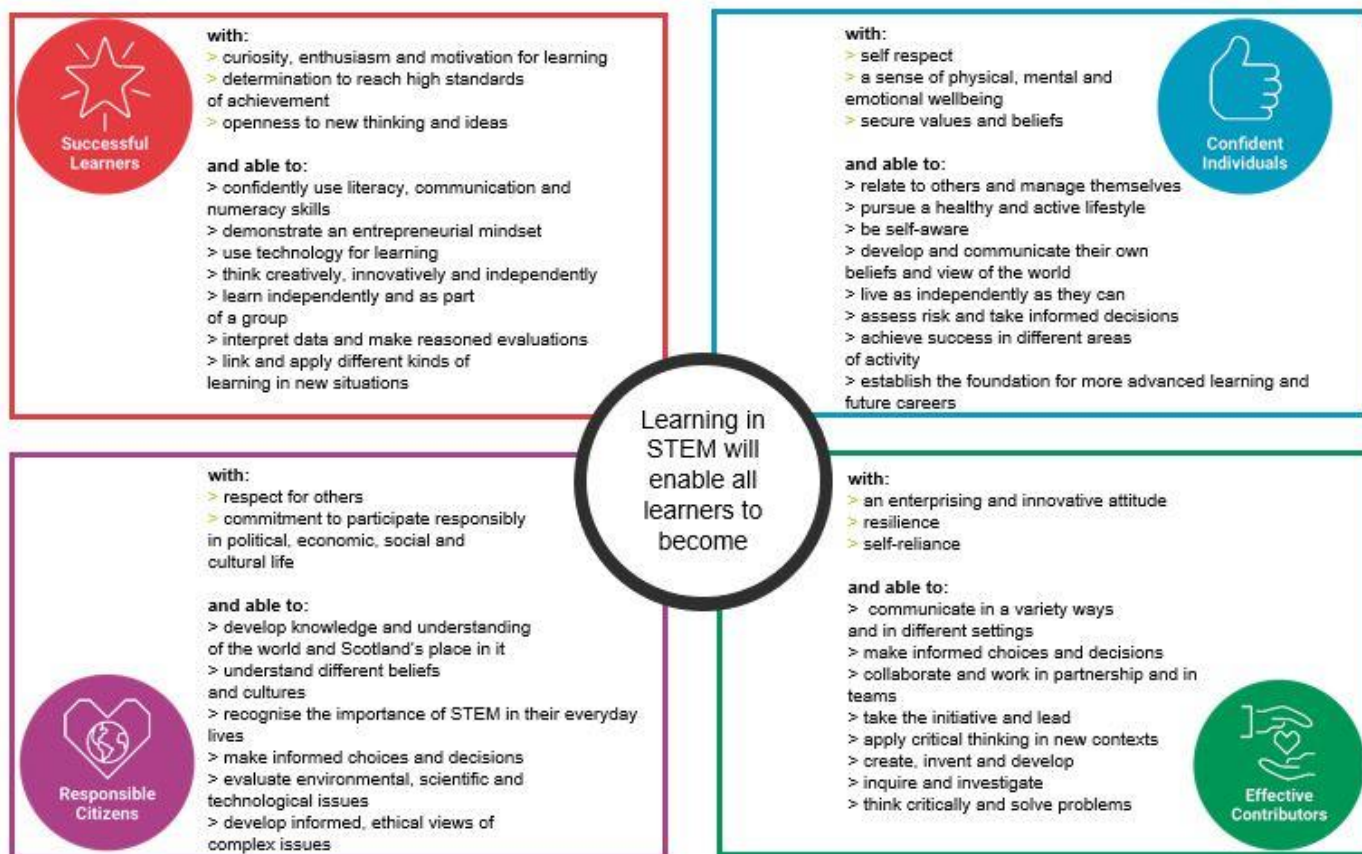
It is important that schools clearly communicate STEM learning opportunities that are taking place and experiences where the whole family can get involved. School websites are a helpful way for families to access a snapshot of key STEM messages and opportunities. (Appendix B)

## STEM Festival

The [Fife STEM Festival](#) is a key time in the school calendar for school communities to come together and explore real-life STEM based challenges and other engagement opportunities which provide opportunities for problem solving and potential for innovation. The STEM Festival is a hybrid of school-based activities (live and virtual) and a self-service [online site](#) open to all Fife children and young people 3-18 and their families. Partners from college, training and industry both locally and nationally offer a vibrant range of live and online opportunities to enable everyone to participate and enjoy. Learner achievements are celebrated, and examples of STEM good practice showcased to inspire others and build STEM capacity.

