



Who wants to live forever? Lesson guidance notes

Lesson 1: Long life Geography

This lesson is designed to get students thinking about the variations in life expectancy according to factors such as place and cultural diversity.

For the first main activity, students compare life expectancy rates in different countries and also look at infant mortality rates. They will probably already know that life expectancy varies between countries depending on levels of development and income. What they will also find out this lesson is that women generally have a longer life expectancy. The starter & plenary activities consider this. Women may live longer because of biology, work (do occupations that men tend to have involve greater risk and danger?) and lifestyle (are men exposed to greater risk, perhaps through sports or their lifestyle choices?)

Students will study regional variations within the UK. Where are you more likely to live longer and why? The second main activity involves students considering these regional variations, either in groups or as a whole class, through the medium of Power Point slides with various graphs and census data. Reasons for these regional variations include differences in income and diet or health in the south and north.

Make sure students take care, with each graph, to look at the source (consider bias), scale (what are the units of measurement) & date of measurement (are these up to date? Have there been any recent changes and developments that students may know of?). Students should be encouraged to give reasons for any patterns they notice. At GCSE level they will be asked to describe ('say what they see') and explain ('give reasons why'), so it's good to get them practicing these key geography skills. It would be interesting to get students to look for anomalies and surprises on any of the graphs, too.

There are several web links on the module plan. Click on them to have a look for 'nuggets' of information which will give you interesting facts to drop into this lesson.

Lesson 2: Why are people living longer?

“You are what you eat?” starter activity – instructions:

Use the PowerPoint presentation to introduce the topic of diet. The presentation introduces the recommended fat, salt and calorie intake of 13 year old children and the content of the food we eat. The presentation can be followed with a discussion about influences on diet – who tells us what to eat, how we decide what to eat, etc. A comparison can be made between the food available to us and that available in other



parts of the world. There is an opportunity at the end of the presentation for students to visit a website and calculate the calorific and fat content of their favourite meal. The idea that although there have been significant advances in medical science which have eradicated some key diseases, other conditions have become more prominent as we are given more choices about what we eat.

Food, health and hygiene, the key to longer life – instructions:

Students can be shown the National Geographic video clip on “The Secrets of Living Longer” either before or after this activity.

The aim of the activity is to find out why people live longer lives now than they did in the pre-industrial age. A range of reasons are given on cards, which need to be cut out before the lesson. The students classify the reasons depending on whether they are to do with improvements in food supply, health or hygiene.

Following the activity, students can contribute some of their own reasons why they think people are living longer.

Staying alive! – instructions:

Introduce the concept of the risk diary that the students will complete over the following 3 weeks.

Plenary – instructions:

The lesson should end with a discussion about school dinners. Should children (and adults) be allowed to eat what they like?

Lesson 3: Long-life futures

Geography of disease – instructions:

Quick starter –

- Pupils drag and drop the conditions onto the outline of the British Isles. The condition will either disappear behind the map or stay on top of the map.
- Ask pupils what the link is.

The link is those that stay on top are the biggest killers of people in the UK and other richer nations, and those that go behind are the biggest killers in the developing world.

‘UK biggest killers’ card sort – instructions:

The cards need to be cut up and given to either pairs or small groups. Pupils choose one of the three questions below and write it on to the answer sheet in the space provided:-

1. What are the 3 biggest killers of men in the UK?
 2. What are the biggest killers of women in the UK?
 3. What are the 3 biggest killers of people in the UK?
- Pupils decide on their top 3 and write them on to the proforma 1 in each box next to (a), giving a reason for their choice under each box.
 - One of the pair / group then moves to a different pair / group. They discuss the choices made, write in the new group’s choice next to (b) in each box. Try



and change the opinion of the group if their top three is different. At point (c) write in the choice following the new discussion.

- Return to original partner / pair.
- Class activity – ask each group if their choices were the same or different. Did they persuade the group to change if different.
- As a class decide on the top three.
- Using the news article <http://news.bbc.co.uk/1/hi/health/5016720.stm> show the correct order.
- Pupils can self mark and correct their answer sheet if necessary.

Answers:

UK

1. Heart disease
2. Cerebrovascular disease (stroke)
3. Flu / pneumonia
4. Lung cancer
5. Emphysema
6. Alzheimer's
7. Other cancers
8. Colon cancer

Men

1. Heart disease
2. Cerebrovascular disease (stroke)
3. Lung cancer
4. Emphysema
5. Flu / pneumonia
6. Prostate cancer
7. Colon cancer
8. Lymph cancer
9. Alzheimer's

Women

1. Heart disease
2. Cerebrovascular disease (stroke)
3. Flu / pneumonia
4. Alzheimer's
5. Emphysema
6. Lung cancer
7. Breast cancer
8. Heart failure
9. Colon cancer

What is science doing about old age? – instructions:

- Read through smallpox & polio sheet and discuss the major changes that have occurred i.e. eradicated and largely prevented. How has this taken place (vaccination)?
- Link back to starter and mystery – what are the biggest killers in richer nations, why? Sign of economic success – more disposable income – social smoking, more food & rise of 'fast food'. What are main killers today? What is



being done to reduce them? For example, the smoking ban aims to reduce lung cancer.

