

Teachers guide

Hot Spot	KS4		KS5	
	Overview	WJEC links	Overview	WJEC links
<p><b>Cognitive Robotics Research Centre, University of South Wales, Treforest, Pontypridd</b></p>	<p><b>Activity 1:</b> Questions to recap understanding of circuits and their control  <b>Activity 2:</b> Light Dependent Resistor – enquiry  <b>Activity 3:</b> Experimental Results from using an LDR  <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 3.1 Electric circuits</b>            (a), (c), (d), (e), (j)</p>	<p><b>Activity 1:</b> Design a robot  <b>Activity 2:</b> Autonomous vehicles introduction  <b>Activity 3:</b> Weighing up the pros and cons of autonomous vehicles  <b>Activity 4:</b> Issues to be addressed when designing an autonomous vehicle  <b>WJEC links to past paper questions</b></p>	<p><b>AS Physics Unit 1 Motion, energy and matter</b>            1.2 Kinematics            1.3 Dynamics  <b>AS Physics Unit 2 Electricity and light</b>            2.3 D.C. circuits            2.5 Wave properties</p>
<p><b>Craig-y-nos TB Sanitarium, Pen-y-cae, Powys</b></p>	<p><b>Activity 1:</b> Craig y Nos Information sheet  <b>Activity 1:</b> Making sense of the source text about Craig-y-nos  <b>Activity 2:</b> Ebola – Infographic  <b>Activity 2:</b> Ebola  <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 4.6 Disease, defence and treatment</b>            (a), (b), (c), (d), (f), (i)  <b>1.2 Respiration and the respiratory system in humans</b>            (c), (d)</p>	<p><b>Activity 1:</b> Craig y Nos Information sheet  <b>Activity 1:</b> Making sense of the source text questions  <b>Activity 2:</b> Mantoux test  <b>Activity 3:</b> Drug resistant TB  <b>WJEC links to past paper questions</b></p>	<p><b>A2 Biology Unit 4 Variation, inheritance and options</b>            Option A: Immunology and disease</p>





<p><b>Rachel's yoghurt, Aberystwyth, Ceredigion</b></p>	<p><b>Activity 1:</b> Formation of Yogurt Information sheet <b>Activity 1:</b> Formation of yogurt questions <b>Activity 2:</b> Enzymes and yoghurt making <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 1.1 Cells and movement across cell membranes</b> (i), (l), practical</p>	<p><b>Activity 1:</b> Formation of Yogurt Information sheet <b>Activity 1:</b> Formation of yoghurt – biochemistry <b>Activity 2:</b> Distinguishing between ethanal, propanone, ethanoic acid and ethanol <b>WJEC links to past paper questions</b></p>	<p><b>AS Biology Unit 1 Basic biochemistry and cell organisation</b> 1.1 Chemical elements are joined together to form biological compounds 1.4 Biological reactions are regulated by enzymes <b>A2 Chemistry Unit 4 Organic chemistry and analysis</b> 4.4 Aldehydes and ketones 4.8 Organic synthesis and analysis</p>
<p><b>Tan Lan bakery, Llandudno Junction, Conwy</b></p>	<p><b>Activity 1:</b> Fermentation and food Information sheet <b>Activity 1:</b> Fermentation and food questions <b>Activity 2:</b> Food and microorganisms <b>Activity 3:</b> Pros and cons of genetic manipulation in the food industry <b>Activity 4:</b> How does temperature affect yeast fermentation</p>	<p><b>DA GCSE: 1.1 Cells and movement across cell membranes</b> (i), (l) practical <b>1.2 Respiration and the respiratory system in humans</b> (a), (b)</p>	<p><b>Activity 1:</b> Fermentation Information sheet <b>Activity 1:</b> Which carbohydrate is the best to make bread? <b>Activity 2:</b> Glucose and fermentation <b>WJEC links to past paper questions</b></p>	<p><b>AS Biology Unit 3 Energy, homeostasis and the environment</b> 3.3 Respiration releases chemical energy in biological processes 3.4 Microbiology <b>AS Chemistry Unit 2 Energy, rate and chemistry of carbon compounds</b> 2.2 Rates of reaction</p>