## Vision

All Fife Learners will be supported to have equitable opportunities to participate in progressive STEM learning. This will inspire and equip our children and young people with skills for the 21<sup>st</sup> century, supporting the development of the Curriculum for Excellence four capacities. We are committed to tackling gender imbalance and other inequalities ensuring all our children and young people secure sustainable positive destinations in STEM industries now and in the future.



## Aims

- All children and young people in Fife are entitled to and will experience high quality, non-biased STEM learning as an integral part of their curriculum.



- To build the confidence and pedagogical capacity of Fife practitioners in the delivery of the STEM curriculum entitlement from 3 to 18 through effective improvement planning, empowerment localised STEM Leaders and tailored STEM professional learning opportunities.
- To inspire our children, young people and communities to embrace STEM opportunities creating a future workforce for local, national, and global employers.
- To close the STEM equity gap (participation and attainment) raising aspirations and potential which contributes to Fife's economic prosperity.
- To foster effective partnerships with all key STEM partners in Fife to collaborate and grow enthusiasm for STEM learning at all levels across the system.

## Outcomes

- Increased uptake and positive attainment in STEM related subjects and vocational courses in the Senior Phase.
- More proportionate representation of age, gender, race, religion or belief, disability, social deprivation and other protected characteristics within STEM subjects and STEM destinations.
- Increased positive destinations into STEM pathways and related industries.
- Children, young people and communities develop positive attitudes and STEM literacy which leads to increased STEM participation and possibilities for STEM green jobs and related green skills.
- Children and young people's learning is recognised through wider achievement opportunities such as Young STEM Leader.
- Increased number of schools achieving recognition for their work in STEM through the STEM Nation Award.
- Tracking, monitoring, and profiling highlights progressive STEM learning and DYW skills supporting learner pathways and transition (P7, S3, Senior Phase).
- All partners are committed to a joint strategy (Fife STEM Regional Partnerships) which grows new and existing partnerships to collectively plan, evaluate and strengthen the Fife STEM offer.
- The learning, teaching and assessment process is embedded in STEM pedagogy which is quality assured in line with other areas of the curriculum.
- All Fife schools will have a STEM Ambassador or business link who supports the integration of STEM and the world of work.
- Locality STEM Leaders support capacity building at a local level.
- Empowered practitioners and partners across Fife actively learn with and from each other as part of our Fife STEM Networks

## Improvement Strategy



### Curriculum

Our [curriculum](#) progressively develops knowledge and skills in individual STEM subjects, and across disciplines through project-based and interdisciplinary learning opportunities to solve STEM challenges and real-world problems with key links to Learning for Sustainability.



### Pedagogical Practice

Excellence in STEM learning, teaching and assessment from 3 to 18 years requires raising levels of confidence and expertise in the teaching of STEM through universal, additional and intensive [professional learning](#) and collaboration.



## **Learner Participation**

Creating sustainable and equitable STEM pathways (opportunities, qualifications and awards) for all in Fife (all genders, all backgrounds, all levels, all abilities) will increase learner uptake of STEM courses in senior phase promoting the development of key STEM and employability skills and thus positive destinations.

## **Family Learning**

Promoting the value of STEM within the community and identifying key connections with the world of work through local and national industries and businesses will help to build STEM capital for all.

## **Partnerships**

Schools, communities, further education, higher education and businesses will work together to inspire and enrich STEM learning opportunities for all in Fife to support the development of STEM employability skills inspiring and equipping our future STEM pioneers. The Fife Regional STEM Partners Group will play a key role in co-ordinating STEM activity and supporting STEM improvement across Fife (Appendix C). In addition, well embedded partnerships locally and nationally are vital in ensuring the success of *STEM for all in Fife*. (Appendix D).

