Forward Education

<div style="background:green">Wildfire detection with Autonomous Vehicles</div>

Northern Ireland - Mathematics
Mathematics
Grade **Key Stage 3** - Adopted: **2012**

AREA OF LEARNING	NIR.1.	Mathematics and Numeracy: Mathematics with Financial Capability
STRAND	1.5.	Learning Outcomes: The Learning Outcomes require the demonstration of skills and application of knowledge and understanding of Mathematics.
SUBSTRAND / ESSENTIAL KNOWLEDGE		Pupils should be able to:

STANDARD	1.5.5.	Show deeper mathematical understanding by thinking critically and flexibly, solving problems and making informed decisions, using ICT where appropriate.

Northern Ireland - Science and Technology
Science
Grade **Key Stage 3** - Adopted: **2007**

Course/Subject		SCIENCE AND TECHNOLOGY: Science
Objective		Developing pupils' Knowledge, Understanding and Skills
Statutory Requirement		Pupils should have opportunities, through the contexts opposite, to:

		develop creative and critical thinking in their approach to solving scientific problems;

Course/Subject		SCIENCE AND TECHNOLOGY: Science
Objective		Developing pupils' Knowledge, Understanding and Skills
Statutory Requirement		learn about:
		Forces and energy

		Forces and energy transfer

Course/Subject		SCIENCE AND TECHNOLOGY: Science
Objective		Developing pupils' Knowledge, Understanding and Skills
Statutory Requirement		learn about:
		Earth and Universe

		The environment and human influences

Course/Subject		SCIENCE AND TECHNOLOGY: Science
Objective		(Objective 1) Developing pupils as Individuals

Statutory Requirement		Opportunities must also be provided to explore issues related to:

Spiritual Awareness: Develop a sense of wonder about the universe, for example, the scale from the smallness of the atom to the vastness of outer space, the complexity, diversity, and interdependence of living things etc.

Course/Subject		SCIENCE AND TECHNOLOGY: Science
Objective		(Objective 3) Developing pupils as Contributors to the Economy and the Environment
Statutory Requirement		Pupils should have opportunities to:

Investigate the effects of pollution, for example, water, air, land, sound etc and specific measures to improve and protect the environment, for example, renewable energy, efficient use of resources and waste minimisation etc. (Education for Sustainable Development)

Investigate what can be done to conserve and promote biodiversity, for example, school wildlife gardens / wilderness areas, anti-pollution strategies, habitat management etc. (Education for Sustainable Development)

Course/Subject		SCIENCE AND TECHNOLOGY: Science
Objective		Learning Outcomes
Statutory Requirement		The learning outcomes require the demonstration of skills and application of knowledge and understanding of Science. Pupils should be able to:

use investigative skills to explore scientific issues, solve problems and make informed decisions;

show deeper scientific understanding by thinking critically and flexibly, solving problems and making informed decisions, using Mathematics and ICT where appropriate;

demonstrate self management by working systematically, persisting with tasks, evaluating and improving own performance;

communicate effectively in oral, visual, written, mathematical and ICT formats, showing clear awareness of audience and purpose.

Course/Subject		SCIENCE AND TECHNOLOGY: Technology and Design
Objective		Developing pupils' Knowledge, Understanding and Skills
Statutory Requirement		Pupils should have opportunities through the contexts opposite, to develop creative thinking and problem solving skills through:

Design – identifying problems; investigating, generating, developing, modelling and evaluating design proposals; giving consideration to form, function and safety;

Control – incorporate control systems, such as mechanical, electronic or computer-based, in products and understand how these can be employed to achieve desired effects.

Course/Subject		SCIENCE AND TECHNOLOGY: Technology and Design
Objective		(Objective 1) Developing pupils as Individuals
Statutory Requirement		Pupils should have opportunities to:

Respond to a personal design challenge in relation to their own lifestyle. (Personal Understanding)

Course/Subject		SCIENCE AND TECHNOLOGY: Technology and Design
Objective		(Objective 2) Developing pupils as Contributors to Society
Statutory Requirement		Pupils should have opportunities to:

Explore technical inventions and designs that have met a social need cost-effectively.

Design cost effective and appropriate solutions to meet the specific needs of diverse local and global groups. (Citizenship)

Course/Subject		SCIENCE AND TECHNOLOGY: Technology and Design
Objective		(Objective 3) Developing pupils as Contributors to the Economy and the Environment
Statutory Requirement		Pupils should have opportunities to:

Pursue design solutions using environmental friendly materials and energy sources.

Identify product needs and pursue sustainable harmonious design solutions in a local outdoor/indoor context. (Education for Sustainable Development)

Course/Subject		SCIENCE AND TECHNOLOGY: Technology and Design
Objective		Learning Outcomes
Statutory Requirement		The learning outcomes require the demonstration of skills and application of knowledge and understanding of Technology and Design. Pupils should be able to:

demonstrate self management by working systematically, persisting with tasks, evaluating and improving own performance;

communicate effectively in oral, visual (including graphic), written, mathematical and ICT formats showing clear awareness of audience and purpose.