



# Academy9 Revised Educational Framework

2018



# Academy9

## Revised Educational Framework 2018

<b>Contents</b>	Introduction .....	3
	Academy9 Partnerships.....	4
	The Impact of Academy9 .....	5
	Academy9 Core Activities.....	6
	Phase 1 .....	7
	Phase 2 .....	8
	Phase 3 .....	9
	Phase 4 .....	9
	Appendix A: Academy9 Engagement Chart .....	10
	Appendix B: Sources of Information.....	11

**Introduction** In 2015, the Knowledge Exchange Partnership Ltd. (KEEP Learning) was invited by Transport Scotland to develop a framework (under the title of Academy9) to run in parallel with the upgrade of the A9 between Perth and Inverness. This Academy9 Framework was introduced in May 2015 and highlighted a progressive, evolving programme of Science, Technology, Engineering and Mathematics (STEM) related activities and experiences covering pre-school, school, college and university education. It is aimed at pupils, students, teachers, parents and the wider community, along the A9 corridor.

Academy9 sets out a strategic vision of educational engagement:

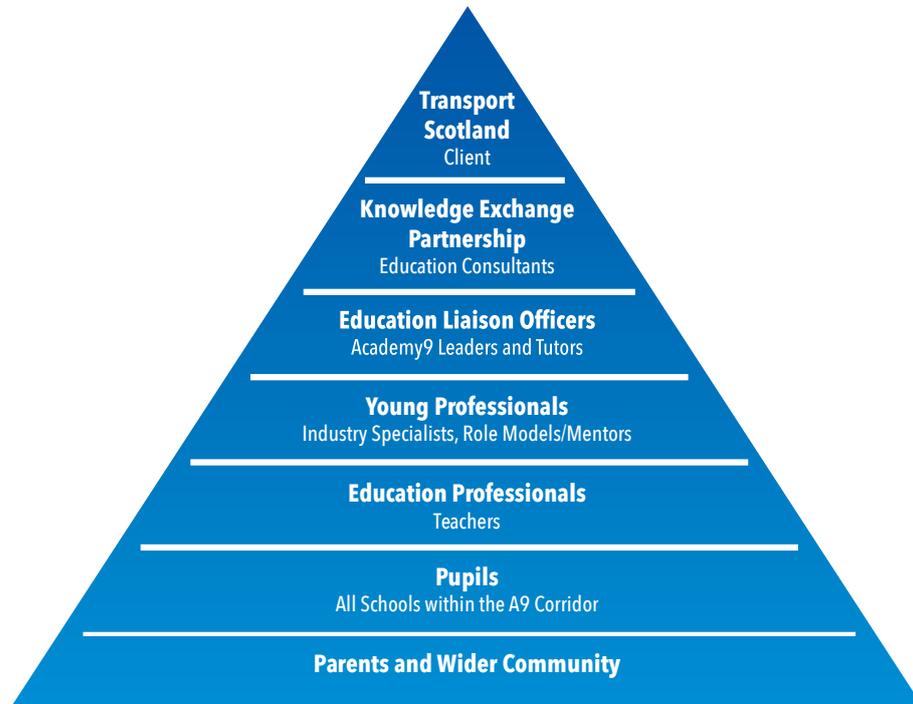
- recognising and building upon knowledge exchange and creative thinking in professional and social contexts
- capturing the power and potential of collaborative and partnership working
- leaving a legacy of achievement and desire for learning for all

It aims to achieve the following:

- to promote increased levels of knowledge and understanding about the upgrade of the A9 between Perth and Inverness
- to create positive STEM-related learning opportunities, linking achievement with clear career pathways and employment destinations
- to engage young people, teachers and the wider community in STEM-related activities that instill personal and social confidence, motivation and resilience
- to leave a legacy of STEM-related learning and good practice that impacts on future educational initiatives in and around the A9

Academy9 is funded by Transport Scotland, led by the Knowledge Exchange Partnership and implemented by an experienced team of Education Liaison Officers (ELOs) representing the engineering consultancies involved in the upgrade. The programme also relies on the input of professionals from STEM-related industries who work on the A9.

### Academy9 Partnerships



The partnerships between Academy9, industry professionals, teachers, pupils, parents and the wider community are key to the aims of the programme, which thrives on the mutual exchange of knowledge and creative thinking.

