

TECHFEST - SETPOINT

Promoting Science, Technology, Engineering and Mathematics

Scottish Charity No SC010349



Geology



Drilling



Processing



Reservoir



Finance



Presentation Day

STEM In The Pipeline

An Oil & Gas Industry Project for S6 students
August – December 2011

Call for Industry Professionals

Enthusiastic
Motivating
Informative
Communicators

To encourage S6 school pupils

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STEM In The Pipeline - An Overview

STEM In The Pipeline was developed in 2006 by TechFest-SetPoint with industry professionals to enable teams of pupils to apply their knowledge of school subjects to a realistic industry project. The project set is a challenging one - to produce a Field Development Plan.

STEM In The Pipeline is in 3 parts and runs between August and December. Enthusiastic industry professionals offer unique and valuable assistance throughout STEM In The Pipeline in one or more of the many roles.

Part 1: Introduction Day at the University of Aberdeen - Friday August 19th

This is a full and busy day introducing the teams to the oil and gas industry and the project tasks.

Industry professionals and academics present 4 hands-on workshops, in Geology, Drilling & Reservoir, Finance and Processing, informing and encouraging the student teams throughout the day.

The pupils start working together in their newly-formed teams. They enjoy learning from friendly, experienced professionals and gain confidence through a series of practical activities. They find out each others strengths and begin to identify weaker areas.

Over the lunch break time is set aside for the school teams to meet the industry mentors who can help them during the project. What help can be offered and how to establish a reliable method of communication are two things addressed here.

At the end of the day the project materials are distributed to the teams.

Part 2: Project work at school - August to mid November

The project consists of 3 consecutive tasks. Each pupil is expected to be knowledgeable and involved in each task. An approximate time to spend on each task is given. Overall each team member will spend at least 40 hours on the project, in most cases more.

The project work is on a new scale for the school teams. Teamwork, communication, planning and regular meetings are essential. Research and investigation is necessary before making decisions. Along the way they will need advice, support, guidance and reassurance from their mentor. A visit to their school is beneficial.

Finally a project report is to be written detailing all their work and results. Three hardcopies and 1 electronic copy must be submitted to TechFest-SetPoint by the deadline date **Friday November 18th**. Late entries will not be considered.

The reports are forwarded by the organiser to the panel of assessors for their appraisal. This leaves the teams a couple of weeks to prepare for Part 3.

Part 3: Friday December TBC - Presentation Day

This is the opportunity for the teams to give a presentation and display a poster of all their hard work. The atmosphere is very supportive. Each team has a display board and tabletop space. A group of assessors will visit each team for a brief presentation and interview. Invited guests and resident industry professionals offer further encouragement and advice to the students with informal discussions. The teams receive written feedback from the panel. The day concludes with the Prize Giving and the presentation of British Science Association CREST Awards and participation certificates.

STEM In The Pipeline – Industry Professionals - Roles

Enthusiastic industry professionals offer unique and valuable assistance throughout STEM In The Pipeline in one or more of the many roles.

ROLE: Developing the Project	COMMITMENT: May – August
<p>The project is to produce a Field Development Plan in 3 consecutive tasks:</p> <ul style="list-style-type: none"> • Task A – To calculate the volume of oil in place • Task B – To chose a field development plan • Task C – To design a separator and assess safety; Calculate CO₂ emmissions 	
Key Purpose	
<p>A group of industry professionals confer on this between May and August, finally producing a set of 6 seismic charts accompanied by a printed copy and a CD of the main project. Answers too!</p>	

ROLE: Workshop Presenter Workshop Mentor	COMMITMENT: All day Friday August 19 th
Key Purpose:	
<p>Enthusiastic, motivating and informative communicators, keen to help and explain! Pupils enjoy doing hands-on activities in their teams with a mentor for support. When the team gets stuck a professional explanation ensures they recover & can progress with subsequent work. Workshops are: Geology, Drilling & Reservoir, Finance, Processing</p>	
Supplementary:	
<p>Pupils have also enjoyed conversations on the job you do, careers, the oil & gas industry and different types of engineering.</p>	

ROLE: Team Mentor	COMMITMENT: August to November as required
Combines well with Workshop Roles	Ideally Introduction Day too & Presentation Day visit
Key Purpose	
<p>Establish communication with school team(s). Enthusiastic, motivating and informative, encouraging team towards solutions & to account for their choices & results. A visit to your team is recommended early on in the project. This really helps the team understand what they have to do! Team visit to your workplace is optional. Introduction Day meeting is beneficial. Visit at Presentation Day is supportive.</p>	
Supplementary:	
<p>Consider a workshop role if time permits. A first chance to meet & work with your team.</p>	

