

How Primary, Secondary and Advanced Leaders Award for STEM (Primary Engineer) maps to the BTEC STEM Leaders Qualification (Sheffield Hallam University)

The Primary, Secondary and Advanced Leaders Award for STEM is a free project available to pupils between the ages of 5 and 19yrs to encourage both careers awareness and students to engage in STEM activities. The project supports part of the STEM Leaders Qualification - a BTEC qualification offered by Sheffield Hallam University & Edexcel. As such the Primary, Secondary and Advanced Leaders Award can be used in conjunction with the BTEC STEM Leadership Qualification.

There are two main parts to the Primary, Secondary and Advanced Leaders Award for STEM and both are required to receive the certificate. Such activities can be linked and form part of the experience towards achieving a BTEC in STEM Leadership Skills and below are provided some thoughts on where the links can be made.

Firstly students are required to write a letter of application outlining why they should be considered as a leader for STEM in the school or college. This letter can be written with a view to what they would like to do or what they have done with regards to STEM, how they intend or are helping others, what, if any, activities they are planning to run or be involved with and what their aspirations are towards STEM. It is felt that this particular exercise can contribute towards the experiences for Unit 1 of the BTEC STEM Leadership Qualification. See detail below and guidance notes at www.personalcapabilities.co.uk/slq.

Secondly students should research different careers and local industry. By contacting STEMNET a STEM Ambassador can be invited to the school to be interviewed by the students. The school can request an Ambassador from a particular field or industry and these visits are free. Students would have time to be able to research the visitor and their profession and prepare questions. As part of the BTEC STEM Leaders Qualification students are required to research leadership skills, practise them and learn from experts and other learners, linking with Units 1, 2 and 6.

Finally a consent form is required to be signed and forwarded from the school before certificates can be awarded.

In addition: there are a growing number of 'Special Awards' offered on the website – these are in broad terms competitions for the interview part of the award. Currently, The Royal Aeronautical Society, The IMechE, IChemE, WISE and BLOODHOUND SSC are all offering prizes for a particular focus in the interview. Many of the submitted interviews will be published on the organisations websites and potentially in the press.

Engagement: there are no restrictions on the numbers of students engaged from any one school or college – the more students involved the better. There is no restriction on the number of interviews submitted. The only restriction is that the award is an annual award and the students are required re-apply each year – this enables students to review their STEM activity and plan for the next 12mth period. Awards follow academic years.

More information on the Leaders Awards :

Website: www.leadersaward.com

Email: editor@leadersaward.com

Phone: 01254 876 598



More information on the BTEC STEM Leadership Qualification

Website: www.personalcapabilities.co.uk/slq

Email: l.m.bianchi@shu.ac.uk

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<p>Sheffield Hallam University's STEM Leadership Qualification Units of Work. For full detail download the specification from www.personalcapabilities.co.uk/slq</p>	<p>How Primary, Secondary and Advanced Leaders Award for STEM activity links to the SLQ unit: www.leadersaward.com</p>
<p>Developing Personal Leadership Skills (Unit 1)</p>	<p>Level 1 and 2 As part of the interview aspect of the award interviewees could be asked about their own leadership skills and how their career has developed them, their experience of leadership and how they have used or experienced project planning in their company and career.</p>
<p>Level 1 Assessment Criteria</p> <ul style="list-style-type: none"> 1.1 Identify different types of leadership 1.2 Outline the main features of leadership 2.1 With support, identify a decision that needs to be made about a task or situation 2.2 Describe the step or steps needed to make the decision 3.1 With support, identify the instructions needed for members of a group to carry out an aspect of their tasks or activities 3.2 Give instructions to group members 4.1 Give examples of when the learner gave feedback about a task or activity to another group member 4.2 Give examples of when the learner received feedback about a task or activity from another group member 	<p>Students as part of the Leaders Award are encouraged to interview and submit a range of articles. There are a number of Special Awards (competitions) that can be entered where prizes and a range of experiences are offered. A Special Award looking at Leadership skills will be offered from September 2010 – criteria will be an interview looking at the leadership skills the interviewee has experienced and utilised. It will also consider advice that the interviewee would offer in project management and leading projects.</p> <p>Answers would form the basis of further research and would include opportunities to build on the experience of the interviewee in project management and delivery.</p>
<p>Unit 11 Level 2 Assessment Criteria</p> <ul style="list-style-type: none"> 1.1 Describe the main features of leadership 1.2 Explain how their own skills and qualities relate to the main features of leadership 2.1 Describe the range of skills they will use to lead others 2.2 Explain how they will put these skills into practice in order to lead others 3.1 Select a suitable activity to demonstrate their leadership skills 3.2 Explain why they selected that activity and how it will enable them to demonstrate an appropriate range of skills 	<p>The STEM Ambassadors programme could provide a person (from a desired field) to interview and also possibly act as a mentor to the project the students are looking to deliver.</p> <p>Level 2 As part of the Leaders Award an application has to be made detailing how the students are going to engage in STEM activities and support others. This letter can be used to help students focus on the activity, who would be involved and its aims, objectives and outcomes.</p> <p>Activities could include: Visiting local primary schools and supporting Primary Engineer activities, helping other students achieve the Leaders Award, supporting a primary or secondary STEM Club, download activities from the BLOODHOUND SSC Website and run with others, organise a Café Sci meeting, be involved in a STEM day of activities, Go4SET, developing a hobby club.</p>

