


Climate Breakdown - Scheme of Work

	Title	Climate Breakdown: Do we have 12 years to stop irreversible climate change?	Length	14 lessons / 7 weeks	Key Concept (s)	Risk
	Year	Block 4 (Year 10)	Term	Autumn 1.1	Main Assessment	Debate

Link to video explanations: https://www.youtube.com/playlist?list=PLb9CYpKx8wigv_sw_rxcbdZ_iZDCBLrpV

	Lesson Title	Activities	Resources	HW
1	What are the facts about climate change?	<p>1) <i>Starter:</i> What's the most important climate change number? Begin the lesson with students exploring the list of numbers relating to climate change - in pairs, ask them to decide which they think is the most important and decide a reason why. At this stage it may be useful to explain what each of the numbers mean - show students explanations of numbers. Ask pairs to join with another pair and debate their number and reason - they should then choose 1 between the four of them. At this point groups share their ideas with the class and discuss.</p> <p>2) <i>HW Instruction:</i> Tell students their HW is to engage a friend of relative in a conversation about climate change and to record it on their mobile phone. Students should submit these so that extracts of these can be used in future lessons.</p> <p>3) <i>Just a Minute / Research Task:</i> Exploring my favourite climate change graphics - In groups, students research their climate change graphic using the worksheet to structure their investigation. Students then prepare to talk for 1 minute without repetition / deviation / hesitation about their graphic. As students present, the rest of the class should note key ideas which you emphasise and repeat afterwards. Whilst students present, keep a score of any repetition /</p>	<p>Presentation</p> <p>Favourite Climate Change Graphics</p> <p>Just a Minute Worksheet</p> <p>Climate Stats - Staff Info Sheet</p> <p>Supporting Video</p>	Record a conversation about climate breakdown between you and a relative or friend. Use your class notes to help direct and prompt the conversation.

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2	Why are we so poorly evolved to deal with climate change?	<p>1) <i>Starter</i>: Trump or Fake News - Show students the quotes from Donald Trump relating to climate change. Ask the students to decide whether the quote is 'Trump' or 'Fake News'. Use the information sheet to elaborate on the meaning of his words. Ask students their opinion of Trump's attitude? Should he be allowed to have these views?</p> <p>2) <i>Scientific Consensus</i> - Why does Climate Denial still exist? Explain the animated graph showing temperature models for a variety of organisations around the world all showing a similar trend. 98% of scientific evidence suggests recent climate change is manmade. Is there still a debate?</p> <p>3) <i>News Article</i> - Brain Biases. Direct students to read the BBC news article. Using the worksheet students should read and then reread, pulling out different pieces of information as they go.</p> <p>4) <i>What's the main reason for our inaction?</i> - Students should rank the suggested factors and in pairs, develop reasons for why they think this might be the most powerful factor.</p>	<p>Presentation</p> <p>Trump Climate Change Quotes - Staff Info</p> <p>BBC Article</p> <p>News Article Analysis Worksheet</p> <p>Supporting Video</p>	
3	Does it all come down to population?	<p>1) <i>Starter</i>: What's the population of the world? Where do they live? How poor / rich are they?</p> <p>2) <i>Why do carbon emissions vary between countries?</i> In pairs, students are given a country. Task students with exploring the reasons for the country's carbon emissions. Why are they high or low? What's that country famous for? How do the people of that country live? Why do emissions vary between total and per person?</p> <p>3) <i>How big will the world population get?</i> Ask students how big they think the world's population will get. Use the graph and</p>	<p>Presentation</p> <p>Country Profiles</p> <p>Country Comparison</p> <p>Supporting Video</p>	Using WWF Footprint Calculator - Calculate your annual carbon emissions

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4	Could we plant trees to solve climate change?	<p>1) <i>Starter</i>: Take students outside to stand around a tree. Ask the students: What natural processes are going on here? Why are trees important? Where do trees store carbon? What do trees release? How valuable are trees?</p> <p>2) <i>Trees</i>: How many trees would we need to plant each year to sequester the carbon emitted by the UK population? Using the value of their annual carbon emissions from the hw task and the worksheet, students should estimate the number of trees needed to sequester their carbon.</p> <p>3) <i>Other</i>: What else could we do? Set students the task of brainstorming in pairs the other options available to us to tackle rising carbon dioxide emissions. Discuss student ideas.</p> <p>4) <i>Bingo</i>: Using the key words from the lesson play a game of bingo. The winner is the first with a complete column or row.</p>	<p>Presentation</p> <p>Tree Worksheet</p> <p>Supporting Video</p>	
5	How much can we travel?	<p>1) <i>Starter</i>: Where did you travel this summer? - Using the worksheet, ask students to calculate the carbon emissions associated with the distance and type of travel they participated in over the summer holiday. Use the whiteboard to give a rough rank of emissions between people in the class. Who had the highest / lowest? Why? How many different forms of transport were involved?</p> <p>2) <i>Alternative Travel</i>: Could you have travelled differently? - Students explore the possibility of different forms of transport to make that journey.</p> <p>3) <i>Investigating Context</i>: Use the Graphs to put the CO₂ emissions of aviation in the context of all other sources of CO₂ emissions. Ask the students if they still think</p>	<p>Presentation</p> <p>Worksheet</p> <p>Carbon Offsetting Information</p>	

