

WEST DUNBARTONSHIRE COUNCIL

STEM Strategy Response

January 2018 Summary of Actions from STEM Strategy for local authorities.

Theme: Excellence

Aim: To build the capacity of the education and training system to deliver excellent STEM learning so that employers have access to the workforce they need.

Approach	Local Authority Action from Strategy	Progress
<p>Delivering enhanced STEM professional learning</p>	<p>As part of a wider programme of career long professional learning designed to support the expansion of funded early learning and childcare (ELCC), we will work with partners and key stakeholders including science centres and science festivals to deliver Science, Technology, Engineering and Mathematics (STEM) training that will ensure that ELCC practitioners have appropriate skills, knowledge and confidence to deliver STEM learning in ELCC settings. This will also form part of the coherent national offer for STEM Professional Learning set out above.</p>	<p>Professional learning for STEM delivered to Early Years practitioners by Early Years team and STEM development officer.</p> <p>STEM Officer has commissioned, delivered and developed a variety of bespoke professional learning twilight workshops to increase confidence teaching STEM. This was in partnership with SSERC. Resources for use within the classroom are available to all staff online via a Google Classroom. Evaluations from these sessions are extremely positive.</p> <p>Inspire and Challenge STEM professional learning and Single STEPS in STEM learning also ongoing within the authority for individual practitioners or whole school/establishments. Single STEPS in STEM learning have been commissioned by a number of primary schools within the authority (e.g., Gartocharn and St Joseph's) to work with pupils within a class to build STEM skills.</p> <p>The "Maths in Context" collaboration work between STEM and the Maths Raising Attainment team has been delivered throughout 2018 to probationers, Maths challenge network teachers, at the Stirling Maths conference, the West Partnership Maths conference and the Scottish Learning Festival.</p>

		Further packages of work for which STEM activities are being used to progress aspects of numeracy are being developed and trialled through the successful STEM Grant fund bid from Education Scotland. This will be delivered as Professional Learning to WDC teachers and also at the Stirling Maths Conference 2019 and resources will be available through the Education Scotland online platform.
Improving STEM learning and teaching	We will work with partners to support the work of the Improvement Collaboratives in their identified priorities for STEM learning, teaching and engagement.	Continuing to work closely with other authorities across Scotland as part of the RAiSE programme and the West Partnership collaborative. As part of this a BGE resource guide has been developed for practitioners from Early Years through to 2nd Level. This links science to suggested learning activities (together with 'how to' videos), benchmarks with assessment ideas to other curricular link opportunities and careers/jobs in that field. A key STEM project for the West Partnership is An Upstream Battle run by Keep Scotland Beautiful focusing on reducing waste within the Clyde Valley. An online directory of good STEM learning project opportunities will be created by Education Scotland. In the interim, we have a STEM Google classroom so that practitioners can access, share and comment on resources, projects and exciting learning opportunities through visits.
	We will publish the finalised STEM self-evaluation and improvement framework by December 2017 to support ELCC settings and schools in the delivery of STEM learning and teaching.	STEM self-evaluation framework shared with all ELCC Head Teachers (HT) on 6 November 2017. STEM self-evaluation framework shared with all HTs at the "Responsibility for all conference" on 19 April 2018. Science Capital Teaching Strategy shared with all HTs at Education Leaders' meeting on 24 th October 2018.
	We will recruit a network of STEM specialist advisors to support	STEM Education Development Officer seconded as part of RAiSE programme within WDC.

	learning and teaching in the 3-18 curriculum and raise STEM attainment, with the aim of having a fully operational network by December 2018.	Education Scotland RIC STEM leads appointed and in post from Jan 19. STEM Learning Mentors allocated in approximately 65% of Primary Schools.
	We will work with local authorities to ensure that excellent spaces for STEM learning are included in new builds and developed through school refurbishment projects. We will make this a key consideration of the Scottish Government's support to any project(s) delivered through any future schools investment programme.	St. Patrick's Primary STEM hub received the silver COSLA award for innovation. STEM spaces developed in new builds (Balloch Campus) and being used throughout WDC as available.

Theme: Equity

Aim: To close equity gaps in participation and attainment in STEM so that everyone has the opportunity to fulfil their potential and contribute to Scotland's economic prosperity.

There were no direct actions on the Local Authority for this particular theme. However, the following progress has been made within this theme:

- *Development Officers all attended "train the trainer" events for the Improving Gender Balance project (tackling gender stereotypes). A workshop was provided to all HTs at the "Responsibility for All" conference on the 19th April 2018. Twilight sessions were also available for staff to enrol in the training.*
- *WDCs partnership with Glasgow Science Centre has provided primary children free access and engagement in a variety of workshops and events.*
- *First public Science Festival at the Denny Tank museum in May 2018, and ongoing partnership with National Museums Scotland to address inequity of opportunity.*
- *As stated above, The Science Capital Approach research was shared with all HTs.*
- *Kilpatrick School being linked with University of Strathclyde researcher into developing STEM skills for pupils with Additional Support Needs.*

Theme: Inspiration

Aim: To inspire children, young people and adults to study STEM and to continue their studies to obtain more specialist skills.

Approach	Local Authority Action from Strategy	Progress
Creating positive STEM role models, mentors and coaches	We will, from June 2018, support ELCC settings to promote positive engagement with STEM and tackle gender stereotypes through their parental and family engagement activities.	WDC were part of a pilot project (Kilbowie Nursery) to train STEM Ambassadors in how to engage with early years education. STEM Ambassadors recruited in Aggreko now. More STEM Ambassadors being recruited from colleges. STEM Ambassador link shared with all HTs. Maths STEM Ambassador offering shared with Maths Curriculum Leads at last Curricular Support network meeting. STEM Ambassador being used within STEP UP programme to complement work on mathematical direction using robotics. Young STEM Ambassador award is currently being developed and managed by SSERC. We have been part of a consultation group regarding how best to implement this leadership opportunity for pupils within BGE.

Theme: Connection

Aim: To connect the STEM education and training offer with labour market need – both now and in the future – to support improved productivity and inclusive economic growth.

Approach	Local Authority Action from Strategy	Progress
Improving the support available to schools	Education Scotland will develop and quality assure an online directory of STEM inspiration activities, covering early learning, primary and secondary schools. Education Scotland will work with Skills Development Scotland and the DYW Regional Groups to embed the directory within Marketplace. The online directory will be operational in academic year 2018-19.	<DYW Regional Groups>
	We will create a STEM hub network to strengthen regional-level collaboration between partners, including universities,	Development Officer attended first meeting at

Appendix 1

	<p>science centres and employers. The STEM Hub Network will start to facilitate more joint professional learning activities between secondary schools and colleges in 2018 and this will be broadened out to include primary and early learning settings during 2019.</p>	<p>West College Scotland of the STEM Hub Network on 29 October 2018. Broad outline of professional learning activities ongoing in the West Region was captured. Senior Phase Development Officer will liaise with WEST college on future partnership with our STEM hub.</p>
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