

**Main Criteria:** Forward Education  
**Secondary Criteria:** Curriculum for Wales  
**Subjects:** Mathematics, Science, Technology Education  
**Grades:** 9, 10, Key Stage 3, Key Stage 4

## Forward Education

Replanting our Forests with Automated Tree Seeders

**Curriculum for Wales**  
**Science**  
 Grade **Key Stage 3** - Adopted: 2008

<b>Document</b>		<b>Key Stage 3 Programme of Study</b>
<b>Strand</b>		<b>Skills</b>
<b>Standard</b>		<b>Communication - Pupils should be given opportunities to:</b>

Standard	1	search systematically for, process and analyse information for a specific purpose, including ICT as appropriate
Standard	2	communicate logically by speech, writing, drawings, diagrams, charts, tables, bar charts, line graphs, videos and ICT packages using a wide range of scientific vocabulary, terms, symbols and conventions

<b>Document</b>		<b>Key Stage 3 Programme of Study</b>
<b>Strand</b>		<b>Skills</b>
<b>Standard</b>		<b>Enquiry - Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:</b>
<b>Standard</b>		<b>Planning - Pupils decide on the most suitable type of enquiry to carry out and outline the planned approach/method, recognising, deciding upon and justifying each of the following when appropriate:</b>

Standard	6	the equipment and techniques required for the enquiry
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<b>Strand</b>		<b>Skills</b>
<b>Standard</b>		<b>Enquiry - Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:</b>
<b>Standard</b>		<b>Developing - Pupils follow the planned approach/method, revise it where necessary, and where appropriate:</b>

Standard	2	make sufficient relevant observations and accurate measurements, using ICT as appropriate, to a degree of precision appropriate to the enquiry
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Standard	4	use scientific prior knowledge to explain links between cause and effect when concluding
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Standard	7	consider others' views to inform opinions and decisions.
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<b>Document</b>		<b>Key Stage 3 Programme of Study</b>
<b>Strand</b>		<b>Skills</b>
<b>Standard</b>		<b>Enquiry - Pupils should be given opportunities to carry out different types of enquiry, e.g. pattern-seeking, exploring, classifying and identifying, making things, fair testing, using and applying models, by:</b>

<b>Standard</b>		<b>Reflecting - Pupils think about what they have done in order to consolidate their learning and transfer skills, knowledge and understanding to another context by:</b>
Standard	3	identifying the learning/thinking strategies they have used

Standard 4 linking the learning to dissimilar but familiar situations, within and outside school.

<b>Document</b>		<b>Key Stage 3 Programme of Study</b>
<b>Strand</b>		<b>Range</b>
<b>Standard</b>		<b>Interdependence of organisms - Pupils should use and develop their skills, knowledge and understanding by investigating how animals and plants are independent yet rely on each other for survival. They should be given opportunities to study:</b>

Standard 7 how humans affect the local environment, e.g. litter, water pollution, noise pollution.

**Curriculum for Wales**  
**Science**  
Grade **Key Stage 4** - Adopted: 2008

<b>Document</b>		<b>Key Stage 4 Programme of Study</b>
<b>Strand</b>		<b>Skills</b>
<b>Standard</b>		<b>Communication skills - Pupils should be given opportunities to:</b>

Standard 1 recall, analyse, interpret, apply and question scientific information or ideas

Standard 3 present information, develop an argument and draw a conclusion, using scientific, technical and mathematical language, conventions and symbols and ICT tools.

<b>Document</b>		<b>Key Stage 4 Programme of Study</b>
<b>Strand</b>		<b>Range</b>
<b>Standard</b>		<b>Pupils should build on their previous experiences and be taught within the context of the skills section. They should have particular regard to:</b>

Standard scientific and technological developments, their benefits, drawbacks and risks

Standard ethical, social, economic and environmental issues and their interaction with science.

<b>Document</b>		<b>Key Stage 4 Programme of Study</b>
<b>Strand</b>		<b>Range</b>
<b>Standard</b>		<b>Environment, Earth and universe</b>

Standard 1 The effects of human activity on the environment can be assessed using living and non-living indicators.