



# Support for UK geography teachers on population and sustainability

## What's included in this set of materials:

- An explanation of why population and sustainability is a relevant area of focus.
- References to resources that will enable you to explore the main concepts with your class

## Why should you teach your class about population and sustainability?

### Curriculum

The 2014 National Curriculum for England includes the following: “understand, through the use of detailed place-based exemplars at a variety of scales, the key processes in: human geography

relating to: population and urbanisation; international development; economic activity in the primary, secondary, tertiary and quaternary sectors; and the use of natural resources”. There are similar phrases in the curricula for other nations and countries.

### Key geographical dynamics

Measuring changes in population structures and distribution provide significant information about specific geographical areas.

### Natural processes and human interventions

By combining an understanding of population dynamics with the concepts of sustainability both for the recent past and the near future, key dependencies for human life can be incorporated in a geographical framework.

### Data interpretation

The analysis of population statistics, such as population density and growth rates, helps to introduce students to terminology, conventional modelling and data analysis.

### Prior knowledge and misconceptions

Discussion tends to reveal assumptions about population and sustainability issues and their contribution to global development.

### Critical thinking and future learning

A key purpose of lessons is for learners to ask their own geographical questions and to explore their own understanding of provided data. A spiral of learning activity will reinforce the benefits of enquiry approach and provide opportunities to make connections between different geographical contexts.

## Teaching population and sustainability

With an understanding of population and sustainability General Certificate of Secondary Education pupils will be able to:

- Explain the difference between population density and population distribution and list some factors that affect density.
- Explain key terms such as birth rate, death rate and natural increase.
- Interpret the Demographic Transition Model.
- Interpret population structures / pyramids and compare the main features of developing with developed countries.

- Describe and explain policies used by a developing country to manage overpopulation.
- Consider the issues of an ageing population.
- Describe different types of migration.
- Be aware of the push and pull factors which influence migration.
- Explain how population increase and an ageing population affect sustainability.
- Explain how population growth can affect natural resources.
- Explain how population growth can affect the economy.

This extract from an exam question (below) illustrates the importance of basic terminology and interpretation. (Ref: 'old' AQA A)

**Total for this question: 28 marks**

**1 Population Change**

**1 (a)** Study **Figure 1** on the insert, a map showing the annual population change for all countries of the world in 2009.

**1 (a) (i)** Which continent had the highest rate of annual population change in 2009?  
 .....  
 (1 mark)

**1 (a) (ii)** Using **Figure 1**, name a country with negative annual population change in 2009.  
 .....  
 (1 mark)

**1 (a) (iii)** Complete the paragraph below to describe the pattern of population change shown in **Figure 1**.  
 Choose the correct words from this list.

<b>Northern</b>	<b>even</b>	<b>lower</b>
<b>higher</b>	<b>Southern</b>	<b>uneven</b>

The rate of population change around the world is ..... The poorer countries generally have the ..... rates of population growth. The countries with negative population change are found in the ..... Hemisphere.  
 (3 marks)

The GCSE specifications (2016) show an increased emphasis on the UK and learning resources on population and sustainability will need to be adjusted accordingly.

Pupils need to gain confidence in the use of the broad range of concepts, and familiarity with specific types of data representation. While it is very useful to have a subset of country or regional case-studies, pupils still need to be able to use their understanding to examine different geographical contexts. Terminology has changed and needs to be used clearly to earn higher marks in longer examination questions.

## Population and sustainability resources

Deeper understanding is enhanced by visual materials and exploring dynamic data presentations. There will be some overlap between these references.

### Introduction

- The *NASA visible earth* at night, showing city lights from space, is an effective introduction to the subject of population and sustainability. It looks at the continents and global population distribution. Questions to the class could include how population relates to other geographical characteristics and the distinction between populated and less-inhabited zones.
- The following websites show a visual representation of what is happening to the world population. The students can comment on the numbers during the lesson.

➤ <http://www.breathingearth.net>

➤ <http://www.tranquileye.com/clock/>

➤ <http://poodwaddle.com/clocks/worldclock/>

- Many of the [Gapminder](#) resources examine the link between population changes and development.