	<b>WJEC links to past paper questions</b>			2.7 Alcohols and carboxylic acids
<b>Rockwool, Pencoed, Bridgend</b>	<b>Activity 1:</b> Home insulation <b>Activity 2:</b> Keeping buildings warm <b>Activity 3:</b> What is sound - music vs science <b>WJEC links to past paper questions</b>	<b>DA GCSE: 3.3 Making use of energy</b> (a), (b), (c), (d), (e), (f), (g) <b>DA GCSE: 3.5 Features of waves</b> (b), (e), (j)	<b>Activity 1:</b> Resource <b>Activity 1:</b> Presentation on modern uses of insulation <b>Activity 2:</b> Exploration of smart materials	<b>AS Physics Unit 1 Motion, energy and matter</b> 1.4 Energy Concepts 1.5 Solids under stress <b>A2 Physics Unit 3 Oscillations and nuclei</b> 3.4 Thermal physics
<b>Western Power Distribution (Wales), Llanfihangel-Ar-Arth, Pencader, Carmarthenshire</b>	<b>Activity 1:</b> Which energy provider should you use in Wales? <b>Activity 2:</b> Electricity bills <b>WJEC links to past paper questions</b>	<b>DA GCSE: 3.5 Domestic Electric</b> (a), (b), (c)	<b>Activity 1:</b> Alternating vs Direct Current <b>WJEC links to past paper questions</b>	<b>AS Physics Unit 2 Electricity and light</b> 2.3 D.C. circuits <b>A2 Physics Unit 4 Fields and options</b> Option A: Alternating Currents
<b>Gwynt y Môr offshore wind farm, North Wales</b>	Gwynt y mor information sheet – Wikipedia <b>Activity 1:</b> Wind turbines <b>Activity 2:</b> Designing and making a model wind turbine <b>WJEC links to past paper questions</b> <b>Generating electricity</b>	<b>DA GCSE: 3.2 Generating Electricity</b> (a)	<b>Generating electricity</b> <b>Activity 1:</b> Renewable energy in Wales resource <b>Activity 1:</b> Wylfa Greenpeace resource <b>Activity 1:</b> Reporting on energy supplies in Wales <b>Activity 2:</b> Fracking	<b>AS Physics Unit 1 Motion, energy and matter</b> 1.2 Kinematics 1.4 Energy Concepts <b>AS Physics Unit 2 Electricity and light</b> 2.1 Conduction of electricity 2.3 Wave Properties





	<p><b>Activity 1:</b> Comparing Welsh power stations  <b>Activity 2:</b> Generating electricity questions  <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 3.2 Generating Electricity</b>  (a), (b), (c), (e)</p>	<p><b>Activity 3:</b> Comparing nuclear power with either wind or tidal power  <b>WJEC links to past paper questions</b></p>	
<p><b>Rheidol hydropower station, Cwm Rheidol, Aberystwyth</b></p>	<p><b>Activity 1:</b> Rheidol power station information sheet  <b>Activity 1:</b> Hydro-powered power stations  <b>Activity 2:</b> Swansea Bay tidal lagoon</p> <p><b>Generating electricity</b>  <b>Activity 1:</b> Comparing Welsh power stations  <b>Activity 2:</b> Generating electricity questions  <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 3.2 Generating Electricity</b>  (a)</p> <p><b>DA GCSE: 3.2 Generating Electricity</b>  (a), (b), (c), (e)</p>	<p><b>Generating electricity</b>  <b>Activity 1:</b> Renewable energy in Wales resource  <b>Activity 1:</b> Wylfa Greenpeace resource  <b>Activity 1:</b> Reporting on energy supplies in Wales  <b>Activity 2:</b> Fracking  <b>Activity 3:</b> Comparing nuclear power with either wind or tidal power  <b>WJEC links to past paper questions</b></p>	<p><b>AS Physics Unit 1</b>  <b>Motion, energy and matter</b>  1.2 Kinematics  1.4 Energy Concepts  <b>AS Physics Unit 2</b>  <b>Electricity and light</b>  2.1 Conduction of electricity  2.3 Wave Properties</p>
<p><b>Wylfa nuclear power station, Anglesey</b></p>	<p>Wylfa Nuclear Power Station information sheet  <b>WJEC links to past paper questions</b></p> <p><b>Generating electricity</b></p>	<p><b>DA GCSE: 3.2 Generating Electricity</b>  (b)</p> <p><b>DA GCSE: 3.2 Generating Electricity</b></p>	<p><b>Generating electricity</b>  <b>Activity 1:</b> Renewable energy in Wales resource  <b>Activity 1:</b> Wylfa Greenpeace resource  <b>Activity 1:</b> Reporting on energy supplies in Wales</p>	<p><b>AS Physics Unit 1</b>  <b>Motion, energy and matter</b>  1.2 Kinematics  1.4 Energy Concepts  <b>AS Physics Unit 2</b>  <b>Electricity and light</b>  2.1 Conduction of electricity</p>





