Cultural and Environmental Education

Geography

Practical Approaches to Population

Autumn 2011

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Acknowledgments

With special thanks to Tony Dunne, Associate for Geography, and the whole team of Geography Local Facilitators.

Note: Every effort has been made to ensure the accuracy of the geographical data contained herein. Any inadvertent errors are regretted.
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Introduction

The theme for the Autumn 2011 Geography in-service workshops is Population which is central to both the Leaving Certificate and Junior Certificate Geography syllabuses. Students sometimes find this topic dull, difficult or at best uninspiring even though it is one of the central planks of the subject. In light of this, it was decided to investigate approaches to population which would help engage students more in the topic.

The following aspects of population will be covered: population terminology, population distribution, population density, population on maps, population change, the population cycle, population pyramids and migration.

The focus is on active teaching and learning strategies suitable for use with students in class. Participants will be encouraged to engage in, discuss and adapt, if necessary, a variety of activities. It is hoped that participants will then be able to replicate the activities with their students in class. To facilitate this participants will each receive a copy of the resources used during the in-service which may be reproduced for class room use later.

Although the theme is Population the activities and resources have been designed to develop the fundamental skills of literacy, numeracy and graphicacy which are the foundations of all subjects. For example:

- **Literacy** skills are targeted by focussing on population terminology using keyword and cloze activities.

- **Numeracy** is reinforced through the use and manipulation of a variety of numerical data such as percentages, ratios and graphs.

- **Graphicacy** is developed through the extensive use of graphs, maps and photographs.

Information Technology has also been integrated where possible. Useful web sites such as 'Scoilnet Maps' are referred to and described briefly.

If you have any comments on these materials please forward them to us at the address above.
Literacy Techniques in Population
Key Words Activities

The desired outcome is that students will understand and be able to use population terminology.

N.B. *The white population cards have keywords on them.*

*The coloured population cards have definitions on them.*

- Choose the keywords and definitions you wish to focus on
- Distribute the cards to the class

**Either**

- First student reads his/her card to the class
- Whoever has the matching card puts up their hand and reads it out
- Class decides along with the teacher whether the match is correct or not
- Continue with the next student

**Or**

- Distribute the cards to the class
- Get the class to stand up and form a circle
- Instruct the class to read their card to the person beside them until they find the person who has the card which matches theirs. N.B. *No shouting is allowed.*
- When pairs have formed each pair reads out their cards to the class
- Class decides along with the teacher whether each match is correct or not
Population Key Words

Population
Birth rate
Death rate
Natural increase
Natural decrease
Population explosion
Population distribution
Population density
Population pyramid
Population structure
Dependent population
Population Cycle
Child mortality
Life expectancy
Migration
Emigration
Immigration
Pull factors
Push factors
Barriers to migration
Population Key Word Definitions

Rapid population growth
The number of people
Things which attract people to move into an area
The number of children under 5 who die
The number of deaths per 1000 of the population
Things which cause people to move away from an area
A graph of the age and sex of the population
The excess of births over deaths
People moving out of a country
Average number of people per square kilometre
The number of births per 1000 of the population
The number of years a new born baby can expect to live
How the population is spread out over a country
People younger than 15 plus people older than 65
How population changes as the economy develops
Things which make migration difficult
The excess of deaths over births
People moving from place to place
The age and sex of the population
People moving into a country

Solution to Population Keyword Activity

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
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<tr>
<td>B</td>
<td>11</td>
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<tr>
<td>C</td>
<td>5</td>
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<td>D</td>
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<td>18</td>
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<td>P</td>
<td>9</td>
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<tr>
<td>Q</td>
<td>20</td>
</tr>
<tr>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>S</td>
<td>6</td>
</tr>
<tr>
<td>T</td>
<td>16</td>
</tr>
</tbody>
</table>
Write the correct words into the spaces below

The ____________ is the number of people in an area.
The natural increase in a population is caused by the ____________ ____________ being greater than the ____________ ____________. This can cause a ____________ ____________. The population density is the average ____________ of people per ____________ ____________. How the population is spread over an area is called the ____________ ____________. A population pyramid shows the ____________ and ____________ of the population. The dependent population is all the people younger than ____________ and older than ____________ ____________. The movement of people is ____________. People moving into an area is ____________. The attractions which encourage people to move to an area are called ____________ ____________.