The following pages provide information about the events, activities and experiences already undertaken and those planned for future phases.

**Phase 1** raising awareness and improving understanding about the benefits of upgrading the A9

**Phase 2** increasing the impact of STEM-related activities on the motivation and aspirations of young people

**Phase 3** strengthening the scope and depth of STEM-related education through legacy planning

**Phase 4** promoting good practice in partnership working between industry and education to improve the life chances of young people

## **The Impact of Academy9**

Academy9 is an educational programme

- based on collaborative and partnership working
- using mentor-led activities and events in STEM subjects
- posing STEM-related educational challenges to engage young people
- building knowledge exchange between education and industry

It supports the strategic objectives of the Scottish Government to:

- improve skills and employment opportunities for young people, to reduce youth unemployment
- promote STEM subjects and related career pathways
- develop enhanced apprenticeships for young people
- help individuals and businesses reach their full potential
- build a more equal and inclusive society by ensuring a healthy, confident and resilient population
- create responsible citizens and successful learners
- improve life chances to build an engaged and productive workforce

The Academy9 programme offers dynamic learning opportunities for young people, through the promotion of STEM subjects relating directly to the upgrade of the A9. Its aim is to strengthen the motivation, aspirations and resilience of young people to seek positive career pathways and employment destinations in STEM-related industries.

Engaging with the STEM-related educational events, activities and experiences provides young people with the key personal, social and intellectual skills needed to become part of a resilient Scottish workforce. The programme aims to instill confidence and an interest in science, mathematics and technology to prepare young people for careers in engineering and construction, ecology and geology, digital technologies and leadership and management.

The programme also aims to help narrow the attainment gap. Based on principles of widening access and social inclusion, it provides equal opportunities for engagement in STEM-related activities, aiming to spark new aspirations in young people regardless of social background or gender.

### **Academy9 Core Activities**

Academy9 core activities are carried out annually with A9 corridor schools. They have been developed to work in a progressive manner, to create a larger picture of the STEM opportunities available to pupils. We also include the notion of building resilience and positive mindsets in all our core activities.

#### **Gateway Event**

- aimed at P4-P5 pupils
- introduces pupils to the A9 dualling upgrade and the Academy9 team
- pupils take part in mixed team activities relating to the A9
- activities are facilitated by ELOs and young industry professionals
- S3 mentors are trained to facilitate the event

#### **Roadshow Event**

- aimed at P6-P7 pupils
- 2 classroom activities set the scene
- workshops on route options, geology and ecology
- comprehensive manual of supplementary teaching materials provided for follow-up lessons

#### **Apprenticeship Academy**

- aimed at S2-S3, with S5 and S6 pupils acting as group mentors
- 2.5 day event
- industry professional led activities based on bridge building, the environment, road surveying, and ground conditions and risk resolution
- mega challenge to build a bridge over a 3D landscape
- a focus on mindsets to encourage a positive attitude to challenges
- family and friends invited at the end of the final day for the challenge results and prize giving

#### **Next Steps**

- aimed at S5-S6 pupils to prepare them for the workplace
- activities on interview techniques, writing CVs and personal statements, carried out by industry professionals
- pupils given opportunities to speak to professionals during the speed networking session

**Phase 1** Aims to:

- provide a series of progressive educational events, activities and experiences to raise awareness about the upgrade of the A9
- engage staff from education and industry to build partnerships within the A9 transport corridor - industry supporting education and education supporting industry
- increase awareness about the STEM-related career opportunities arising from the upgrade of the A9
- promote STEM subjects as a means to secure positive employment destinations for young people
- build personal and social confidence, aspirations and resilience amongst young people

Core events and activities

- first ministerial launch - of Academy9 at Kingussie High School
- Gateway events
- training of S3 pupils as mentors
- Roadshow events and development of classroom lesson plans for teachers
- Academy9 website development ([bit.ly/academy9](https://bit.ly/academy9))
- Education Practitioners Unit development at SCQF Level 6
- second ministerial launch - of Academy9 website and SCQF unit Level 6
- training of STEM industry professionals as tutors for the Education Practitioners Unit
- piloting of the Education Practitioners Unit
- research and preparation for developing the Apprenticeship Academy events promoting STEM careers
- training of senior pupils as mentors for the Apprenticeship Academy
- training of STEM Ambassadors
- engagement with staff and pupils in 13 primary schools and 4 secondary schools - totalling over 1400 people

In addition to these Phase 1 core activities, the ELOs engaged in approx. 30 non-core activities deriving from teachers' interest in, and positive engagement with Academy9.

