

Debate Pack

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Inclusion of sustainability and climate change in the national curriculum

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1 Background

1.1 The curriculum in England

Issues relevant to climate change are included on the National Curriculum. Academies and free schools (a majority of secondary schools in England) are not required to teach the National Curriculum, although many do.

General information on the last curriculum review (carried out under the Coalition Government) is available in the Library briefing [The school curriculum in England](#), SN6798.

To give an indication of what is included on the curriculum, the relevant specifications on the curriculum in [Science](#) and [Geography](#) include the teaching of:

Science (compulsory at key stages 3 and 4)

Key stage 3

- the production of carbon dioxide by human activity and the impact on climate

Key stage 4

- evidence, and uncertainties in evidence, for additional anthropogenic causes of climate change
- potential effects of, and mitigation of, increased levels of carbon dioxide and methane on the Earth's climate

Geography (compulsory at key stage 3)

Key stage 3

- physical geography relating to: geological timescales and plate tectonics; rocks, weathering and soils; weather and climate, including the change in climate from the Ice Age to the present; and glaciation, hydrology and coasts
- understand how human and physical processes interact to influence and change landscapes, environments and the climate; and how human activity relies on the effective functioning of natural systems

Key Stage 4: [GCSE subject specification from 2016 \(not compulsory\)](#)

Changing weather and climate – The causes, consequences of and responses to extreme weather conditions and natural weather hazards, recognising their changing distribution in time and space and drawing on

an understanding of the global circulation of the atmosphere. The spatial and temporal characteristics, of climatic change and evidence for different causes, including human activity, from the beginning of the Quaternary period (2.6 million years ago) to the present day.

1.2

Scotland

The [Curriculum for Excellence](#) in place in Scotland includes various aspects through which children are expected to learn about climate change between ages 3 and 15.

As set out in a Scottish Government briefing on [climate change in education](#), climate change is addressed through combining experiences and outcomes across curriculum areas in a variety of contexts as part of the theme of Learning for Sustainability. The briefing states the aim that climate change is “embedded within the learning experiences of children and young people within the broad general education of Curriculum for Excellence.”

In terms of the curriculum, this is reflected in various curriculum experiences under broader topics:

- Sciences: Planet Earth
- Technologies – Technological developments in society and business
- Social studies – People, place and environment
- Health and wellbeing – Mental, emotional, social and physical wellbeing
- Religious and moral education – development of beliefs and values

These topics are expected to cover, for example, the carbon cycle and processes driving climate change; analysing products taking into consideration sustainability, scientific and technological developments; identifying threats facing the main climate zones; developing an increasing awareness and understanding of one’s own beliefs and putting them into action in positive ways.

1.3

Wales

The curriculum in Wales is [currently being reformed](#), with a new curriculum being introduced from September 2022.

The revised [Curriculum for Wales](#) is divided into Areas of Learning and Experience, within which children may be taught about climate change. The curriculum requires schools to design their own curriculum and assessment arrangements within these areas, rather than providing a defined list of

requirements. Nonetheless, some information is provided on what may be taught in particular areas.

With the [Science and Technology](#) area, students might be taught:

- the impact of science and technology on society and the evaluation of evidence of this, including in the context of the climate emergency
- to evaluate scientific and technological developments in relation to the climate emergency can lead to understanding the relationships between science, personal agency, government action and economic factors here in Wales and at an international level.

In the Geography aspect of the [Humanities](#) area, a school's curriculum should:

- provide a rich context for exploring the issues of sustainability, climate change, energy choices, and other areas

The Humanities guidance also notes that:

- The climate emergency can be better appreciated by exploring the industrial revolution, the distinct geography and topography of Wales, and international relations.

1.4

Northern Ireland

The [curriculum in Northern Ireland](#) includes a range of opportunities for children to be taught about climate change and sustainability issues.

For example, during Key Stage 3, there are statutory requirements, as well as non-statutory guidance, on the curriculum in Geography and Science that covers relevant issues.

The [Geography Key Stage 3](#) statutory requirements include that pupils should:

Investigate the impact of conflict between social, economic and environmental needs both locally and globally, for example, erosion, flooding, pollution, loss of biodiversity, climate change, desertification, deforestation etc

Statutory requirements in [Science at Key Stage 3](#) include:

Investigat[ing] the effects of pollution, for example, water, air, land, sound etc and specific measures to improve and protect the environment, for example, renewable energy, efficient use of resources and waste minimisation etc

[Non-statutory guidance](#) on science at Key Stage 3 also includes, for instance, a suggestion that pupils as part of their learning “Think through long term implications of, for example, climate change and reduced biodiversity.”