	<p><b>Activity 1:</b> Comparing Welsh power stations</p> <p><b>Activity 2:</b> Generating electricity questions</p> <p><b>WJEC links to past paper questions</b></p>	(a), (b), (c), (e)	<p><b>Activity 2:</b> Fracking</p> <p><b>Activity 3:</b> Comparing nuclear power with either wind or tidal power</p> <p><b>WJEC links to past paper questions</b></p>	2.3 Wave Properties
Airbus, Broughton, Flintshire	<p><b>Activity 1:</b> Finding out about flying aeroplanes</p> <p><b>Activity 2:</b> Forces acting on an aeroplane</p> <p><b>Activity 3:</b> Designing and making a paper aeroplane</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 6.2 Newton's laws</b></p> <p>(c), (f)</p>	<p>What makes a plane fly? Information sheet</p> <p><b>Activity 1:</b> What makes for an energy efficient aeroplane?</p> <p><b>Activity 2:</b> Investigating drones</p> <p><b>Activity 3:</b> Flying cars, fact or fiction?</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Physics Unit 1</b></p> <p><b>Motion, energy and matter</b></p> <p>1.2 Kinematics</p>
Oakwood, Narbeth, Pembrokeshire	<p><b>Activity 1:</b> Speed ride at Oakwood</p> <p><b>Activity 2:</b> Work and energy at Oakwood</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 6.3 Work and energy</b></p> <p>(a), (b), (c), (d), (e)</p>	<p><b>Activity 1:</b> Roller coaster Physics</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Physics Unit 1</b></p> <p><b>Motion, energy and matter</b></p> <p>1.2 Kinematics</p> <p>1.3 Dynamics</p> <p>1.4 Energy concepts</p>
Pendine Sands, Pendine, Carmarthenshire	<p><b>Activity 1:</b> Pendine Sands source text</p> <p><b>Activity 1:</b> Understanding the source text</p>	<p><b>DA GCSE: 6.1 Distance, speed and acceleration</b></p> <p>(a), (b), (c), (d)</p>	<p><b>Activity 1:</b> Information source</p> <p><b>Activity 1:</b> Making sense of the information source</p>	<p><b>AS Physics Unit 1</b></p> <p><b>Motion, energy and matter</b></p> <p>1.2 Kinematics</p> <p>1.3 Dynamics</p>





	<b>WJEC links to past paper questions</b>		<b>Activity 2:</b> Designing an aerodynamic car <b>WJEC links to past paper questions</b>	
<b>Barclodiad y Gawres, Anglesey</b>	<b>Activity 1:</b> Information sheet <b>Activity 1:</b> Questions on carbon dating	<b>DA GCSE: 6.6 Half-life</b> (a), (b), (c)	Barclodiad y Gawres information sheet <b>Activity 1:</b> Questions on C14 <b>Activity 2:</b> Radioactive decay <b>WJEC links to past paper questions</b>	<b>A2 Physics Unit 3 Oscillations and nuclei</b> 3.5 Nuclear decay
<b>Brymbo Steel Works, Brymbo, Wrexham</b>	PowerPoint Activitys 1 and 2 <b>Activity 1:</b> Summary sheet <b>Activity 1:</b> Sort cards <b>Activity 2:</b> Summary sheet transformation <b>WJEC links to past paper questions</b>	<b>DA GCSE: 5.3 Metals and their extraction</b> (e)	<b>Activity 1:</b> Electroplating iron with zinc <b>Activity 2:</b> Galvanic cells <b>WJEC links to past paper questions</b>	<b>A2 Chemistry Unit 3 Physical and inorganic chemistry</b> 3.1 Redox and standard electrode potential
<b>Tata Steel, Port Talbot, Neath Port Talbot</b>	<b>Activity 1:</b> The causes and effects of acid rain <b>Activity 2:</b> Persuasive letter <b>Activity 3:</b> Acid rain questions <b>WJEC links to past paper questions</b>	<b>DA GCSE: 2.4 The ever-changing Earth</b> (g), (h)	<b>Activity 1:</b> Tata, Port Talbot and green chemistry <b>Activity 2:</b> Developing a test on Green Chemistry <b>WJEC links to past paper questions</b>	<b>AS Chemistry Unit 2 Energy, rate and chemistry of carbon compounds</b> 2.3 The wider impact of chemistry