- Discuss the consequences of reducing these diseases – people live longer (positive) however get new diseases e.g. dementia (negative).
- Pupils take one of the top three killers and map it on the flow chart.

Lesson 4: Where is Granny going?

Starter activity – instructions:

Play the PowerPoint presentation.

At the end of the quiz ask class generally – who got all right, one wrong, etc.

This activity can be done:-

- Orally as a whole class – hands up and click on the answer with the most pupils.
- Pupils to write down their answers.
- Put the answers on the walls in the room and pupils move to that area, again click on the answer that has the most pupils in it.

'Where is Granny going?' – instructions.

- Open up the "Where is Granny going?" interactive map on the IWB.
- Pupils can 'drag & drop' the photographs to areas on the outline map where they think the elderly are likely to live.
- Put up the over-60 distribution map – does it support pupil ideas? The map is showing the ratio of under-30 to over-30 in each area, the red colour shows the biggest ratio, i.e. more over-30 than under-30.
- Pupils then complete worksheet question one.
- In small groups pupils can then carry out the card sort activity. Place cards in two piles – the causes and consequences of elderly migration. Some cards have been left blank to add more statements.
- Alternatively, a gifted and talented group could be asked to write their own statements.
- Pupils can then complete question two.

Introduction to population pyramids – instructions:

- Discuss what population pyramids are whilst displaying the population pyramid slide 1.
- Ask pupils to come up and 'drag & drop' the statements to where they think they belong.
- Pupils can complete the activity sheet questions 1 – 3.
- Discuss with pupils what problems are caused by having a high dependent population in an area.
- Discuss the different issues arising depending on whether the dependents are elderly or young. Show slides 2 – 5.

For gifted and talented pupils you could introduce dependency ratios here.



- Pupils can then complete the rest of the worksheet.

Who am I? – instructions:

- Put the slide up ask the class if they know who the people are and what they all have in common.
- They are as follows: Bobby Robson (DOB 18/02/33), Cilla Black (DOB 27/05/43), Mick Jagger (DOB 26/07/43), HRH The Queen (DOB 21/04/26), Harrison Ford (DOB 13/07/42), Sir Trevor Macdonald (DOB 16/08/39), Michael Palin (DOB 05/05/43), Nelson Mandela (DOB 18/07/18).
- Ask the link – the main link is that they are all over 65.
- Then ask if they think they have had a positive or negative impact on a range of scales: internationally, nationally and locally. Ask for justification to their answers.

Lesson 5: Ageing Issues

Starter activity – instructions:

- Thought shower –Why is dementia on the increase? What are the problems associated with this?
- Then watch the video clip – <http://news.bbc.co.uk/1/hi/health/6389977.stm> “Dementia sufferer’s relative speaks about the condition”.

Main activities – instructions:

- Read the fact sheet on dementia and look at the figures. Discuss who should ‘foot the bill’ for escalating care costs – NHS or family.
- In groups of around four, read the news article at <http://news.bbc.co.uk/1/hi/health/6389977.stm>
- Using an A3 sheet of paper fold it into 3 so that you get 6 sections.
- On the first section, pupils write the names of those in their group and the article title. Ask the group to elect someone to keep control (blue hat). This person will contribute to the other areas but will also keep the group ‘on track’.
- Work your way through the PowerPoint 6 hat thinking presentation – apply as follows:
 - white hat write in black pen allow 7 minutes.
 - red hat – red pen allow 3 minutes
 - yellow hat – yellow / orange pen 5 minutes
 - purple hat – purple pen 5 minutes

green hat – green pen 7 – 10 minutes.

- Pupils then use all the information gathered and watched to answer the following question: “Who should care for Granny?” They must explain why they’ve reached that decision and any alternative solutions that they have. Pupils can use the writing frame provided.



Plenary – instructions:

A very simple activity due to the intense nature of the lesson.

- Ask pupils to write down either:-
 - 3 things that they have learnt during the lesson
 - 2 things that shocked or surprised them about the lesson
 - 1 question they still have
- Ask for volunteers to share either their 3, 2 or 1 with the group. There could be some discussion of what comes out.