ROLE: Projects Assessor

COMMITMENT: mid-November to December
All day Friday December TBC

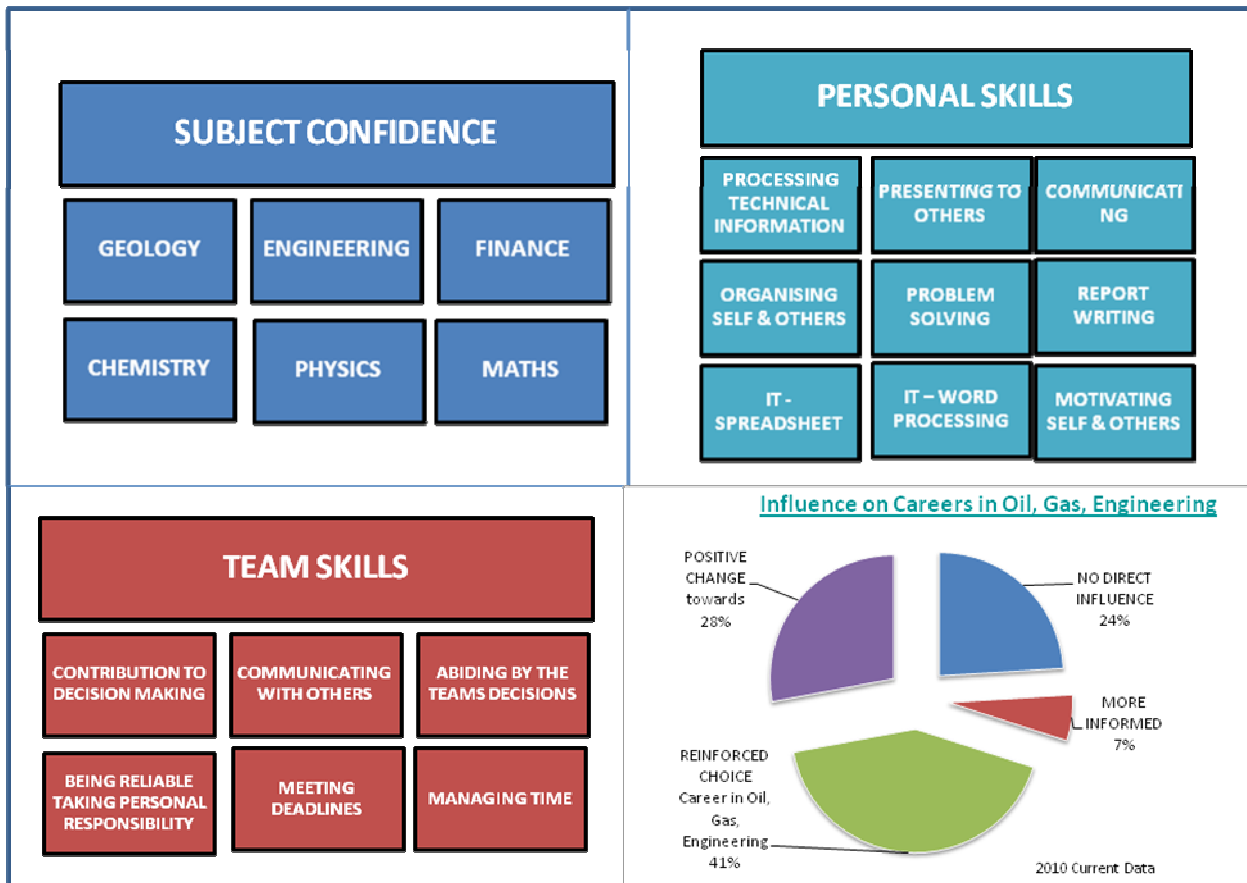
Key Purposes:

1. Between mid-November and December, as a panel member, to read and assess, to given criteria, a number of completed 'STEM In The Pipeline' projects.
2. At the Presentation Day, to complete the assessment process attending & interviewing at each project presentation & poster display.
3. Decide on prize-winners & provide written & verbal feedback to the teams

Supplementary:

Pupils are always amazed that the assessors are 'really interested' in what they have done. They normally are very apprehensive about their interviews but once they have been put at ease they go onto to really enjoy the experience!

STEM In The Pipeline – Increasing Pupils Confidence & Skills



On completing STEM In The Pipeline, previous students commented:

"It has cemented my decision to be a Geoscientist"

"I like the problem solving part of this project and so I have decided to pursue a career in Chemical Engineering"

"This project has only strengthened my resolve to work as an accountant for the oil industry"

"Taking part in this project has made me realise I would like to work in the engineering sector"

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