












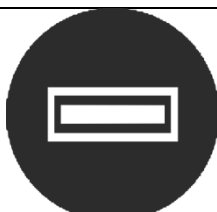

Engineers Week 2015

Second Level Visits to Lough Gur Heritage Centre

Themes	Level	Time	Cost	Core Skills	Type of Activity
					
ESA Rosetta Engineering Electronics Soldering STEM Career Space	Second Level, 1 st year, 2 nd year	3.5 hour	€3 per student including concession for competition winners	Evaluation - Analysis - Problem solving - Electronics -Engineering	Hands on, workshop,

Engineering with ESA

	Brief Description
	<p>Students will partake in a variety of activities during their visit to Lough Gur Heritage Centre. Students are introduced to electronics and the vital role electronics play in space technology with a particular emphasis on ESA and the Rosetta mission.</p> <p>Students will learn how electronics are used in space as well as learn new electronics skills through a hands-on workshop including soldering. Students will also learn more about the Rosetta mission through discussions and demonstrations. Students will take part in space based discussions with onsite experts as well as web live links to ESA experts</p>
	Goals
	<ul style="list-style-type: none"> - Discuss space based electronics including electronic systems onboard the Rosetta mission - Learn about electronic circuits - Learn about the safety procedures associated with soldering - Learn the skill of soldering - Discuss about modern electronics - Learn about the comet C67P through a unique interaction - Explore the engineering behind modern observatories - Discuss current ESA projects with experts via a live link

	<p>Learning Objectives and Curricular Links</p> <p>Non – Curricular</p> <ul style="list-style-type: none"> • Engineering skills • Problem Solving • Fine motor skills <p>Curricular</p> <ul style="list-style-type: none"> • JC Science. Section 3C6 Electronics <p>Career Guidance – STEM Careers</p>
	<p>Materials</p> <ul style="list-style-type: none"> • Soldering Kits • Solder • Soldering Irons • Snips • De-Soldering gun
	<p>Background Information / Skills required</p> <ul style="list-style-type: none"> • Engineers Week 2015 • ESA Electrical Engineering • ESERO • How to solder guide
	<p>Summary Activity Description</p> <ul style="list-style-type: none"> • Students will learn all about electronics in space, where they are used and some of the challenges presented by having electronics in space • Students will learn about circuits and how modern manufacturing is used to make circuits • Students will learn about the safety requirements for electronics and soldering • Students will learn to solder, correctly, using circuits which they will take home • Dr Niall Smith will give a talk about astronomy and its links to Ireland’s past and future before a tour of the Lough Gur centre with a discussion on the engineering of the local stone circle. • Students will interact with ESA experts via a live link up.
	<p>Additional Information / Follow on Activities</p> <p>These activities are sponsored by ESERO (the European Space Agency’s European Space Education Resource Office in Ireland).</p>