2

Parliamentary Material

2.1

Parliamentary Questions

Science: Curriculum

23 Jul 2021 | 34499

Asked by: Chi Onwurah

To ask the Secretary of State for Education, what steps he is taking to ensure the (a) primary, (b) secondary and (c) A Level science curriculum adequately educates pupils on future global challenges.

Answering member: Nick Gibb | Department: Department for Education (DfE)

Ensuring that pupils are taught about future global challenges, such as climate change, is an important part of their education. The current National Curriculum for science ensures pupils acquire the knowledge of the science underpinning climate change across Key Stages 1 to 4, allowing them to develop a thorough understanding of this challenge.

Sustainable Development: Curriculum

16 Jul 2021 | 28950

Asked by: Mr Barry Sheerman

To ask the Secretary of State for Education, whether he has made an assessment of the potential merits of introducing a compulsory sustainability component to the national curriculum.

Answering member: Nick Gibb | Department: DfE

Topics related to sustainability and the environment are covered in the National Curriculum. This National Curriculum is mandatory in all state maintained schools, whilst academies are required to follow a broad and balanced curriculum as exemplified by the National Curriculum. Teachers have the flexibility and freedom to determine how they deliver the content in the way that best meets the needs of their pupils and can choose to cover particular topics in greater depth if they wish.

Topics related to the climate, the environment and sustainability issues are covered in the science and geography curricula and GCSEs. In both subjects, at Key Stages 1 and 2, pupils are taught about seasons and habitats, as well as covering climate zones and how environments can change. Secondary

geography includes study of the climate, how human and physical processes interact to influence and change landscapes, environments and the climate. In science at Key Stages 3 and 4, pupils study climate and ecosystems in biology and chemistry, including how human interaction with ecosystems impacts on biodiversity.

In 2017, the Department introduced a new environmental science A level. This will enable pupils to study topics that will support their understanding of climate change and how it can be tackled.

Pupils also cover content on the environment in citizenship education which has been a compulsory subject in maintained schools since 2002. Pupils are taught what improves and harms the environment, and how economic choices affect sustainability.

Nature Conservation: Education

13 Jul 2021 | 29730

Asked by: Sir Greg Knight

To ask the Secretary of State for Education, what plans he has to ensure that more school pupils, especially those from urban and inner city areas, are taught about and encouraged to take an interest in wildlife conservation; and if he will make a statement.

Answering member: Nick Gibb | Department: DfE

Topics related to climate, the environment and sustainability, including wildlife conservation issues, are covered in the science and geography National Curriculum and in GCSEs. In Key Stages 1 and 2, pupils are taught about seasons and habitats, as well as climate zones and how environments can change. Secondary school pupils are taught in geography how human and physical processes interact to influence and change landscapes, environments and the climate.

As the National Curriculum is a framework setting out the content of what the Department expects schools to cover in each subject, we expect teachers to use the flexibility and freedom they have to determine how they deliver the content in the way that best meets the needs of their pupils. If teachers wish, they can choose to cover particular topics, such as wildlife conservation, in greater depth.

Economic Situation: Biodiversity

02 Jun 2021 | HL340

Asked by: The Lord Bishop of Durham

To ask Her Majesty's Government, further to the report commissioned by the Treasury The Economics of Biodiversity: The Dasgupta Review, published on 2 February, what steps they are taking to ensure that all children understand how nature contributes to the UK economy.

Answering member: Baroness Berridge | Department: DfE

The department is currently working with Her Majesty's Treasury to contribute to a full response to the Dasgupta Review.

The National Curriculum is a framework which sets out the content that the department expects schools to cover in each subject, but teachers have the flexibility and freedom to determine how they deliver the content in the way that best meets the needs of their pupils. This includes choosing to cover particular topics in greater depth if they wish. Although academies and free schools are not required to teach the National Curriculum, they are expected to teach a curriculum that is similar in breadth and ambition, and this is reflected in the Ofsted school inspection handbook. This can be viewed at <https://www.gov.uk/government/publications/school-inspection-handbook-eif>.

Subject content related to the environment is included within the science and geography National Curriculum. At primary level (key stages 1 and 2), pupils are taught how environments can change, including positive and negative impacts of human action, weather, and climate zones. In secondary science (key stages 3 and 4), pupils are taught about the production of carbon dioxide by human activity and the effect that this has on the climate. At GCSE, pupils consider the evidence for anthropogenic causes of climate change. They also study the impact of increased levels of carbon dioxide and methane and how this can be mitigated.

Under the key stage 2 non-statutory guidance for citizenship, pupils are taught about the wider world and the interdependence of communities within it. Pupils are taught that resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment.