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<p>Practising Leadership Skills with Others (Unit 2)</p>	<p>Level 1 and 2 Primary, Secondary and Advanced Leaders Award for STEM: Reviewing the leadership skills employed against those discussed with the people the students have interviewed – reading each others interviews and discussing aspects which are common and those where innovative skills have been employed.</p>
<p>Level 1 1.1 Describe leadership skills they could practise with others 2.1 Discuss instances when they have demonstrated leadership skills 3.1 Discuss the effectiveness of the leadership skills they have demonstrated 3.2 Identify one aspect that went well and one that did not go so well</p> <p>Unit 12 Level 2 1.1 Explain how their leadership skills will contribute to a given group activity 2.1 Give support to other members of the group 2.2 Allocate tasks and activities appropriately to other members of the group 2.3 Give and receive appropriate feedback 2.4 Make decisions about tasks and activities appropriately 3.1 Carry out an evaluation of their leadership performance 3.2 Suggest areas for improvement of their leadership performance</p>	<p>Level 2 Project planning looking at structures and tasks – working together with agreed objectives and timelines.</p> <p>Activities could include: Visiting local primary schools and supporting Primary Engineer activities, helping other students achieve the Leaders Award, supporting a primary or secondary STEM Club, download activities from the BLOODHOUND SSC Website and run with others, organise a Café Sci meeting, be involved in a STEM day of activities, Go4SET, developing a hobby club.</p> <p>Review activities: Evaluating leadership amongst team members and also surveying the impact on those the activity has engaged.</p>

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<p>Learning with Colleagues and Other learners (Unit 3)</p>	<p>Primary, Secondary and Advanced Leaders Award for STEM Level 1:</p>
<p>Level 1 1.1 Describe a situation in which they learn with co-workers or other learners 2.1 Express opinions or feelings about an aspect of their learning 2.2 Respond appropriately to others' opinions and feelings about an aspect of learning 2.3 Give and receive feedback about their learning 3.1 Recognise own preferred method of learning 3.2 Describe how this compares to others' methods of learning 4.1 Describe the progress they have made towards an identified learning goal</p> <p>Unit 13: Level 2 1. 1 Explain why learning with their co-workers or other learners is important for their own development 2.1 Describe a learning goal which they will be able to undertake with co-workers or other learners 2.2 Explain how they will work towards achieving the learning goal 3.1 Respond appropriately to advice from others 3.2 Express beliefs and opinions to others appropriately 3.3 Give helpful feedback to others 4.1 Give examples of how they have learned with co-workers or other learners 4.2 Reflect on their experience of learning with a group of other co-workers or other learners</p>	<p>3.1 How they have taken (rejected or adapted) advice from the people interviewed.</p>

