

Lesson	Resource	Experiences and Outcomes	Benchmarks
1. Future Power	Lesson Outline 1	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems. SCN 3-04 b	Presents research findings on the advantages and disadvantages associated with the use of renewable energy sources and their impact on society, demonstrating an informed view based on evidence.
	Introductory Video - Future Power		
	Lesson Slides - Renewables Research	By contributing to an investigation on different ways of meeting society's energy needs, I can express an informed view on the risks and benefits of different energy sources, including those produced from plants. SCN 4-04 a	Applies knowledge and understanding from different areas of the curriculum to express an informed view of the risks and benefits of different energy sources, including at least one energy source derived from plant.
	Worksheet 1 - Renewables Research	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development. SCN 3-20 a	Gives examples of how skills developed through science are used in a wide variety of jobs and careers including science, technology, engineering and mathematics (STEM) careers.
	Suggested Information Sources	I have researched new developments in science and can explain how their current or future applications might impact on modern life. SCN 4-20 a	Researches and communicates developments in science, explaining how current and future applications might impact on life. Demonstrates increasing understanding of how the transferrable skills developed through the sciences are used in a wide variety of jobs including science, technology, engineering and mathematics (STEM) careers
		Having used digital technologies to search, access and retrieve information I can justify my selection in terms of validity, reliability and have an awareness of plagiarism. TCH 3-02 a	Gathers and combines data and information from a range of sources to create a publication, presentation or information resource.
		I understand how scientific and technological developments have contributed to changes in everyday products. TCH 3-05 a	Discusses advantages and disadvantages of using technologies in our everyday life.
		I can solve problems through the application of engineering principles and can discuss the impact engineering has on the world around me. TCH 4-12 a	Designs and builds/simulates solutions to problems. Identifies and describes the function of specific components to justify their use within the solution to a problem.
		I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. SOC 3-08 a	Provides a simple explanation of at least three consequences of an environmental issue, and for each suggest how they could be managed.
I can discuss the sustainability of key natural resources and analyse the possible implications for human activity. SOC 4-08 a	Evaluates the sustainability of at least two key natural resources and analyses possible implications for human activity.		
2. Capturing Carbon	Lesson Outline 2	Through investigation, I can explain the formation and use of fossil fuels and contribute to discussions on the responsible use and conservation of finite resources. SCN 4-04 b	Discusses, following research, the formation and use of fossil fuels and the need to use remaining fossil fuel resources responsibly, for example, to preserve finite supplies, limit pollution and reduce emissions of greenhouse gases.
	Introductory Video - Capturing Carbon		
	Instruction Slides - Capturing Carbon	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development. SCN 3-20 a	Gives examples of how skills developed through science are used in a wide variety of jobs and careers including science, technology, engineering and mathematics (STEM) careers.
	Worksheet 2a - Capturing Carbon	I understand how scientific and technological developments have contributed to changes in everyday products. TCH 3-05 a	Discusses advantages and disadvantages of using technologies in our everyday life.
Instruction Slides - Capturing Carbon Extension	I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. SOC 3-08 a	Provides a simple explanation of at least three consequences of an environmental issue, and for each suggest how they could be managed.	

	Worksheet 2b - Capturing Carbon Extension	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading. MNU 3-20a	Interprets data sourced or given. Describes trends in data using appropriate language, for example, increasing trend.
	Worksheet 2a & 2b - Answers	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others. MNU 4-20 a	Interprets raw and graphical data.
3. The Energy Transition	Lesson Outline 3	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems. SCN 3-04 b	Presents research findings on the advantages and disadvantages associated with the use of renewable energy sources and their impact on society, demonstrating an informed view based on evidence.
	Introductory Video - The Energy Transition		
	Worksheet 3 - Energy Actions Presentation	I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development. SCN 3-20 a	Gives examples of how skills developed through science are used in a wide variety of jobs and careers including science, technology, engineering and mathematics (STEM) careers
	Lesson Slides - Energy Actions Additional Career Resources	I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. SOC 3-08 a	Provides a simple explanation of at least three consequences of an environmental issue, and for each suggest how they could be managed.
Home Activity	Home Activity Worksheet - Future Transport	By investigating renewable energy sources and taking part in practical activities to harness them, I can discuss their benefits and potential problems. SCN 3-04 b	Presents research findings on the advantages and disadvantages associated with the use of renewable energy sources and their impact on society, demonstrating an informed view based on evidence.
		I have collaborated with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development. SCN 3-20 a	Gives examples of how skills developed through science are used in a wide variety of jobs and careers including science, technology, engineering and mathematics (STEM) careers
		I understand how scientific and technological developments have contributed to changes in everyday products. TCH 3-05 a	Discusses advantages and disadvantages of using technologies in our everyday life.
		I can analyse products taking into consideration sustainability, scientific and technological developments. TCH 4-05 a	Identifies factors which affect product design.
		I can create solutions in 3D and 2D and can justify the construction/graphic methods and the design features. TCH 3-09 a	Uses aspects of the design process to reach a solution for a given brief. Identifies relevant design factors in a design brief.
		I can solve problems through the application of engineering principles and can discuss the impact engineering has on the world around me. TCH 4-12 a	Designs and builds/simulates solutions to problems. Identifies and describes the function of specific components to justify their use within the solution to a problem.
		I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact. SOC 3-08 a	Provides a simple explanation of at least three consequences of an environmental issue, and for each suggest how they could be managed.