## **Evaluation and Sustainability**

Fife Education Services has a responsibility to review, monitor and evaluate our improvement progress regarding the STEM curriculum entitlement and to report our findings to the Scottish Government and Education Scotland. Therefore, on an annual basis we will gather and analyse data from the following sources:

- Quantitative and qualitative data gathered from practitioner and learner engagement
- Cluster and School Improvement Plans
- Sampling P7 tracking reports
- Sampling BGE curriculum models
- Data from Secondary Schools, relating to the uptake of and attainment in STEM related subjects
- Actively seeking the views of children and young people and their families
- National STEM survey and other sources of feedback from stakeholders

Additionally, it is imperative that the STEM for all in Fife framework is sustainable, ensuring that related opportunities and skills development is relevant, progressive and achievable. To realise this ambition, progress with the framework priorities and related Fife STEM Implementation Plan (2021-2024) will be reviewed annually taking cognisance of the self-evaluation evidence above and making any necessary adaptations accordingly.

## Indicators of STEM success

2021-2022			2022-2023			2023- 2024		
Measure of success	KPI	Data Source	Measure of success	KPI	Data Source	Measure of success	KPI	Data Source
Number of STEM partners* working across Fife schools increases to 40+  Actual total June 22 = 45	<i>Connection Inspiration Equity</i>	Partner database STEM Festival programme	Number of Fife schools engaging with STEM partners each session increases to 75+  Actual total June 23 =	<i>Connection Inspiration Equity</i>	STEM Festival programme STEM Ambassadors in Scotland database	Almost all Fife schools engage with a STEM partner each session.  Actual total June 24 =	<i>Connection Inspiration Equity</i>	STEM Festival programme STEM Ambassadors in Scotland database Practitioner feedback
Practitioners engaging with STEM PL and STEM opportunities in the classroom increases.  Actual total June 22 =	<i>Connection Inspiration Equity Excellence</i>	STEM Festival analytics STEM Professional Learning tracker Practitioner feedback	Creation of a new Fife STEM CLPL self-service site to support the identified STEM needs of Fife practitioners.	<i>Connection Inspiration Equity Excellence</i>	Stem CLPL site	Number of practitioners across sectors engaging with STEM CLPL via the Fife STEM CLPL self-service site increases to 150+  Actual total June 24 =	<i>Connection Inspiration Equity Excellence</i>	STEM CLPL site analytics STEM Professional Learning tracker Practitioner feedback
Numbers of schools engaging with the STEM Ambassador Programme increases.  Baseline June 22=	<i>Connection Inspiration Equity</i>	STEM Ambassador Hub report	Almost all schools engage with the STEM Ambassador Programme at least once per session.  Actual total June 23 =	<i>Connection Inspiration Equity</i>	STEM Ambassador Hub report	Almost all Fife learners have experienced a STEM Ambassador talk, workshop or interaction at least once per session.  Actual total June 24 =	<i>Connection Inspiration Equity</i>	STEM Ambassador Hub report
Increase in practitioner awareness of STEM pathways as part of Senior Phase transitions.  Actual total June 22 = 458	<i>Connection Inspiration Equity</i>	STEM pathways SWAY resource analytics	Collaboration with the Fife STEM Regional Partnership to further develop practitioner awareness of STEM pathways as part of Senior Phase transitions.	<i>Connection Inspiration Equity</i>	FSRP database	Closer examination of the Fife STEM Regional Partnership action plan data will reveal further areas of improvement to track e.g., IGBE, STEM certification, STEM positive destinations etc.	<i>Connection Inspiration Equity</i>	FSRP database
Work with key partners to re-instate the Fife STEM Regional Partnership.  Agreement in place for 2022-23	<i>Excellence Connection Inspiration Equity</i>	STEM Regional Partnership baseline document and strategic plan	Connection and collaboration with the Fife STEM Regional Partnership to implement shared Fife STEM Action Plan.	<i>Excellence Connection Inspiration Equity</i>	STEM Regional Partnership baseline document and strategic plan	Creation of a shared Fife STEM regional Partnership calendar to coordinate and target STEM opportunities in Fife.	<i>Excellence Connection Inspiration Equity</i>	STEM Regional Partnership baseline document and strategic plan