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		<p>4) <i>Quick Research Task</i> - Set students the task of finding the right answers as quickly as possible. How many people in the world fly?</p> <p>5) <i>Silent Debate</i> - Carbon Offsetting: Direct students to read the news article discussing alternatives to flying less.</p>		
6	Where should we get our energy?	<p>1) <i>Starter</i>: UK Electricity Dashboard - Using the data on the live dashboard get students to complete the table of where the UK sources its electricity. Why do we use this much of each source? What factors influence this?</p> <p>2) <i>World Map</i>: Using the interactive world map, direct students to focus on Europe and fill in the carbon intensity of each country's current energy use. Students should write the number inside each country and highlight the country with the lowest and highest intensity.</p> <p>3) <i>Research Task</i>: In pairs, students research their specific energy source using the worksheet to guide their investigation. Students should fill in the shared word document for group editing.</p> <p>4) <i>Written Task</i>: Students should collect their ideas from the lesson and use the information from the group research task answering the question; Where should we get our energy?</p>	<p>Presentation</p> <p>Worksheet</p> <p>Group Research Task Template</p> <p>Teacher Answers</p>	<p>Revise for Climate Change Facts - Pop Quiz</p> <p>Watch Veganism video clip https://www.youtube.com/watch?v=byTxzzztRBU</p>
7	Should we go veggie or vegan?	<p>1) <i>Starter</i>: Climate Facts - Pop Quiz - 10mins</p> <p>2) <i>Land Use</i>: UK in 100 seconds - Watch Dan Raven-Ellison's video which conveys the proportion of land in the UK used for different activities. Discuss proportions for the world. Is this an effective use of land? Should we use more or less?</p>	<p>Presentation</p> <p>Worksheet</p> <p>Climate Change Facts - Pop Quiz</p>	

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		<p>vegetarian or vegan.</p> <p>4) <i>Ranking Activity</i>: Using the graph direct students to rank the foods by which has the highest and lowest greenhouse gas emissions.</p> <p>5) <i>Research Task</i>: Students collect together the arguments for; Why do people choose to be vegetarian / vegan? Highlight how many fit under umbrella terms; health of the planet - animal welfare - human health. Link key arguments with facts.</p>		
8	Can we have infinite growth on a finite planet?	<p>1) <i>Starter</i>: Story of Stuff Video - Show students Annie Lenox's introduction to the story of stuff. Draw an overview of the supply chain on the board and note key elements. Task students with summarising the current economic system using the examples of a linear economy.</p> <p>2) <i>GDP Growth</i>: Using the graph of GDP per capita for a variety of countries from 1800 to the present day, task students with describing the graph and then critiquing the current economic system. Has growth in GDP been uniform for everyone? Who has benefited most / least?</p> <p>3) <i>Doughnut Economics</i>: Show Kate Raworth's TED talk explaining doughnut economics. Prompt students to make notes during the video. Pause and use the diagrams in the students' worksheet to help illustrate the key arguments.</p> <p>4) <i>Written Task</i>: How do we need to change the current economic system to tackle climate change?</p>	<p>Presentation</p> <p>Worksheet</p>	<p>Read speech by Greta Thunberg and summarise in 150 characters</p>
9	Why are some people affected more by climate change than others?	<p>1) <i>Starter</i>: Animation of temperature change - Discuss the overall trend and pattern. How have global average temperatures changed?</p> <p>2) <i>Mapping Impacts</i>: Using the information tables from</p>	<p>Presentation</p> <p>Current Impacts Map</p> <p>Current Impacts Information</p>	