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Write the correct words into the spaces below

The p______________ is the number of people in an area.
The natural increase in a population is caused by the
b______________ r______________ being greater
than the d______________ r_______________. This
can cause a p______________ e_______________.
The population density is the average n______________
of people per s______________ k_______________. How
the population is spread over an area is called the
p______________ d_______________. A population
pyramid shows the a______________ and
s______________ of the population. The dependent
population is all the people younger than f______________
and older than s______________ f_______________.
The movement of people is m______________. People
moving into an area is i_______________. The attractions
which encourage people to move to an area are called
p______________ f_______________.

Use the words below to fill in the spaces in the paragraph.

population density, fifteen, age, population, death rate, population explosion, pull factors, number, square, immigration, kilometre, birth rate, sixty five, sex, migration

The population is the number of people in an area.
The natural increase in a population is caused by the
birth rate being greater than the death rate. This can cause a population explosion.
The population density is the average number of people per square kilometre. How the population is spread over an area is called the
population distribution. A population pyramid shows the age and sex of the population. The dependent population is all the people younger than fifteen and older than sixty five.
The movement of people is migration. People moving into an area is immigration. The attractions which encourage people to move to an area are called pull factors.
Population Word Search

Birth rate  Emigration
Death rate  Explosion
Density     Immigration
Dependent   Migration
Distribution Population
Population Crossword

ACROSS

1. People moving out of a country
4. The people younger than 15 plus those older than 65
8. The number of people
10. The number of deaths per 1000 of the population
11. Rapid population growth
12. The average number of people per square kilometre
13. A graph of the age and sex of the population
14. How the population is spread out over a country
15. Excess of births over deaths

DOWN

2. People moving from place to place
3. The number of children under 5 who die
5. Things which attract people to an area
6. The number of births per 1000 of the population
7. Things which cause people to move away from an area
9. Things which make migration difficult

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Graphicacy Techniques in Population
World Population Distribution Group Activity

Appoint a spokesperson for your group

Using the markers draw an A2 map of the world

Name the continents on it

Name the oceans on it

The sheet of ‘cartoon’ people has 100 figures on it. Let each figure represent 1% of the world’s population.

Discuss what percentage of the world’s population should be allocated to each continent

Cut and paste the figures onto the continents according to the quantities your group decided
Represents 1% of population
Population Density Map 1

Key

Each square is 1 km²

Each ■ represents a settlement of 3 people

N

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Population Density Map 1

1. Calculate the population density of each of these squares:
   
   S 58 87  S 59 88
   S 56 86  S 56 88
   S 55 87  S 59 86

2. Which grid squares have a population density of 3 per Km²? ________________________________

3. Which grid square has a population density of 12 per Km²? ________________________________

4. Work out the average population density of the area shown on the map. ________________

5. Calculate the average population density of the area west of easting 58. ____________________
Population Density Map 2

1. Give one reason why population density is zero in each of these grid squares:

S 55 89 ________________________________

____________________________

S 59 86 ________________________________

____________________________

2. Give one reason why the population density is 6 per Km$^2$ in grid square S 58 89. ______________________________

____________________________

3. Give two reasons why the population density is 9 per Km$^2$ in grid square S 56 88.

____________________________

____________________________
Population Density on OS Maps Killorglin

Each building represents 3 people.

1. What is the population density in each of the following grid boxes?

V 83 89  V 77 92
V 84 85  V 84 90

2. Which of the following squares has the highest population density? (Tick the correct box)

V 84 94  V 78 94  V 79 88

3. Give one reason why population density is low in grid box V83 94. _______________________________

4. Which grid box has the highest population density and explain why. _______________________________
   _______________________________
Numeracy Techniques in Population
Examine the table of statistics above.

