



# Mosshead Primary School

## STEM Policy



### Rationale

Mosshead Primary School is committed to providing pupils with a variety of creative teaching and learning opportunities in all areas of Science, Technology, Engineering and Maths (STEM). We contribute to developing the young workforce by equipping our children with knowledge and experience of STEM in multiple contexts. At Mosshead, STEM learning is for all of our pupils and we strive to achieve gender balance and equality in the delivery of STEM and access to STEM learning. We hope to stimulate, in all our pupils, a love of STEM which can be carried forward in their future careers.

The necessity to develop STEM skills is summarised by Education Scotland:

*“There is a requirement for Scottish education to develop STEM skills in learners to successfully meet the demands of the labour market. STEM skills are an integral part of Scotland’s future economic and social development. In 2017, the Scottish Government published the STEM Education and Training Strategy for Scotland. This set out a vision of Scotland as a STEM nation: with a highly-educated and skilled population equipped with the STEM skills, knowledge and capability required to adapt and thrive in the fast-paced, changing world and economy around us.”*

(Education Scotland, <https://education.gov.scot/improvement/learning-resources/a-summary-of-stem-resources/> 2021)

The Scottish Government’s STEM Strategy states:

*“To successfully meet the growing demand and requirements for STEM skills, we must ensure that we are a nation that builds its STEM enthusiasm, skills and knowledge. Achieving this requires excellence in the education offered in early learning settings, schools, colleges and universities and in our wider communities. We need sufficient teachers and practitioners in our education system who are well equipped with the knowledge, skills and confidence to develop and deliver inspirational, high-quality interdisciplinary STEM teaching for all learners, across all ages and stages. In particular, we must ensure that all children and young people get the grounding in STEM that they will need in later life through early learning and in the Broad General Education.”*

(Science, Technology, Engineering and Mathematics: education and training strategy  
<https://www.gov.scot/publications/> 2017)

### Aims

In Mosshead Primary we aim to

- Equip teachers with the knowledge, skills and confidence to deliver STEM activities
- Provide a wide variety of high quality STEM opportunities to stimulate an interest and enthusiasm in STEM for all

### UNCRC article links

**Article 12** (respect for the views of the child) **Article 13** (freedom of expression), **Article 14** (freedom of thought, belief and religion), **Article 28** (right to education), **Article 29** (goals of education), **Article 31** (leisure, play and culture), **Article 42** (knowledge of rights).

- Make STEM part of everyday learning through use of interdisciplinary contexts
- Develop a positive attitude to STEM as an interesting and exciting subject in which all learners gain success and enjoyment
- Develop leadership, communication and employability skills in STEM
- Build confidence and competence in applying STEM skills to solve problems, think creatively, work collaboratively, analyse information and make informed decisions.
- Make connections between STEM skills with learning, life and work
- Facilitate leadership opportunities for pupils to discover, create, inspire and lead in STEM
- Address stereotypes and improve gender balance associated with STEM subjects and careers
- Deepen knowledge of STEM careers and career pathways
- Work in partnership with key stakeholders to enhance STEM opportunities and learner experiences

### **Learning & Teaching**

Opportunities for STEM will be explored throughout the year. Teacher planning will make clear links with Science, Technologies, Engineering and Maths guided by the Curriculum for Excellence experiences and outcomes. STEM should be taught using an interdisciplinary approach where possible eg 'STEMaStory' in literacy and through Science topics and Social subjects. Mosshead Primary will provide pupils with opportunities to participate in practical STEM investigations and challenges which will be embedded in everyday learning experiences.

To generate enthusiasm for STEM we will seek out nationally recognised events for pupils to participate in including Internet Safety Week, Maths Week Scotland, British Science Week, and Young STEM leader Week. Pupils will also explore a variety of STEM careers during our Parent Council led Careers Week.

Pupils will take part in a wide variety of local and national STEM challenges and competitions such as Creating Engineers, the Dyson Design Challenge, Young Enterprise Young Inventors Challenge as well as Eco initiatives such as Upstream Battle and mini COP 26.

### **STEM Leadership Opportunities**

Pupils will be encouraged to take on STEM leadership roles including the Eco Committee (P1-7), Digital Leaders (P6) and Young STEM leaders. Mosshead Primary School is a Young STEM Leader delivery centre with teaching staff qualified tutor assessors. SSERC's Young STEM Leader level 2 is offered in P7 with the possibility of building on this to gain a formal YSL qualification in High School. Our Young STEM leaders will create engaging and inspiring STEM learning opportunities for all, by doing so they present positive STEM role models to younger pupils.

### **Developing the Young Workforce**

Pupils will access a wide variety of careers education throughout their Mosshead journey. The entitlements outlined in the Careers Education Standard 3-18 form the basis of DYW teaching and learning.

Our pupils will:

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- experience a curriculum through which they learn about the world of work and job possibilities and which makes clear the strengths and skills needed to take advantage of these opportunities;
- develop skills for learning, life and work as an integral part of their education and be clear about how all their achievements relate to these;
- have opportunities to engage in profiling that supports learning and the development of skills for work and future career choices;
- experience a learning environment that recognises and promotes diversity and supports them to understand that it is everyone's responsibility to challenge discrimination;
- develop understanding of the responsibilities and duties placed on employers and employees;
- develop understanding of enterprise, entrepreneurship and self-employment as a career opportunity;
- know where to find information and access support making effective use of online sources such as My World of Work;
- develop career management skills as an integral part of their curriculum

Teachers will participate in relevant Career Long Professional Learning to fulfil the explicit expectations placed on them in the Careers Education Standard. Teachers will plan for careers education in a variety of contexts to deliver the I can statements from Early through to Second level.

### **Partnerships**

Mosshead Primary School will develop a partnership working approach to ensure pupils have high quality STEM and careers opportunities. We will work with our Parent Council to deliver an annual Careers Fair and maintain a comprehensive Careers Education resource bank. We will work with the Mosshead Parent Teacher Association to raise funds to enhance STEM initiatives such as Maths Week and Science Week. Cluster working will be facilitated to provide pupils with opportunities to take part in competitions and challenges such as Creating Engineers. Relationships with a wide variety of third parties will be developed including STEM ambassadors, Young Enterprise Scotland, Foundations for Schools, Keep Scotland Beautiful, Rotary Club, Education Scotland, West Partnership as well as relevant local businesses and third sector partnerships. STEM networks and collegiate working opportunities will continue to support the development of teaching and learning in STEM including EDC Maths Champions, LfS Champions, STEM Glasgow, and the Improving Gender Balance and Equalities network. We will offer pupils a range of extra-curricular STEM activities, making use of partnerships with parents and other organisations such as Coding Club and Forest Schools.

### **Resources**

Mosshead will maintain a comprehensive library of STEM books for all stages, building on recent additions: QED Learn ICT, The Science of... , Awesome Engineering, STEM Activity series, STEM Fun series, Master Maths, Curious Pearl, STEMgineers, Dani Binns, Tara Binns, Fantastically Great Women Who, Little People, Big Dreams. The Careers Education Resource Bank will be used to support Careers and STEM learning. Pupils and teachers will use the core online resource My World of Work to explore career pathways and labour market information. STEMaStory and STEM Glasgow resources will be used to support

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interdisciplinary learning in STEM. A 'Let's Focus on STEM' information leaflet has been produced and shared with parents to support STEM learning at home.

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