Create new STEM and LfS practitioner collaborative Glow team to inspire and encourage STEM engagement.  Baseline June 22 Members = 164 PL and resources communicated = 70	<i>Excellence Connection Inspiration</i>	Network analytics STEM coms tracker	Continued growth and collaborative use of the Fife STEM and LfS Network Glow Team.  Total members June 2023 = Total Network posts June 2023 = Network collaborations June 2023 =	<i>Excellence Connection Inspiration</i>	Network analytics STEM coms tracker	Continued growth and collaborative use of the Fife STEM and LfS Network Glow Team. Identification of STEM Leads supporting Network comms.  Total members June 2023 = Total Network posts June 2023 = Network collaborations June 2023 =	<i>Excellence Connection Inspiration</i>	Network analytics STEM coms tracker
Increase accessibility of online guidance and support for the STEM curriculum entitlement (Fife PL and Curriculum glow sites).	<i>Excellence Inspiration</i>	Glow site analytics	Enhanced online guidance and support for the STEM curriculum entitlement (Fife PL and Curriculum glow sites and Fife intranet).	<i>Excellence Inspiration</i>	Glow site analytics	Most learners across Fife experience a good or very good progressive STEM learning offer in their setting.	<i>Excellence Inspiration</i>	Cluster / School IPSs ELP/LP Feedback BGE Curriculum maps Learner focus groups
Work collaboratively with practitioners to devise and launch Science Progression Pathways.  Launch date Oct 22	<i>Excellence Equity</i>	Feedback from QA	Science PPs being accessed by practitioners across Fife to support planning of progressive Science and STEM learning.  Work collaboratively with practitioners to devise and launch Technology Progression Pathways.  Launch date Oct 23	<i>Excellence Equity</i>	Glow site analytics  Feedback from QA	Use of the Science PPs embedded in practice across Fife schools – linked to STEM Curriculum Entitlement Indicator Technology PPs being accessed by practitioners across Fife to support planning of progressive Technology and STEM learning. Work collaboratively with practitioners to devise and launch a STEM Progression Pathway. Launch date Oct 2024	<i>Excellence Equity</i>	Observations Sharing practice  Glow site analytics  Feedback from QA
Launch and review STEM Connect-ability Festival (school and online live and virtual offer). Engagement baseline June 22 = 60 schools	<i>Connection Inspiration Equity Excellence</i>	STEM Festival engagement data	Increase engagement with the Fife STEM Connect-ability Festival to 50% of schools and ELCs  Actual total June 2023	<i>Connection Inspiration Equity Excellence</i>	STEM Festival engagement data	Increase engagement with the Fife STEM Connect-ability Festival to 75% of schools and ELCs  Actual total June 2023	<i>Connection Inspiration Equity Excellence</i>	STEM Festival engagement data
Increase number of schools and ELCs achieving the STEM Nation Award.  Baseline June 22 = 2 (1 primary / 1 ELC)	<i>Connection Inspiration Equity Excellence</i>	Education Scotland data	Increase number of schools and ELCs achieving the STEM Nation Award.  Actual total June 2023	<i>Connection Inspiration Equity Excellence</i>	Education Scotland data	Increase number of schools and ELCs achieving the STEM Nation Award.  Actual total June 2024	<i>Connection Inspiration Equity Excellence</i>	Education Scotland data
Increase number of Fife YSL delivering centres, Tutor Assessors, learner awards. Baseline June 22 = 26 schools, 45 TAS and 181 LAs	<i>Excellence Connection Inspiration Equity</i>	YSLP data	Increase number of Fife YSL delivering centres and Tutor Assessors.  Actual total June 2023=	<i>Excellence Connection Inspiration Equity</i>	YSLP data	Increase number of Fife YSL delivering centres and Tutor Assessors.  Actual total June 2023 =	<i>Excellence Connection Inspiration Equity</i>	YSLP data