Graph the birth and death rates for the following dates from 1950, 1970, 1990 and 2009.

Shade in the natural change

Examine the graph you drew and answer this question:

Between 1950 and 2009 Ireland’s population had:

(a) No change [ ] (b) A natural decrease [ ]
(c) A natural increase [ ] (d) Increases and decreases [ ]
Birth Rate and Death Rate Activity

Put each of these statements in its correct position on the 'Population Placemat'

1. There is a cholera epidemic
2. Children are vaccinated at birth
3. Obesity increases
4. More women are going to college
5. War breaks out
6. All the wheat crop is attacked by rust and fails
7. New water schemes provide clean water
8. Good quality houses are built
9. Childrens’ allowances are increased
10. The government introduces a one child policy
Changes in Birth and Death Rates

Death Rate Falls

Birth Rate Falls

Death Rate Rises

Birth Rate Rises

Changes in Birth and Death Rates
Examine the graph of Ireland’s population and answer these questions:

1. The population in 1926 was:
   (a) 3.2 million
   (b) 2.8 million
   (c) 2.6 million
   (d) 3.0 million

2. Ireland’s lowest population was _____ million

3. In 2006 Ireland’s population was ______ million
Examine the graph above which shows the components of population changes in Ireland. Answer the following:

1. Natural increase was always positive. True □ False □

2. Population change was always positive. True □ False □

3. Net migration was mostly positive. True □ False □

4. Net migration controls whether Ireland’s population rises or falls. True □ False □
Population Cycle Group Activity

Watch the Powerpoint slide showing how the death rate changed since 1750.

Draw a graph of the death rate on an A2 sheet.

Watch the PowerPoint slide showing how the birth rate changed since 1750.

Shade in the natural changes.

Draw in the total population curve.

Mark in the 5 stages in the model.

Read each of the statements provided and discuss where each statement should go on the model.

Paste the statements onto the model where you agree they should go.
Place these statements on the population cycle. Use information from the graph to help you decide

1. John the grave digger loses his job

2. Parents start to think more of family planning

3. Children are warmer in bed at night because they have more brothers and sisters

4. There are more golden wedding anniversaries

5. A mother sobs over her last six children who died in a typhoid epidemic

6. A lot more good quality houses are being built

7. The health inspector smiles as the building of the new sewers is finished

8. Fewer children share a bedroom

9. Grandparents are rare

10. People are encouraged to emigrate
Constructing a Population Pyramid Activity

For this activity you will need a blank pyramid enlarged to A1 poster size, if possible, and a set of cards with people’s names and ages on them.

(There is a blank pyramid and two sets of cards on the following pages which can be photocopied for this activity. The blank pyramid needs to be enlarged)

1. Fix the blank pyramid to the wall.

2. Explain to students that they will get a card with a person’s name and age on it and they must then place it correctly onto the pyramid. They must also have reasons for placing the card in a particular location.

3. Demonstrate what the students have to do by placing a few cards onto the pyramid. Explain your thought process as you go. For example ‘The blue colour and the name Tom indicate that this card represents a male so it must be placed on the left side of the pyramid. Tom is 41 years of age and so must be placed in the 30 - 44 age group.’
4. Distribute the cards to the class and give students time to consider where they will place their card on the pyramid.

5. Call the students up individually to place their card and to give their reasons for their chosen location.

6. Discuss the location of each card with the class.

7. When the pyramid is completed, you can use it to demonstrate and explain what a population pyramid is and what it is used for.