### Demographic concepts explored

- Birth and death rates- [a practical learning activity](#).  
Life expectancy – [Who wants to live forever?](#) by the Royal Geographical Society with the Institute of British Geographers (RGS-IBG).
- Female education and emancipation – [UNICEF’s short communication videos about a girl called Meena](#).
- [Population distribution](#) – BBC Bitesize
- [Population density](#) – BBC Bitesize
- [Population structure](#) – BBC Bitesize
- [Causes and effects of migration](#) – BBC Bitesize
- [Demographic Transition Model](#) – BBC GCSE Bitesize (old version)
- [Britain’s ageing population](#) – 21st Century Challenges (RGS-IBG)



(image credit: [flickr.com/andrewschofield](https://www.flickr.com/photos/andrewschofield/))

## Other teachers' resources

- [Population Management](#) – 13 slides on Slideshare, Ms Debens
- [Mexico/USA migration case study video podcast](#) – 12 minute video on Present.me, P Berry
- Italian town where the Mayor pays you to have a baby - 17 slides on Slideshare, Noel Jenkins
- A further list of teachers' resources, some dated, appears on [Staffordshire Learning Net](#)

## Population and sustainability challenges

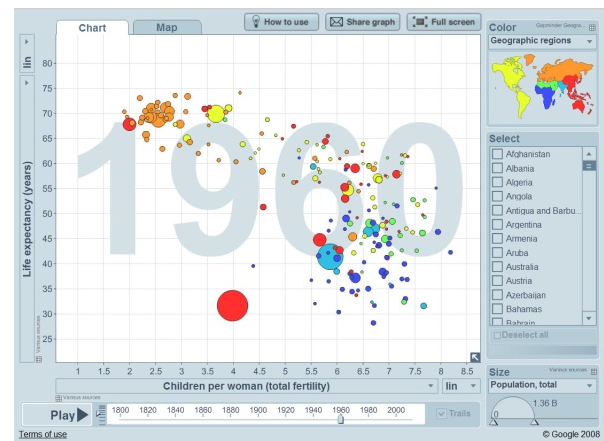
At a higher level, the balancing of geographical issues supported by data is required. There is a range of material on specific challenges. While up-to-date information is necessary it will still need to illustrate the fundamental concepts illustrated above. The continuing analysis of population dynamics and sustainability makes for a compelling component of geography, including (from draft specifications) discussions on: 'the challenge of resource management', 'people and the planet', 'population structure and changes', 'various strategies for reducing the global development gap', 'global change and challenges', and 'geographical debates'.

### Population policies: China

- A summary of the impact of China's one-child policy and concerns for an ageing population – [Population Reference Bureau](#)
- [Population policies](#) – 90 slides on Slideshare, Seth Dixon, Geography Professor at Rhode Island College, USA. (Some images may not be suitable for classroom use.)

## Urbanization and the rise of the mega-city

- [An interactive world map demonstrating growth](#) – The Economist



## Other information sources

- [Gapminder World](#) – Hans Rosling  
There are lots of resources suitable for use in the classroom on this site. For example, pupils can look at five countries at different levels of development to see how their populations have changed over time. Different graphs enable pupils to determine patterns and trends. The website includes Hans Rosling's aforementioned video [Don't Panic: The Truth about Population](#), which helps to illustrate why there are worldwide variations in fertility and mortality rates.
- [Youthquake](#) – Population Matters, Published 2007. This paper could be useful in comparing the issues facing teenagers in ELDC and EMDC, in order to develop potential case study material or provoke debate. There are some interesting graphics on [Population Matters](#) that could be used, such as the population growth model.

If you have time to delve into these websites, you will find some different perspectives, useful data and visuals.

- [Population Education](#) – Population Connection, USA  
A USA-based organization, similar to Population Matters, has a ‘Find a lesson’ facility. For example, there are mysteries available to download and factsheets. There is also a good link to a visual ‘World Population Video’ which could engage students in the history of world population growth.
- [What are the patterns of human migration in the world?](#) – National Geographic Education, USA.  
A structured learning activity, including a World Bank dataset on bi-lateral migration and remittances.
- [Six real life stories of migration](#), *The Guardian*, 9 July 2014



Web links are subject to change and this may necessitate a search. Please inform [Population Matters](#) of any broken links and your suggestions for additions.

*This guide was produced in May 2015 by Angus Willson, a geographer, educator, and consultant based in Kent.*

[www.pannage.com](http://www.pannage.com)

## Teachers’ resources

- [A range of strategies has been tried by countries experiencing rapid population growth](#) – Hinchingsbrook School webpage.
- References to case studies are included in this [Cool Geography AS study guide](#) (28-page PDF) and the [Ace Geography website](#).

## Elsewhere on Population Matters

- [What is sustainability?](#)
- [Datasets and infographics](#)  
[Briefings](#) such as [Ageing populations](#) (2-page PDF)
- [Glossary](#)