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		<p>current impacts for their region of the world. Once completed ask students to team up with another pair and share their information. Continue until the pairs have all regions. Use the videos to help highlight some of the current impacts. Prompt students to access the link to the top 5 areas most at risk. Students add the information to their maps.</p> <p>3) <i>Discussion:</i> Having explored the top 5 areas most at risk. Ask students to list the factors they think make people more or less vulnerable to climate change. Health / Wealth / Education / Gender.</p> <p>4) <i>Graph Activity:</i> Students should describe and explain each graph to explore who is most affected by climate change.</p>		
10	Could responding to climate change make the world a better place?	<p>1) <i>Starter:</i> Ask students to write one sentence explaining the meaning behind the cartoon. What sentiment is the author trying to convey.</p> <p>2) <i>Video:</i> Introduce students to the Green New Deal with this short video.</p> <p>3) <i>News Article:</i> Task students with reading the news article about the Green New Deal and making a summary of its key goals.</p> <p>4) <i>Go Outside:</i> Find a suitably natural corner of school to read a poem or two from the RSA Anthology (A climate of change & We have everything we need) Afterwards ask students to reflect on the meaning of the poems. What is it that we fundamentally need to live. Discuss how connecting with nature can improve mental health. Explore how improving air quality can prevent premature deaths. Then ask the question "Is climate change forcing us to redress the balance in our lives and the world?"</p>	<p>Presentation</p> <p>News Article</p> <p>RSA Climate Change Poetry Anthology</p>	Read the Headline Statements document from the IPCC 1.5°C Report - make a list of key words / key statistics

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		question "How will climate change and its solutions make the world a better place?" We have a choice of what the future looks like. Will it be a story of hope or misery?		
11	Should we be worried about tipping points and feedback mechanisms?	<p>1) <i>Starter</i>: Show students the cartoon video introducing tipping points. Ask students to write a definition of climate tipping points.</p> <p>2) <i>Map Activity</i>: Task students with describing the distribution of tipping points? Are a certain type more likely in certain places? Where are most people concentrated? Who will be most likely affected by tipping points?</p> <p>3) <i>Table Activity</i>: Using the information on the World Economic Forum's website - ask students to summarise the key climate emergencies happening right now.</p> <p>4) <i>Ranking Activity</i>: Which tipping point should we be most worried about? Ask students to rank the tipping points and provide a developed and reasoned argument for their most important.</p>	Presentation Worksheet	
12	Is non violent direct action effective?	<p>1) <i>Starter</i>: Never Doubt Song - play Blythe Pepino's song Emergency. Hand out the lyrics - Discuss the meaning behind the words.</p> <p>2) <i>Video Activity</i>: Who is Extinction Rebellion? Watch the two videos to better understand who and what Extinction Rebellion is as well as the types of tactics and approach they employ.</p> <p>3) <i>Timeline Activity</i>: Task students with researching key examples of non violent direct action from throughout history including Pankhurst / Gandhi / King / Plane Stupid / UK Uncut. What were they campaigning for? What were their tactics? Were they successful?</p>	Presentation Lyrics - Emergency	

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		<p>Using the whiteboard mind map possible answers. What is meant by effective? How might we measure this?</p> <p>5) <i>Continuum Activity</i>: Ask students to line up along a line depending on how effective they think non violent direct action is. Challenge students to justify why they stood where they did.</p>		
13	Debate Preparation	<p>1) <i>Starter</i>: Introduce the motion. Ask students to highlight the key words and define the special terms. What ideas need exploring to challenge the statement?</p> <p>2) <i>Research Activity</i>: Divide students into two groups - place them on the spectrum from Sceptic to Radical Activist. Allow the two groups access to two separate spaces so that they can discuss in secret their plans for the debate. Task them with using the preparation worksheet to structure their key arguments and supporting facts.</p> <p>3) <i>What's left?</i> - Students should establish what's left to complete in preparation for the debate. Who's doing what? Share responsibilities and roles. Students should arrive at the next lesson with everything they need ready to debate.</p>	<p>Presentation</p> <p>Debate Planning Sheet</p> <p>Assessment Criteria</p>	Finalise preparations for debate
14	Debate	<p>1) <i>Debate</i>: This house believes radical action is needed to tackle irreversible climate change. Chair the debate and if necessary feed in questions and statements to fuel debate. Begin with first proposer / First opposer then second proposer / second opposer before opening up debate. Encourage students to respond to each other's arguments instead of constantly raising new points.</p> <p>2) <i>Written Summary</i>: Using the self evaluation form,</p>	<p>Presentation</p> <p>Scorecard</p> <p>Self Evaluation Form</p>	

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		<p>strongest / weakest argument?</p> <p>b) Who communicated the clearest?</p> <p>c) Which side won the debate? Why?</p>		
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Paul Turner

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