### **Phase 2** Aims to:

- increase the scope and reach of the programme
- deepen and widen levels of knowledge, both locally and nationally, about opportunities arising from the upgrade of the A9
- strengthen the partnerships between education and industry around the promotion of STEM subjects
- use mind-set principles to instill confidence, motivation and resilience in young people
- collaborate with colleges and universities

### Core events and activities

- Gateway events
- Roadshow events, including events outside the A9 corridor
- Apprenticeship Academy events
- World Town Planning Day activities
- Academy9 Conference: Building a Legacy - to be held in March 2019
- development of a Transport Scotland customized award, to be credit rated by SQA (at a recommended SCQF Level 4) for S3, S4 and S5 pupils
- increase the range of resources on the Academy9 website, including those supporting the Level 4 pupils' unit
- review and update the SCQF Level 6 Education Practitioners Unit
- further engage with colleges and universities to promote Foundation Apprenticeship routes to STEM careers
- collaborate with professional agencies e.g. SECA, ICE, etc. to identify Apprenticeship opportunities
- contribute to national conferences and other events

Additional activities will be undertaken, including careers events, classroom learning support and activities relating to protecting the natural environment.

### **Awards**

In 2018 and beyond, Academy9 is applying for a number of industry/STEM awards including, e.g. British Construction Industry Award; Scottish Engineering Leadership Award.

**Phase 3** Aims to:

- strengthen the scope and depth of STEM-related activities
- continue to promote high levels of awareness, locally and nationally, about opportunities surrounding the upgrade of the A9
- work with education and industry professionals to ensure a legacy from Academy9 events, activities and experiences

Core events, activities and experiences for this phase will be determined by progress on the upgrade of the A9 and by any changes in government economic and education policy.

**Proposals**

1. To evaluate impact, conduct research into the employment and education destinations of a sample of pupils and students who had previously engaged in Academy9.
2. Plan and prepare for a further showcase event (to take place in Phase 4).