8. Using the same procedure and the other set of cards draw up another pyramid for comparison.
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 - 29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 - 44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 - 59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 +</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Developing Country

Hannah 2
Jean 5
Joan 6
Margaret 14
Safron 15
Cathy 21
Sarah 27
Joyce 36
Developing Country

Pearl 43

Olive 55

Penny 48

Mary 91

Female
Developing Country

Joe 1

Mark 4

Kevin 7

Tommy 14

Paul 16

Liam 21

Tony 29

Dermot 30
Developing Country

Michael 41

Dan 47

Brian 59

Bill 85

Male
<table>
<thead>
<tr>
<th>Developed Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helen 12</td>
</tr>
<tr>
<td>Ann 21</td>
</tr>
<tr>
<td>Kate 25</td>
</tr>
<tr>
<td>Jane 33</td>
</tr>
<tr>
<td>Sile 2</td>
</tr>
<tr>
<td>Sive 17</td>
</tr>
<tr>
<td>Laura 42</td>
</tr>
<tr>
<td>Sarah</td>
</tr>
</tbody>
</table>
Developed Country

- Penney 40
- Eileen 58
- Mary 72

- Peggy 46
- Margi 52

Female
Developed Country

- Cathal 1
- Lee 16
- Connor 23
- Adrian 39
- Ryan 13
- Shane 20
- Adam 32
- Tony 41
Developed Country

Seamus 44

Paul 46

Eric 52

Sam 59

Tom 84

Male
Place these statements on Ireland’s population pyramid.

Use information from the pyramid to help you decide

1. I am the oldest man in Ireland
2. I am the youngest girl in Ireland
3. The other girls in my class and I just got our Leaving results
4. My husband and I just got the old age pension
5. I’m called John Paul as I was born in 1979 the year the pope came
6. My identical twin Nick and I were born during the 1990 world cup
7. I am going to the girls secondary school in September
8. I was young man of 24 when I came to live here in 1990
9. I will be ordained a priest next year when I am 33
10. Next year I will be old enough to vote
Ireland's Population Pyramid 2006
1. 15% of travellers are aged 0-4 years   True  False  

2. Travellers have high birth rates.   True  False  

3. Travellers have low death rates.   True  False  

4. There are not many old travellers.   True  False  

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Migration Placemat Activity

1. My company made me redundant last week

2. The government won't allow us to practice our religion

3. The USA issues 10,000 new visas for Irish people

4. Flooding has destroyed my crops and drowned my cows

5. The war is getting closer

6. My uncle in New Zealand sends me a birthday present

7. I learned Chinese and can speak it fluently

8. I am an only child and both my parents passed away

9. I hear there is a great social life in Sydney

10. I qualify for a 3rd level grant in Britain
Blind Drawing

Divide the class into pairs

Arrange chairs in pairs back to back

One faces the screen

The other faces away from the screen

Warn people that they cannot look around

Show the photograph

Person facing the screen describes the photograph to their partner

The partner uses the description to draw the photograph

Reverse the roles and show the second photograph

Show the two photographs
Push Factors

Pull Factors

Pull Factors

Push Factors
Useful Websites

The Central Statistics Office website at [www.cso.ie](http://www.cso.ie) has the most up to date statistics on Ireland’s population. A search for ‘2006 Principal Demographic Results’ will throw up a document which has all the population statistics and explanations necessary for studying Ireland’s population. It is illustrated with well drawn and labelled graphs.

The site also has a ‘Students Corner’. There is a tab for this on the home page. The ‘Students Corner’ contains a file entitled ‘Census for Schools 2011’. This contains geography resources both for students and teachers alike.

Scoilnet Maps website at [http://maps.scoilnet.ie/](http://maps.scoilnet.ie/) has a variety of population data for each DED in the country for 1996 and 2006. It is accessed by searching for ‘population’ under the ‘thematic’ heading. You must register to use the Scoilnet Maps site. You can register on-line by following this link [http://www.scoilnet.ie/Questions_Scoilnet_maps.shtm](http://www.scoilnet.ie/Questions_Scoilnet_maps.shtm).

The French website INED has a number of population animations. There is an excellent population pyramid animation with an English commentary. It can be accessed at: