

# Population densities

### Introduction

This activity is designed to take about two lessons. It is suitable for ages 11–14. The lesson plans and resources are flexible and give guidance on using Google to research the topic. Pupils are introduced to the topic of population and use their prior knowledge and understanding of the issue to relate to the subject. They compare and contrast the physical and human geography of two contrasting areas within their local scale.

### The activity includes:

- Lesson 1: Why do lots of people live in London and relatively few in rural Yorkshire?
- Activity sheet 1
- Lesson 2: How and why do population densities vary between two contrasting areas?
- Activity sheet 1

### Aims

Pupils will have the opportunity to develop the knowledge, skills and values below.

### Knowledge

- An initial understanding of population densities and the concepts of densely and sparsely populated
- An understanding of the factors that are involved in determining why people choose to live in certain areas at different spatial scales
- An understanding of interactions between places and networks created by flows of information, people and goods
- An understanding of social, environmental and political connections between places.

### Skills

- Geographical enquiry skills
- Using ICT tools for a purpose
- Research techniques
- Presentation of text, maps and diagrams and images
- Visual literacy
- Communication and thinking skills

### Values

Appreciating differences and similarities between people, places and environments and cultures

## Curriculum links

England

Subject	Key Stage 3
Geography	Knowledge and understanding of: <ul style="list-style-type: none"><li>• Patterns and processes 4a, 4b, 4c, 4d</li></ul>
ICT	Finding things out 1 Developing ideas and making things happen 2 Exchanging and sharing information 3 Breadth of study 5a, 5b
Literacy	En1 Speaking and listening: Speaking 1; Listening 2; Group discussion and interaction 3; Drama 4; Range of activities, contexts and purposes 7 En2 Reading: Understanding texts 1; Printed and ICT-based information texts 4; Non-fiction and non-literary texts 9 En3 Writing: Composition 1; Range of purposes, readers and range of forms of writing 8
Citizenship	Knowledge and understanding about becoming informed citizens 1 h), i)

## Curriculum links

### Scotland

Subject	5-14 guidelines
Environmental Studies: Social subjects / Geography	<p>Knowledge and understanding:</p> <p>Ways in which People have used and affected Places</p> <ul style="list-style-type: none"><li>• Economic and population development associated with particular areas or countries.</li><li>• Ways in which people can affect and change places through their work and leisure</li><li>• Ways in which places affect people's lifestyles</li><li>• Reasons why some places are thought to be attractive and valuable and how attraction and value can be enhanced.</li></ul> <p>Locations, Linkages and Networks</p> <ul style="list-style-type: none"><li>• Route centres and interchanges in transport networks</li></ul>
ICT / Technological studies	<p>Covers elements from the following strands:</p> <ul style="list-style-type: none"><li>• Creating and presenting</li><li>• Searching and researching</li><li>• Communicating and collaborating</li></ul>
English	<p>Talking:</p> <ul style="list-style-type: none"><li>• Talking in groups</li><li>• Talking about opinions</li><li>• Audience awareness</li></ul> <p>Reading:</p> <ul style="list-style-type: none"><li>• Reading for information</li><li>• Awareness of genre</li></ul> <p>Writing:</p> <ul style="list-style-type: none"><li>• Functional writing</li></ul>

## Curriculum links

Wales

Subject	Key Stage 3
Geography	Geographical enquiry and skills 1, 2, 3, 7, 8, 9; Theme 8,10
ICT	Communicating Handling information
English	Oracy: Range 1, 2 Reading: Range 7; Skills 10,11 Writing: Range 1,2,3,6; Skills 1,2,3

## Curriculum links

### Northern Ireland

Subject	Key Stage 3
Environment and Society: Geography	Developing knowledge, understanding and skills Pupils should develop a sense of place through the study of: <ul style="list-style-type: none"><li>• A range of local, national, European and global contexts</li><li>• Developing pupils as Contributors to Society</li><li>• Investigate differences in lifestyle within and between countries.</li></ul>
Language and Literacy: English with Media education / Communication	Developing knowledge, understanding and skills: talking, reading and writing
Local and global citizenship	Diversity and Inclusion – Investigate factors that influence individual and group identity, for example, age, gender, youth culture, ethnicity, community background, multiple identity, changing identities, etc.