## Appendix A

### Core STEM Offer

Programme	Description	Outcomes for learners
<a href="#">Young STEM Leaders</a>	<p>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.</p> <p>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.</p>	<p>By taking part in the Young STEM Leader Programme (YSLP), 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. 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.</p>
<a href="#">STEM Ambassadors</a>	<p>STEM Ambassadors in Scotland is based at SSERC and coordinates the STEM Ambassador Programme across Scotland on behalf of STEM Learning. STEM Ambassadors are volunteers working in or studying STEM subjects who work with young people to bring STEM subjects alive through real-life experiences.</p> <p>Over 5,000 Ambassadors in Scotland are supported to deliver engaging STEM experiences for schools, community and youth groups.</p>	<p>By accessing STEM Ambassadors in Scotland, young people get an insight into the diverse range of STEM career paths open to them in the future. By engaging in dialogue with STEM Ambassadors, young people are inspired and motivated to actively participate and study STEM related subjects in schools developing key STEM skills required for future STEM pathways.</p>
<a href="#">STEM Nation Award</a>	<p>The STEM Nation Award was developed by Education Scotland to celebrate, promote and build on effective practice in STEM education within and across sectors. All early learning and childcare settings, primary schools and secondary schools are eligible to apply for the STEM Nation Award. Settings may apply for an individual element or any combination of elements. Settings which achieve all five elements (Leadership in STEM, STEM family learning, Employability and STEM partnership working, STEM curriculum and learner pathways, Equity and equality in STEM)</p>	<p>Positive outcomes for learners are at the heart of each element of the STEM Nation Award.</p> <p><b>Leadership in STEM</b> – This element celebrates effective leadership at all levels including children and young people leading STEM learning.</p> <p><b>STEM family learning</b> – This element recognises commitment to family learning and practice which is helping to build the STEM capital of learners and their families.</p> <p><b>Employability and STEM partnership working</b> – This element celebrates sustained collaboration between settings and their STEM partner(s) to develop learners' STEM and employability skills.</p>

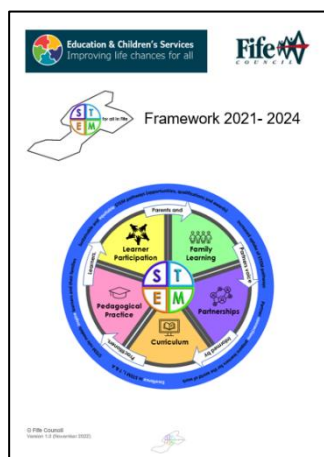
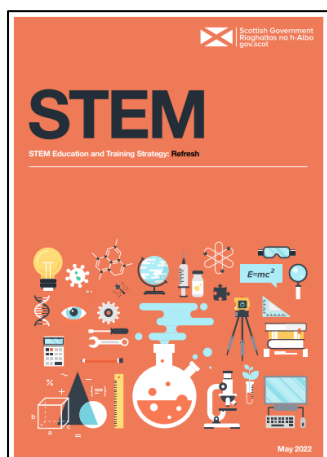