<p><b>Milford Haven Oil Refinery, Milford Haven, Pembrokeshire</b></p>	<p><b>Activity 1:</b> What is Crude Oil and how was it made?  <b>Activity 2:</b> Questions on crude oil and its processing  <b>Activity 3:</b> Understanding catalysts source square  <b>Activity 4:</b> Loop game for crude oil  <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 5.5 Crude oil, fuels and carbon compounds</b>            (a), (b), (c), (d)</p>	<p><b>Activity 1:</b> What is an oil refinery?  <b>Activity 2:</b> Finding out more about refining oil  <b>WJEC links to past paper questions</b></p>	<p><b>AS Chemistry Unit 2 Energy, rate and chemistry of carbon compounds</b>            2.4 Organic compounds            2.5 Hydrocarbons</p>
<p><b>Aberthaw Power Station, Barry, Vale of Glamorgan</b></p>	<p><b>Activity 1:</b> PowerPoint What do we know about pH?  <b>Activity 1:</b> What do we know about pH?  <b>Activity 2:</b> Investigating ways to measure pH  <b>Activity 3:</b> PowerPoint Neutralisation  <b>Activity 3:</b> Neutralisation  <b>Activity 4:</b> Testing for carbonates  <b>Activity 5:</b> Which sodium compound?  <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 5.2 Acids, bases and salts</b>            (a), (b), (c), (d), (e), (f), (i)</p>	<p><b>Activity 1:</b> Carbon capture  <b>Activity 2:</b> Reducing sulfur dioxide emissions in industry  <b>WJEC links to past paper questions</b></p>	<p><b>AS Chemistry Unit 2 Energy, rate and chemistry of carbon compounds</b>            2.3 The wider impact of chemistry            2.5 Hydrocarbons</p>
<p><b>Lake Vyrnwy, Powys</b></p>	<p>PowerPoint for all Activities  <b>Activity 1:</b> Should he drink the water?</p>	<p><b>DA GCSE: 2.3 Water</b>            (a), (b), (c), (e)</p>	<p><b>Activity 1:</b> Testing for soluble ions in tap water</p>	<p><b>AS Chemistry Unit 1 The language of chemistry, structure of matter</b></p>





	<p><b>Activity 2:</b> Is water pure (scientifically)?</p> <p><b>Activity 3:</b> How do ions dissolve in water?</p> <p><b>Activity 4:</b> Text - Sustainable water supplies</p> <p><b>Activity 4:</b> How do we treat water?</p> <p><b>Activity 5:</b> What is desalination?</p> <p><b>WJEC links to past paper questions</b></p>		<p><b>Activity 2:</b> Past paper question Summer 2014 WJEC</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>and simple reactions</b></p> <p>1.6 The Periodic Table</p>
<p><b>Brecon Beacons National Park – International Dark Sky Reserve, Powys</b></p>	<p><b>Activity 1:</b> Why do people look at the stars?</p> <p><b>Activity 2:</b> What do we know about the universe?</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 6.4 Stars and planets</b></p> <p>(a), (b), (d)</p>	<p><b>Activity 1:</b> The planets at night</p> <p><b>Activity 2:</b> The stars at night</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Physics Unit 1</b></p> <p><b>Motion, energy and matter</b></p> <p>1.6 Using radiation to investigate stars</p> <p><b>A2 Physics Unit 4</b></p> <p><b>Fields and options</b></p> <p>Option 3. Orbits and the wider universe</p>
<p><b>Swansea University, Materials research centre, Swansea</b></p>	<p><b>Activity 1:</b> Introducing smart materials – writing a commentary</p> <p><b>Activity 2:</b> Responses to an external stimulus</p> <p><b>Activity 3:</b> Questions on smart materials</p>	<p><b>DA GCSE: 5.1 Bonding, structure and properties</b></p> <p>(k)</p>	<p><b>Activity 1:</b> Smart materials</p> <p><b>Activity 2:</b> Piezoelectric materials</p>	<p><b>AS Physics Unit 2</b></p> <p><b>Electricity and light</b></p> <p>2. 1 Conduction of electricity</p> <p>2.2 Resistance</p>