# Lesson 1: Why do lots of people live in London and relatively few in rural Yorkshire?

### Learning outcomes

- All pupils: will understand the meaning of densely populated and sparsely populated.
- Most pupils: will be aware of examples of some characteristics of densely populated and sparsely populated areas.
- Some pupils: will understand factors influencing why different places have particular population densities.

### Resources

- Interactive whiteboard or display facility
- Internet access
- Activity sheet 1

### Preparation

- Teachers should make sure that *Google SafeSearch* is set to strict filtering. To do this, click the Preferences link on the Google home page to the right of the search box, then click next to 'Use strict filtering'.

## Lesson plan 1

### Overview

This lesson is an introduction task to the topic of population. Pupils consider differences in populations between different places and research key concepts. In lesson 2 they make a presentation describing two different places, either in the UK or worldwide, and their different population densities.

### Starter (10 minutes)

To introduce the topic, show an image of any location (e.g rainforest/desert/beautiful island) and ask the pupils to give three reasons why they would or would not want to live in that place. They could also consider what must change in the photo for more people to consider living there.

### Activity 1 (20 minutes)

Introduce the concepts of 'densely populated' and 'sparsely populated'.

Ask pupils to work in pairs. Give each pair a copy of Activity sheet 1. They are asked to write a dictionary definition of the terms given on the sheet, using Google Search to help them.

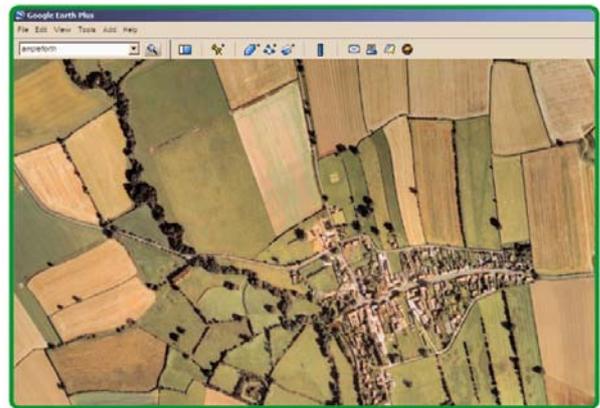
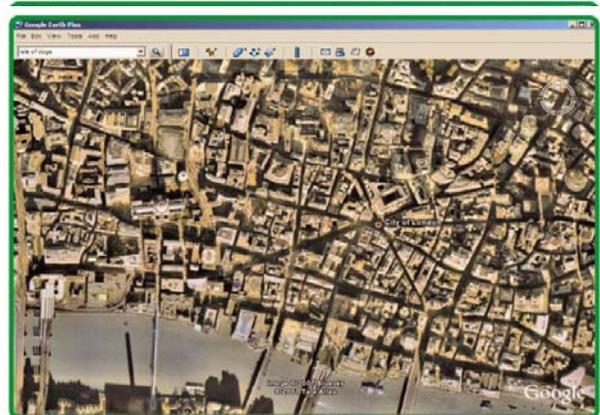
Show clips from Eastenders and from Emmerdale to represent densely (London) and sparsely (rural Yorkshire) populated places (you could use Google Video or YouTube for this if you have access at school).

Use Google Earth or Google Maps (in satellite or hybrid view) to show each area in turn and compare the features of each.

You could also use Google Images to show images of a very crowded, busy place and a rural, isolated area.

Pupils should create their own statements that they think describe densely and sparsely populated areas.

Give pupils a chance to feed back on their statements and encourage them to justify their answers with an explanation of why they think each statement reflects a sparsely or densely populated area.



### Activity 2 (20 minutes)

Ask pupils to work in groups of four. Each group must come up with as many reasons as possible why lots of people live in London and relatively few people in rural Yorkshire.

To back up their reasons, they could use Google Search to find out information about each area (including, for example, information from tourism sites) and Google Images to search for images. These could include images from the title sequence of each programme.

### Plenary (10 minutes)

Introduce the next lesson – pupils will use the information they have found out in this lesson to make a presentation that describes two different locations, one densely populated and one sparsely populated.