	within a three-year period will be eligible for the full STEM Nation Award.	<p><b>STEM curriculum and learner pathways</b> – This element recognises the work of settings in developing an inspiring STEM curriculum and associated learner pathways.</p> <p><b>Equity and equality in STEM</b> – This element celebrates the work settings are undertaking to address the issues of equity and equality in STEM.</p>
<a href="#">First Lego League</a>	<p>FIRST® LEGO® League introduces science, technology, engineering, and math (STEM) to children ages 4-16 years through fun, exciting hands-on learning. Participants gain real-world problem-solving experience through a guided, global robotics programme, helping today's learners and teachers build a better future together.</p> <p>The three divisions (Discover, Explore and Challenge) inspire youth to experiment and grow their critical thinking, coding, and design skills through hands-on STEM learning and robotics.</p> <p>The 6 core values are the cornerstone of the programme and include: Discovery Innovation Impact Inclusion Teamwork Fun</p>	<p>From Discover, to Explore, and then to Challenge, learners will understand the basics of STEM and apply their skills in an exciting competition while building habits of learning, confidence, and teamwork skills along the way.</p> <p><b>Discover</b> Involvement in the programme ignites learners' curiosity and builds their habits of learning with hands-on activities in the classroom and at home using LEGO.</p> <p><b>Explore</b> In Explore, teams of learners ages 6-10 years focus on the fundamentals of engineering as they explore real-world problems, learn to design, and code, and create unique solutions made with LEGO bricks and powered by LEGO SPIKE Robots.</p> <p><b>Challenge</b> Friendly competition is at the heart of Challenge, as teams of learners ages 9-16 years engage in research, problem-solving, coding, and engineering - building and programming a LEGO robot that navigates the missions of a robot game.</p>
SSERC Primary Cluster Programme (PCP)	PCP is a nationally recognised and GTCS accredited professional learning programme designed to improve the confidence and expertise of all practitioners in a participating cluster in the teaching of STEM.	Through increased teacher confidence, knowledge and skills, learners experience high quality progressive STEM learning experiences, leading to greater enjoyment and improved STEM aspirations.
Other opportunities arising	Throughout the session new STEM learning opportunities are likely to emerge. Where this is the case careful consideration will be taken to match opportunities to appropriate school and STEM needs based on self-evaluation data. These events are expected not to be on a one-off basis but rather planned as part of ongoing learning and teaching with a focus on STEM skills development and next steps.	Learners will continue to enjoy a vibrant range of new opportunities to stimulate and foster STEM learning and skills development to inspire future generations into positive STEM destinations.



## Appendix B – School website STEM information

STEM Documentation	STEM Links	STEM Learning Examples
<a href="#">National STEM Education and Training Strategy Refresh</a>	<a href="#">Fife STEM Connect-ability Festival</a>	<a href="#">Learner STEM Journeys</a>
<a href="#">STEM for All in Fife Framework</a>	<a href="#">STEM Resources and Activities</a>	Curriculum pathways highlighting progressive STEM learner opportunities
<a href="#">STEM in a Nutshell for Parents and Carers</a>	<a href="#">My World of Work</a>	Showcase of STEM learner experiences and achievements: <ul style="list-style-type: none"> <li>• Young STEM Leader Award</li> <li>• STEM Nation Award</li> <li>• First Lego League</li> </ul>
<a href="#">National Parent Forum for Scotland In a Nutshell Series</a>	<a href="#">Skills Development Scotland – Digital World</a>	Connections with local STEM partners and industries (STEM Ambassadors in Scotland)
<a href="#">Careers Conversations in a Nutshell</a>	<a href="#">DYW Live</a>	STEM Competitions
<a href="#">Digital Skills in a Nutshell</a>	<a href="#">DYW Live Brochure</a>	STEM Celebrations
<a href="#">Skills in a Nutshell</a>	<a href="#">BBC Bitesize</a>	STEM Events



The National Parent Forum of Scotland

### STEM IN A NUTSHELL

Science, Technology, Engineering, Maths

This Nutshell explains what STEM is and why STEM skills are important.

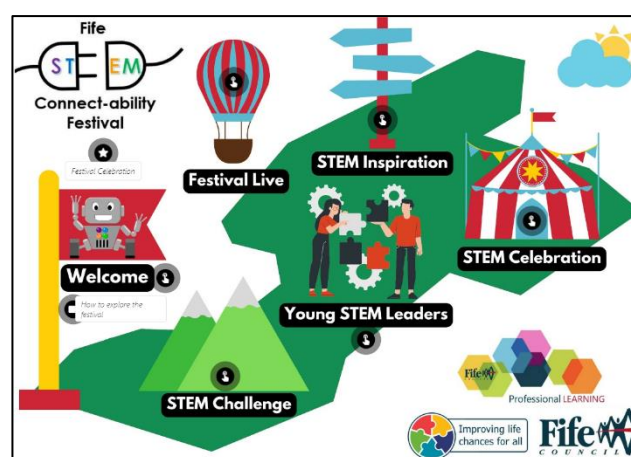
**What and why STEM**

Everyone needs STEM skills. There are STEM jobs at all levels. STEM skills are useful in almost any job sector you can think of. The top ten skills which employers of 2020, worldwide, want are:

- Complex problem solving
- Critical thinking
- Creativity
- People management
- Coordinating with others
- Emotional intelligence
- Judgment and decision making
- Service orientation
- Negotiating
- Flexibility

These are STEM skills.

