

Mapping of E2/E3 units to 'How Science Works' ENGLAND

Opportunities to develop 'How Science Works'

How Science Works reference		WJEC Entry Pathways Science E2/E3 Units															
		Food & Health	Introduction to Plant care	Introduction to Land Maintenance	Introduction to Animal care	Science Health & safety	Science & our Universe	Making Useful Compounds	Science & the Human Body	Science & the Plant World	The Science of Light & Sound	Variation & adaption	Working with Electrical Circuit	Energy in the Home & workplace	Chemical products used in the Home & their impact	Renewable Energy	
Data, evidence, theories and explanations	a) how scientific data can be collected and analysed						✓		✓	✓	✓	✓	✓	✓			
	b) how interpretation of data, using creative thought, provides evidence to test ideas and develop theories						✓		✓	✓	✓	✓					
	c) how explanations of many phenomena can be developed using scientific theories, models and ideas						✓				✓	✓					
	d) that there are some questions that science cannot currently answer, and some that science cannot address						✓				✓						
Practical and enquiry skills	a) plan to test a scientific idea, answer a scientific question, or solve a scientific problem							✓		✓			✓	✓			
	b) collect data from primary or secondary sources, including using ICT sources and tools	✓		✓ (E3)				✓	✓	✓	✓	✓	✓				
	c) work accurately and safely, individually and with others, when collecting first-hand data					✓		✓			✓	✓	✓		✓		
	d) evaluate methods of collection of data and consider their validity and reliability as evidence.								✓	✓	✓						

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Communication skills	a) recall, analyse, interpret, apply and question scientific information or ideas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	b) use both qualitative and quantitative approaches							✓	✓		✓	✓	✓		✓		
	c) present information, develop an argument and draw a conclusion, using scientific, technical and mathematical language, conventions and symbols and ICT tools.	✓			✓		✓		✓			✓			✓	✓	
Applications and implications of science	a) about the use of contemporary scientific and technological developments and their benefits, drawbacks and risks														✓	✓	
	b) to consider how and why decisions about science and technology are made, including those that raise ethical issues, and about the social, economic and environmental effects of such decisions										✓	✓			✓	✓	
	c) how uncertainties in scientific knowledge and scientific ideas change over time and about the role of the scientific community in validating these changes.						✓		✓			✓			✓		

Mapping of E2/E3 Units to 'Breadth of Study' ENGLAND

Breadth of Study - POS reference		WJEC Entry Pathways Science E2/E3 Units														
		Food & Health	Introduction to Plant care	Introduction to Land Maintenance	Introduction to Animal care	Science Health & safety	Science & our Universe	Making Useful Compounds	Science & the Human Body	Science & the Plant World	The Science of Light & Sound	Variation & adaption	Working with Electrical Circuit	Energy in the Home & workplace	Chemical products used in the Home & their impact	Renewable Energy
Organisms and health	a) organisms are interdependent and adapted to their environments											✓				
	b) variation within species can lead to evolutionary changes and similarities and differences between species can be measured and classified											✓				
	c) the ways in which organisms function are related to the genes in their cells							✓	✓							
	d) chemical and electrical signals enable body systems to respond to internal and external changes, in order to maintain the body in an optimal state							✓								
	e) human health is affected by a range of environmental and inherited factors, by the use and misuse of drugs and by medical treatments.							✓								
Chemical and material behaviour	a) chemical change takes place by the rearrangement of atoms in substances													✓		
	b) there are patterns in the chemical reactions between substances						✓									
	c) new materials are made from natural resources by chemical reactions						✓							✓		
	d) the properties of a material determine its uses.													✓		

Mapping of E2/E3 units to 'How Science Works' WALES

Opportunities to develop 'How Science Works'

		WJEC Entry Pathways Science E2/E3 Units														
How Science Works reference		Food & Health	Introduction to Plant care	Introduction to Land Maintenance	Introduction to Animal care	Science Health & safety	Science & our Universe	Making Useful Compounds	Science & the Human Body	Science & the Plant World	The Science of Light & Sound	Variation & adaptation	Working with Electrical Circuit	Energy in the Home & workplace	Chemical products used in the Home & their impact	Renewable Energy
Communication	1. recall, analyse, interpret, apply and question scientific information or ideas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2. use both qualitative and quantitative approaches							✓	✓		✓	✓	✓		✓	
	3. present information, develop an argument and draw a conclusion, using scientific, technical and mathematical language, conventions and symbols and ICT tools	✓			✓		✓		✓			✓			✓	✓
Enquiry and practical skills	1. plan to test a scientific idea, answer a scientific question, or solve a scientific problem							✓		✓				✓	✓	
	2. collect data from primary or secondary sources, including using ICT sources and tools	✓		✓ (E3)				✓	✓	✓	✓	✓			✓	✓
	3. work accurately and safely, individually and with others, when collecting first-hand data					✓		✓			✓	✓	✓		✓	
	4. evaluate methods of collection of data and consider their validity and reliability as evidence.								✓	✓	✓					

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Data, evidence, theories and explanations – links between ideas and information in science	1. explore how scientific data can be collected and analysed, and how interpretation of data, using creative thought, provides evidence to test ideas and develop theories						✓		✓	✓	✓	✓					
	2. appreciate how explanations of many phenomena can be developed using scientific theories, models and ideas						✓				✓	✓					
	3. recognise that scientific knowledge changes over time, and that there are some questions that science cannot currently answer or address.						✓				✓						