

Teaching Climate Change Youth Social Action through Science

Key Stage 3

- Young people ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience

Key Stage 4

- Young people are expected to think more deeply about science by “appreciating the power and limitations of science and considering ethical issues which may arise.”

Teaching Climate Change Youth Social Action through Physics

Young people should learn about renewable energy resources (solar, wind, hydroelectric, geothermal, biofuels etc).

- Debate the pros and cons of these, compared to each other and compared to using fossil fuels or nuclear power. Although they do not create pollution, there can be other impacts on wildlife or ecosystems, such as birds and bats flying into wind turbines, habitat loss to build large-scale solar facilities, and flooding of birds feeding/nesting areas when using tidal power.
- Young people could make their solar (or wind) powered racing cars and pit them against each other.

Evolution and Adaptation

- Extinction
- Impact of human activity
- Anthropocene era

Habitats

- Ecosystems
- Ocean warming/protection
- Pollination/ pollinator highways
- Meat industries
- Impact of urban areas
- Blue planet

Plants

- Importance of soil/ soil degradation
- Growing plants in recycled containers
- Monocultural/organic farming/permaculture
- Ocean algae/kelp beds/ mangroves

Energy

- Fossil fuel Vs renewable
- Pollution
- Carbon emission/capture
- Design and make wind turbines
- Energy Sparks - <https://energysparks.uk/>
- [Analysis of the science, politics and economics of the climate](#)

Global warming

- Investigate the impact of humans on biodiversity.
- Explain the importance of biodiversity
- Describe ways that humans have tried to restore or maintain biodiversity
- Review of communities, biotic and abiotic factors, adaptation, and sampling
- Review of cycles, global warming, and biodiversity.
- [Powerful video emphasising the importance of Biodiversity\](#)

Weather Vs Climate

- Recording weather
- Extreme weather
- Local issues and links to geography - coastal erosion

Water Cycle

- Oceans
- Effect on climate
- Oxygen
- Pollution effects
- Droughts/floods

Materials

- Carbon/carbon neutral/net zero
- Plastic +pollution - nanoparticles
- Sustainable materials
- Insulation
- Packaging