STEM isn't about lists of facts to be learned but about ways of thinking



DYW Live e-skill

Develop confidence and key employability skills

THE THIRD SECTOR IN SCOTLAND

A world of employability opportunities

VIRTUAL MEET THE EXPERT

Industrial Biotechnology Innovation Centre



## Appendix C

### Fife Regional STEM Partners Group

The role of the Fife STEM Regional Partnership is to strategically lead, plan and support STEM activities across Fife to Inspire stakeholders, with a focus on Excellence, Inspiration and making Connections across STEM for all whilst ensuring Equity (improving gender imbalance and other inequities such as geography, race, disability, and social deprivation)

Organisation	Teams represented	STEM roles and responsibilities
<b>Fife College</b>	-Executive Team -Faculty of Digital & Creative Industries -DYW Partnerships	- Oversight of academic faculties including STEM activities - Co-ordination of STEM school activities - Overview of FE STEM future pathways -Support for Foundation Apprenticeships
<b>Fife LA Education</b>	-Improvement Support -DYW Fife	- Lead the education strategic direction of <i>STEM for all in Fife</i> - STEM focus as part of DYW strategy - Fulfilling the <a href="#">Young Person's Guarantee</a>
<b>Education Scotland</b>	-STEM National Team	- National support for STEM partnership group and other STEM activity
<b>Fife Council Economic Development</b>	-Culture of Enterprise	- Lead and deliver STEM initiatives as part of wider enterprise remit
<b>SSERC</b>	- Young STEM Leader Programme -STEM Ambassadors	- Coordination of YSLP programme and team - Engage and support school and community groups to access professional learning - Coordination of STEM Ambassador Programme
<b>Energy Skills Partnership</b>	-STEM Programme Manager	- National link for Regional Partnership Groups
<b>SDS</b>	<b>*Link to be identified</b>	



## Appendix D Key STEM Partnerships

Within Fife	
Who	How we work in partnership
Clusters	Sharing key information and STEM learning experiences across clusters provides opportunities for networking and collaboration, enhances equity of STEM provision and collectively promotes the value of STEM learning across all settings.
Local Improvement Forums	Connection with LIFs allows core STEM business and opportunities to be shared and discussed with educational leaders across the whole authority which influences school improvement across Fife.
Fife STEM and Learning for Sustainability Network	Practitioners across Fife utilise the Glow Team Network to communicate and collaborate on STEM opportunities for learners, CLPL offers, resources for schools and sharing good practice to build capacity in the system.
STEM Leads	STEM Leads / PTs across Fife educational settings have an important role in supporting the localised leadership of STEM initiatives and core approaches for children and young people to ensure equity of opportunities and provision.
Fife College	Fife College coordinates the Fife STEM Regional Partnership which brings together key partners to support the development of progressive STEM learning opportunities and pathways for learners from school to further education and the workplace.
St Andrews University	St Andrews University provides Higher Education for Fife learners seeking STEM qualifications at and beyond degree level. Working with the Public Engagement Team, outreach STEM learning opportunities and experiences are promoted for learners and their families to build STEM capital.
Culture of Enterprise	As part of the Economic Development Team, Culture of Enterprise are committed to forging links between education and industry by delivering exciting enterprising programmes for Fife learners. All programmes develop key STEM skills including decision making, problem-solving and communication skills.
DYW Fife	The DYW Coordinator Network in Fife provides a point of contact in each Fife secondary school supporting connection with local and national STEM industries and employers who can enhance progressive STEM learning opportunities and experiences raising STEM aspirations of learners now and in the future.
SDS (Skills Development Scotland)	SDS colleagues primarily support young people within the secondary setting to identify learner pathways beyond the school setting which complement their skills and qualifications, securing a positive and sustained destination in further education, training and employment.