In geography, at key stage 2 and 3 pupils should be taught human geography. In key stage 2, pupils are taught about types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water. In key stage 3 pupils are taught about population and urbanisation, international development, economic activity in the primary, secondary, tertiary and quaternary sectors, and the use of natural resources. These topics can be built upon in more depth at GCSE.

In 2017, the department introduced a new environmental science A level. This enables pupils to study topics that will support their understanding of climate change and how it can be tackled.

Climate Change: Curriculum

25 May 2021 | 2470

Asked by: Charlotte Nichols

To ask the Secretary of State for Education, what plans he has to increase the time spent in the curriculum on teaching primary and secondary school pupils about climate change.

Answering member: Nick Gibb | Department: DfE

The Department believes it important that all children and young people are taught about climate change. All schools in the country are required to follow a broad and balanced curriculum, as exemplified by the National Curriculum which is mandatory in all state-maintained schools. The National Curriculum already includes content which allows for teaching on environmental and sustainability issues such as climate change in both the science and geography curricula from Key Stage 1 onwards. Additionally, in 2017, we introduced a new environmental science A level. This will enable pupils to study topics that will support their understanding of climate change and how it can be tackled.

The Department does not, however, set the amount of time schools spend on teaching topics within the curriculum. Teachers have the flexibility and freedom to determine how they deliver the content in the way that best meets the needs of their pupils and can choose to cover particular subjects or topics in greater depth if they wish.

Sustainable Development: Education

29 Mar 2021 | HL14296

Asked by: Lord Taylor of Warwick

To ask Her Majesty's Government what plans they have to provide environmental training to primary and secondary school teachers to ensure they are equipped to teach sustainable development.

Answering member: Baroness Berridge | Department: DfE

The curriculum already includes a great deal about environmental and sustainability issues. From primary onwards, there is coverage of environmental matters in both the science and geography curricula. Under the key stage 2 non-statutory guidance for citizenship, pupils are taught about the wider world and the interdependence of communities within it. Pupils are taught that resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment.

As the national curriculum is a framework setting out the content of what the department expects schools to cover in each subject, teachers have the flexibility and freedom to determine how they deliver the content in the way that best meets the needs of their pupils. They can choose to cover particular topics in greater depth if they wish and as knowledge of sustainability develops, teachers can adapt their school curricula for these subjects.

The department has made £4.84 million available for the Oak National Academy, both for the summer term of the 2019-20 academic year and for the 2020-21 academic year, to provide teachers with video lessons in a broad range of subjects for Reception up to year 11. These lessons and their accompanying resources include coverage of the environment, climate change and wider sustainability topics. To supplement their teaching, schools have access to a variety of resources on the teaching of science and geography.

2.2

Early Day Motions

Sustainability in national curriculum

188 (session 2021-22)

14 Jun 2021

Mr Barry Sheerman

That this House considers best practice from across the United Kingdom and globally in terms of integrating sustainability into the national curriculum; recognises that the environmental challenges that we face require young people across the United Kingdom to be made more aware of the threats from climate change, environmental degradation, resource scarcity and air quality and educated in how communities can play a role facing the challenges of the future; further recognises that the education of our young people in the subject area of sustainability will assist considerably in the transition to the 'green economy' of the future; urges the Government to undertake an urgent and far-reaching review into the benefits of embedding the subject area of sustainability into the national curriculum; and further urges the Government to take the steps essential to ensure that young people are made aware of the environmental challenges our planet faces and are fully prepared for the transition of our country to a radically different sustainable model.

3 Press Material

The following is a selection of news, media and journal articles relevant to this debate.

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3.1 Press Articles

[How schools will join the green revolution](#)

Schools Week

24 Oct 2021

[Education unions call for urgent action to ensure climate change education becomes fully embedded in the system](#)

FE news

23 October 2021

[Students want compulsory climate education](#)

The Ecologist

28 September 2021

[Incorporating climate change into the school curriculum is key](#)

Environment Journal

15 September 2021

[Sustainability issues could be prioritised in qualifications to break down barriers to teaching](#)

24 August 2021

FE Week

[If children are to live with the climate crisis, we must green the curriculum](#)

The Guardian

19 August 2021

[Call to put 'sustainable citizenship' on the curriculum](#)

Tes

16 July 2021

[Youngsters suffering from 'eco-anxiety' as campaigners demand more climate change teaching in schools](#)

Sky News

1 June 2021

[Pressure builds for schools to put climate change study on curriculum](#)

Reuters

26 May 2021

[Climate change: 70% of UK teachers say they have not been properly trained to teach about crisis](#)

Inews

16 March 2021

[Science, not emotion, must be at the heart of teaching climate change in schools](#)

The Telegraph [available via nexus news]

23 December 2020

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