	<p><b>Activity 4:</b> Sort cards</p> <p><b>Activity 4:</b> Complete the card sort</p> <p><b>WJEC links to past paper questions</b></p>			
<p><b>Wales Millennium Centre, Cardiff</b></p>	<p><b>Activity 1:</b> Materials used to build Millennium Centre</p> <p><b>Activity 1:</b> Questions on materials used to build Millennium Centre</p> <p><b>Activity 2:</b> Sustainable construction materials</p> <p><b>Activity 3:</b> Questions on metallic structure</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 5.1 Bonding, structure and properties</b> (a), (b), (c), (f)</p>	<p><b>Activity 1:</b> Metals and the Millennium Centre</p> <p><b>Activity 2:</b> Green chemistry and sustainability</p> <p><b>Activity 3:</b> QER question on Green chemistry</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Chemistry Unit 1</b> <b>The language of chemistry, structure of matter and simple reactions</b></p> <p>1.4 Bonding</p> <p>1.5 Solid structures</p> <p><b>AS Chemistry Unit 2</b> <b>Energy, rate and chemistry of carbon compounds</b></p> <p>2.3 The wider impact of chemistry</p>
<p><b>Health Leads UK, Llandysul, Ceredigion</b></p>	<p><b>Activity 1:</b> What do we know about the digestive system?</p> <p><b>Activity 2:</b> What do we know about enzymes and digestion?</p> <p><b>Activity 3:</b> What do we know about enzymes?</p> <p><b>Activity 4:</b> What do we know about the Lock and</p>	<p><b>DA GCSE: 1.3 Digestion and the digestive system in humans</b> (a), (b), (d), (e), (f)</p> <p><b>DA GCSE: 1.1 Cells and movement across membranes</b> (i), (j), (k), (l)</p>	<p><b>Activity 1:</b> Are enzyme supplements advantageous for health?</p> <p><b>Activity 2:</b> Coeliac disease</p> <p><b>Activity 3:</b> Gut bacteria</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Biology Unit 1</b> <b>Basic biochemistry and cell organisation</b></p> <p>1.4 Biological reactions are regulated by enzymes</p> <p><b>A2 Biology Unit 3</b> <b>Energy, homeostasis and the environment</b></p> <p>3.4 Microbiology</p>





	<p>Key model for enzyme action?</p> <p><b>Activity 5:</b> Text transformation</p> <p><b>WJEC links to past paper questions</b></p>			
<p><b>Glan Clwyd Hospital, Bodelwyddan, Denbighshire</b></p>	<p><b>Activity 1:</b> How do we use radiation?</p> <p><b>Activity 2:</b> How do we protect ourselves?</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 6.5 Types of radiation</b> (c), (f), (g), (i)</p> <p><b>DA GCSE: 3.2 Generating electricity</b> (b), (h)</p>	<p><b>Activity 1:</b> What are alpha, beta and gamma radiation?</p> <p><b>Activity 2:</b> Background radiation</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>A2 Physics Unit 3 Oscillations and nuclei</b> 3.5 Nuclear decay</p>
<p><b>Lavernock Beach, Vale of Glamorgan</b></p>	<p><b>Activity 1:</b> How did a Dinosaur end up on a beach in South Wales?</p> <p><b>Activity 2:</b> Convection currents in a beaker of water – plate tectonics</p>	<p><b>DA GCSE: 2.4 The ever-changing Earth</b> (a), (b), (c)</p>	<p><b>Activity 1:</b> Lavernock beach today</p> <p><b>Activity 2:</b> Practical question – acid rain</p> <p><b>Activity 3:</b> A changing world</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Chemistry Unit 2 Energy, rate and chemistry of carbon compounds</b> 2.4 Organic compounds 2.5 Hydrocarbons</p>
<p><b>Millennium Principality Stadium, Cardiff</b></p>	<p><b>Activity 1:</b> What is photosynthesis?</p> <p><b>Activity 2:</b> Why are plants important to us?</p> <p><b>Activity 3:</b> Why is photosynthesis important?</p>	<p><b>DA GCSE: 1.5 Plants and photosynthesis</b> (a), (b)</p>	<p><b>Activity 1:</b> Hybrid grass and photosynthesis</p> <p><b>Activity 2:</b> Photosynthesis and productivity</p>	<p><b>A2 Biology Unit 3 Energy, homeostasis and the environment</b> 3.2 Photosynthesis uses light energy to synthesise organic molecules</p>