Local Fife industry and employers	Collaboration with a range of Fife STEM industries and employers supports the provision of inspiring STEM learning opportunities and experiences for Fife learners helping to enhance knowledge and understanding of future STEM pathways and careers.
RHET Fife	Provision of onsite learner experiences, learning resources and training for Fife practitioners.
<b>Regionally and nationally</b>	
Scottish Government and Education Scotland	National Policy, guidance and support via Regional STEM Education Officer. Collaboration across National Networks. Professional learning opportunities for Fife practitioners.
SEIC (Southeast Improvement Collaborative)	Collaboration across regional Networks.
SSERC (Scottish Schools Science Equipment Research Centre)	Support, guidance and professional learning opportunities for ELC, Primary and Secondary practitioners. YSLP programme. STEM Ambassadors in Scotland Hub.
ESP (Energy Skills Partnership)	Supporting the STEM Regional Partnership and First Lego League in Scotland.
RAiSE (Raising Aspirations in Science Education)	Communication and collaboration with the RAiSE Network to support and promote STEM learning opportunities for Fife learners and practitioners.
RAF Youth and STEM	Collaboration to enhance STEM learning opportunities with a focus on engineering and digital skills development for Fife learners.
<b>STEM Specific Partners</b>	<b>Weblinks</b>
YSLP	<a href="https://www.youngstemleader.scot/">https://www.youngstemleader.scot/</a>
STEM Ambassadors in Scotland	<a href="https://www.stemambassadors.scot/">https://www.stemambassadors.scot/</a>
Royal Air Force Youth & STEM	<a href="https://rafyouthstem.org.uk/">https://rafyouthstem.org.uk/</a>
APRS (Association for the Protection of Rural Scotland)	<a href="https://aprs.scot/">https://aprs.scot/</a>
eduCCate Global	<a href="https://educateglobal.org/">https://educateglobal.org/</a>
YESC (Young Engineers and Science Clubs Scotland)	<a href="https://www.scdi.org.uk/yesc/">https://www.scdi.org.uk/yesc/</a>
Light Lab Project	<a href="https://www.lightlabproject.com/">https://www.lightlabproject.com/</a>
Wild Planet Explorers	<a href="https://wildplanetexplorers.co.uk/">https://wildplanetexplorers.co.uk/</a>
Digital Extra	<a href="https://www.digitalxfund.scot/">https://www.digitalxfund.scot/</a>
Dynamic Earth	<a href="https://www.dynamicearth.co.uk/learning">https://www.dynamicearth.co.uk/learning</a>
Dundee Science Centre	<a href="https://www.dundeesciencecentre.org.uk/">https://www.dundeesciencecentre.org.uk/</a>
Aberdeen Science Centre	<a href="https://aberdeensciencecentre.org/">https://aberdeensciencecentre.org/</a>
Glasgow Science Centre	<a href="https://www.glasgowsciencecentre.org/">https://www.glasgowsciencecentre.org/</a>
EDT	<a href="https://www.etrust.org.uk/">https://www.etrust.org.uk/</a>
Keeping Scotland Beautiful	<a href="https://www.keepsotlandbeautiful.org/">https://www.keepsotlandbeautiful.org/</a>
Scottish Power	<a href="https://www.scottishpower.co.uk/">https://www.scottishpower.co.uk/</a>
Shell	<a href="https://www.shell.co.uk/">https://www.shell.co.uk/</a>
SmartSTEMs	<a href="https://www.smartstems.org/">https://www.smartstems.org/</a>
ExxonMobil	<a href="https://www.exxonmobil.co.uk/en-qb">https://www.exxonmobil.co.uk/en-qb</a>
Winning Scotland	<a href="https://www.winningscotland.org/">https://www.winningscotland.org/</a>
One World Centre	<a href="https://oneworldcentre.org.uk/">https://oneworldcentre.org.uk/</a>
Institute of Physics	<a href="https://www.iop.org/">https://www.iop.org/</a>
Royal Society of Chemistry	<a href="https://www.rsc.org/">https://www.rsc.org/</a>
Royal Society of Biology	<a href="https://www.rsb.org.uk/">https://www.rsb.org.uk/</a>