**Phase 4** Aims to:

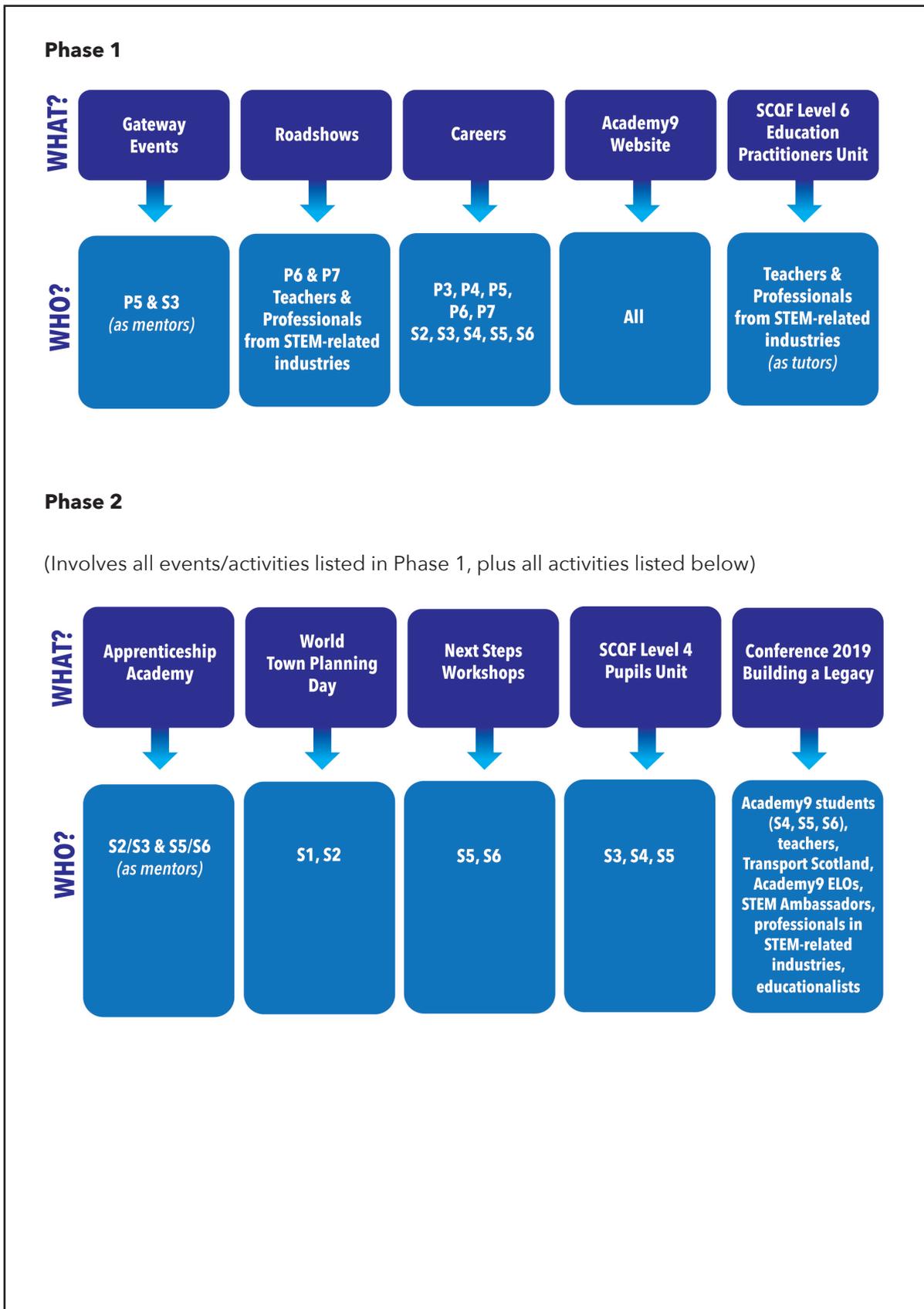
- promote discussion about embedding educational cultures and practices based around STEM subjects for the longer-term in areas around the A9 corridor
- disseminate good practice in partnership working through a showcase event and case studies about the upgrade of the A9 and the impact of Academy9

**Proposals**

1. Host a showcase event aimed at educationalists and STEM-related industry professionals.



### Appendix A Academy9 Engagement Chart (Phase 1 & Phase 2)



## Appendix B Sources of Information

- Curriculum for Excellence (<http://www.gov.scot/resource/doc/226155/0061245.pdf>)
- Education Working for All! 2014 (<http://www.gov.scot/Resource/0045/00451746.pdf>)
- Scottish Credit and Qualifications Framework (<http://scqf.org.uk/>)
- National Improvement Framework 2018 (<http://www.gov.scot/Resource/0052/00528872.pdf>)
- Scotland's Economic Strategy (<http://www.gov.scot/Resource/0047/00472389.pdf>)
- Local Education Authorities - Perth & Kinross, Highland
- Local Councils - Perth & Kinross, Highland
- Skills Development Scotland (<http://www.skillsdevelopmentscotland.co.uk>)
- University of the Highlands and Islands - Inverness & Perth Colleges (<http://www.uhi.ac.uk>)
- [STEM Learning](https://www.stem.org.uk) (<https://www.stem.org.uk>)
- Institute of Civil Engineers (<http://www.ice.org.uk>)
- The Telford Institute - Knowledge Business of the Institute of Civil Engineers (<https://thomastelford.com>)
- KEEP Scotland Beautiful - Eco Schools Scotland (<http://www.ecoschoolsscotland.org>)
- Highland and Islands Enterprise (<http://www.hie.co.uk>)
- Scottish Enterprise (<http://www.scottish-enterprise.com>)
- Highland and Islands Regional Skills Investment Plan (<http://www.hie.co.uk/common/handlers/download-document.ashx?id=50c3b1c3-b696-4111-8485-3cd42c8d9204>)
- Innovation Centres Scotland Ltd (<http://www.innovationcentres.scot>)
- Standard Industrial Classification (SIC) (<https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities>)
- Innovation Centre for Sensor and Imaging (<https://www.interface-online.org.uk/innovation-centre-sensor-and-imaging-systems-censis>)