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<p>Communicating Solutions to Others (Unit 4)</p>	<p>No direct link is applicable here.</p>
<p>Level 1</p> <ul style="list-style-type: none"> 1.1 With support, identify an appropriate problem that they can solve 1.2 Identify a way in which they can solve the problem 2.1 Describe appropriate communication methods needed to present the solution to others 2.2 Identify the appropriate information that is needed to communicate the solution 3.1 Present the solution to others in an appropriate way 3.2 Respond appropriately to others' views 4.1 Carry out a review of their performance 4.2 Identify one aspect that went well and one that did not go so well <p>Unit 14: Level 2</p> <ul style="list-style-type: none"> 1.1 Describe a possible problem to solve 1.2 Explain why the problem requires a solution 1.3 Describe a way to solve the problem 2.1 Using appropriate communication methods, explain to others how the problem was solved 2.2 Use appropriate information to support their explanation 3.1 Identify possible questions or objections to their solutions to a problem 3.2 Plan how to deal with feedback and questions from others in the group 3.3 Respond appropriately to questions or objections from others 4.1 Evaluate how effective their performance was 4.2 Suggest areas for improvement 	

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<p>Working in a Team Unit 5</p>	<p>Primary, Secondary and Advanced Leaders Award for STEM: Level 1 and 2 Using the application letter outlining projects to be worked on review how the project has been delivered as part of a team activity.</p>
<p>Level 1 1.1 Describe positive behaviours necessary for effective teamwork 2.1 Outline their own strengths, skills and experiences that might be relevant to a particular task 2.2 State some aspects of a particular task that they think they could do well, based on their identified strengths, skills and experiences 3.1 Describe what the task is about and what the team is working to achieve 3.2 Describe own role and responsibilities and those of others in the team 3.3 Explain how their own role contributes to the work of the team as a whole 4.1 Give examples of when they listened to the ideas and suggestions of others 4.2 Give ideas and suggestions as to how the team might complete their task 4.3 Outline examples of when they offered to help or support other team members 4.4 Outline examples of when they accepted the help or advice of others 4.5 Complete the aspects of the task they were allocated, in line with the brief 5.1 Describe which positive teamworking behaviours they demonstrated in undertaking the task 5.2 Identify some teamworking skills that they could improve Unit 16: Level 2 1.1 Explain the advantages and disadvantages of having a team complete a task 2.1 Identify a code of conduct for effective team work 2.2 Explain the likely consequences of team members not following a code of conduct 3.1 Explain their own strengths, skills and experiences, as relevant to a task being undertaken by a team 3.2 Identify some relevant strengths, skills and experiences that other members bring to a particular team 4.1 Agree with other team members the roles and responsibilities of each member of the team 4.2 Explain how each role contributes to the team's objectives and the completion of the team task 5.1 Describe ways in which respect was shown for the ideas and suggestions of others 5.2 Identify relevant ideas and suggestions which were given and which helped the team to complete their task 5.3 Describe ways in which help, support or advice was given to team members where appropriate 5.4 Explain why it is important to respond positively to advice or constructive criticism 5.5 Complete tasks allocated to the required standard and on time 6.1 Discuss how their individual performance contributed to the overall performance of the team 6.2 Outline ways in which the team as a whole performed effectively 6.3 Outline areas in which the team could improve its team work skills</p>	<p>Activities review: STEM Ambassador could be asked to work with the teams to support the activity and offer advice as to the project being run (where possible this may be the person who was interviewed)</p>

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<p>Learning from More Experienced People Unit 6</p>	<p>Primary, Secondary and Advanced Leaders Award for STEM Level 1 and 2 Leaders Award:</p>
<p>Level 1 1.1 Describe more experienced people they could come into contact with, both within and outside the workplace or place of learning 2.1 Describe ways in which they could learn from more experienced people 2.2 Describe what is helpful or not helpful about the ways they could learn from more experienced people 3.1 Describe skills that more experienced people have demonstrated 3.2 Describe how they will use these skills themselves</p> <p>Unit 17: Level 2 1.1 Describe situations in which they might interact with more experienced people 2.1 Describe an effective way of working demonstrated by a more experienced person 2.2 Explain why this way of working was effective 3.1 Describe an example of a skill or process they have learned from others with more experience 3.2 Explain how they can use what they have learned to improve their performance 4.1 Carry out an evaluation of the skills, knowledge or understanding they have learned from more experienced people</p>	<p>By interviewing professionals from a range of backgrounds pupils will have an opportunity to engage and learn from their experience. The process of writing the interviews will enable students to identify leadership skills and have used them in their activities. By working in a team and with a range of people teachers, adults and professionals (STEM Ambassadors) students will be able to review their activities against the project objectives they identified at the outset.</p>