### Extension task

The pupils could be asked to give their written definitions from Activity sheet 1 to a neighbour to judge and give a mark out of five for clarity.

## Lesson 2: How do population densities vary between two contrasting areas?

### Learning outcomes

- All pupils: will be able to describe areas of sparsely and densely populated areas of the world and give reasons for the situation.
- Most pupils: will be able to describe the population figures of two contrasting case studies and give reasons to explain the results.
- Some pupils: will understand the role of resources and political agencies in population growth and decline and explain the consequences of population change.

### Assessment

Opportunities for oral assessment and presentation.

### Resources

- Interactive whiteboard or display facility
- Internet access
- Google Earth installed on the network (free to download at <http://earth.google.com>)
- Activity sheet 1

### Preparation

- Teachers should make sure that *Google SafeSearch* is set to strict filtering. To do this, click the Preferences link on the Google home page to the right of the search box, then click next to 'Use strict filtering'.
- Teachers will need to decide in advance how pupils will make their presentation. Four alternatives are suggested: PowerPoint, the Windows XP slide show feature, Picasa (Google's free photo software), or a word processor such as MS Word. Schools may prefer to use alternative presentation software.
- Teachers will need to familiarise themselves with Google Earth: there are several pages of help and guidance pages on Google to help you find your way around it: <http://earth.google.com/support/>.

## Lesson plan 2

### Overview

In this lesson pupils create a presentation describing two different places, either in the UK or worldwide, and their contrasting population densities. They research a combination of facts, figures, images and description to show how and why those places have their particular population densities. They use these notes and saved maps, pictures and diagrams to make a presentation to their peers on a display screen. There is time for discussing the main issues in their groups before the presentation and further opportunities for discussion.

### Starter (10 minutes)

Use Google Maps to compare two countries with similar birth rates and living standards but very different population densities.

On the interactive whiteboard show a picture of the whole of the UK in Google Maps and compare it with a picture of Australia on the same magnification. The first thing that pupils will notice is that, although Australia is much larger, there are more towns on the UK map.



Once you have done this click on 'Satellite' at the top right hand corner of the screen, this will show you the map as a photo from a satellite.

To emphasise the difference in population density, pick a random spot in both Australia and the UK and zoom in sharply on both of them to the same magnification. Ask a student to see how long it takes to find habitation in the two places. Houses are much easier and quicker to find in the UK than in Australia. If they have difficulty finding urban areas, it may help to turn on "hybrid" view.



Discuss the distribution of the towns in Australia. Which parts are more densely populated and which parts are more scarcely populated? Why?

This can lead to a discussion about the reasons for the population density differences, covering available resources, climate and relief of the land.

This could also be done in Google Earth.

## Lesson plan 2

### Activity 1 (40 minutes)

Explain that the groups need to produce a presentation of at least six slides that shows both of their contrasting case studies for densely and sparsely populated areas of population. They could use Google Search, Google Images, Google Maps, Google Earth and Google News to find further information about their chosen places.

Give the groups copies of Activity sheet 1 which gives prompt questions relating to their chosen places. They should use the sheet to collect the information together before writing their presentation.

Pupils then put together their presentations. They should be reminded to use their own words and not to copy sections of text from their web searches.

You could show a teacher-created sample or talk through a possible structure for their presentation if pupils would benefit from more structure.

This could include:

- pictures from the locations (which could include aerial images from Google Earth)
- a page of facts and figures concerning the country's statistics (population, size, population density)
- a conclusion page describing why the pupils think that the area is sparsely or densely populated.

### Plenary (10 minutes)

Ask the groups to give their presentations, allowing time for a few questions about the area from other pupils.

### Extension tasks

- This activity could be extended to another full lesson to allow additional time for pupils to work on their presentations and to let all of the groups present. This would also give time for further detailed discussion around the subject.
- Pupils could use Google News to find recent news articles from each of their two areas and use these to compare and contrast the types of issues affecting each.

Example of page of presentation:

**The Isle of Skye** - a sparsely populated part of the UK.



- Skye has a population of about 9,000 and large parts of the island have no houses on at all.
- One of the main industries is tourism – people come there because it is relatively untouched by man.
- Skye has only one secondary school on the island.