	<p><b>Activity 4:</b> Concept map</p> <p><b>Activity 5:</b> Photosynthesis and Welsh rarebit</p> <p><b>WJEC links to past paper questions</b></p>		<p><b>Activity 3:</b> The biochemistry of photosynthesis</p>	
<p><b>National Botanic Gardens of Wales, Carmarthenshire</b></p>	<p><b>Activity 1:</b> Information sheet on barcodes</p> <p><b>Activity 1:</b> Questions on information sheet</p> <p><b>Activity 2:</b> Generic profiling</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 4.1 Classification and biodiversity</b> (a), (b)</p> <p><b>DA GCSE: 4.3 DNA and inheritance</b> (a), (b), (c), (d)</p>	<p><b>Activity 1:</b> Information sheet on barcodes</p> <p><b>Activity 1:</b> Questions on information sheet</p> <p><b>Activity 2:</b> Analyses of a news report</p> <p><b>Activity 3:</b> Mathematics and DNA</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Biology Unit 1 Basic biochemistry and cell organisation</b></p> <p>1.5 Nucleic acids and their functions</p> <p>1.6 Genetic information is copied and passed on to daughter cells</p> <p><b>A2 Biology Unit 4 Variation, inheritance and options</b></p> <p>4.5 Application of reproduction and genetics</p>
<p><b>Royal Gwent Hospital Stroke Unit, Newport</b></p>	<p><b>Activity 1:</b> What do you know about the heart and circulatory system?</p> <p><b>Activity 2:</b> Cardiovascular Disease and stroke</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 1.4 Circulatory system in humans</b> (c), (d), (e), (i), (j)</p>	<p><b>Activity 1:</b> What is a stroke?</p> <p><b>Activity 2:</b> How to treat a stroke</p> <p><b>WJEC links to past paper questions</b></p>	<p><b>AS Biology Unit 2 Biodiversity and physiology of body systems</b></p> <p>2.3 Adaptations for transport</p>





<p><b>Diabetes Research Unit Cymru, Swansea University, Swansea</b></p>	<p><b>Activity 1:</b> What do you already know about diabetes? <b>Activity 2:</b> Diabetes awareness poster <b>Activity 3:</b> Diabetes and cell membrane permeability <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 4.5 Response and regulation</b> (g), (h) <b>DA GCSE: 1.1 Cells and movement across membranes</b> (e), (f), (g), (h)</p>	<p><b>Activity 1:</b> What do you already know about diabetes and homeostasis? <b>Activity 2:</b> Diabetes and cell membrane permeability <b>Activity 3:</b> Increasing numbers of people with diabetes <b>Activity 4:</b> Inventions to treat diabetes <b>WJEC links to past paper questions</b></p>	<p><b>AS Biology Unit 1 Basic biochemistry and cell organisation</b> 1.3 Cell membranes and transport <b>A2 Biology Unit 3 Energy, homeostasis and the environment</b> 3.7 Homeostasis and the kidney</p>
<p><b>Kenfig National Nature Reserve, Kenfig, Bridgend</b></p>	<p><b>Activity 1:</b> What lives at Kenfig NNR? <b>Activity 2:</b> Sites of Special Scientific Interest (SSSIs) <b>Activity 3:</b> How many orchids? <b>WJEC links to past paper questions</b></p>	<p><b>DA GCSE: 1.6 Ecosystems and human impact on the environment</b> (a), (e)</p>	<p><b>Activity 1:</b> Conservation and land management <b>Activity 2:</b> Finding out numbers of species <b>Activity 3:</b> Maintaining an ecological balance <b>WJEC links to past paper questions</b></p>	<p><b>A2 Biology Unit 3 Energy, homeostasis and the environment</b> 3.5. Population size and ecosystems 3.6 Human impact on the environment <b>A2 Biology Unit 4 Variation, inheritance and options</b> 4.4 Variation and evolution</p>





<b>Cancer Research Wales, Velindre Hospital, Cardiff</b>	<b>Activity 1:</b> What are STEM cells? <b>Activity 2:</b> Ethical considerations of stem cells <b>WJEC links to past paper questions</b>	<b>DA GCSE: 4.2 Cell division and stem cells</b> (d), (e), (f)	<b>Activity 1:</b> What do we know about stem cells? <b>Activity 2:</b> Stem cell leaflet <b>Activity 2:</b> Reviewing the leaflet <b>Activity 3:</b> Bioethics and stem cells <b>WJEC links to past paper questions</b>	<b>A2 Biology Unit 4 Variation, inheritance and options</b> 4.5 Application of reproduction and genetics
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