



# Causes of Human Disease: Understanding Causes of Disease

## Scheme of Work

	Lesson 1	Lesson 2	Lesson 3
<b>Length</b>	Approx. 1 hour	Approx. 1 hour	Approx. 1 hour
<b>Objectives</b>	<p>To identify factors that cause population change.</p> <p>To consider the role that statistics play in understanding the health of a population.</p> <p>To understand some of the different ways in which health and disease are measured.</p>	<p>To explore how the causes of disease are researched and investigated.</p> <p>To investigate an important historical case of research into the cause of disease.</p>	<p>To consider what affects a person's health.</p> <p>To produce a list of the main determinants of health.</p> <p>To explore global health inequalities and their effects.</p>

Lesson plans for each session can be found on the following pages.

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## Lesson 1 plan

<p><b>Starter activity</b></p> <p>The class considers the four factors that cause population change (births, deaths, life expectancy, migration). In small groups, students discuss the following question:</p> <ul style="list-style-type: none"> <li>• How do you think these population changes could help you to understand the causes of disease?</li> </ul>	<p><b>Learning objectives</b></p> <ul style="list-style-type: none"> <li>• To identify factors that cause population change.</li> <li>• To consider the role that statistics play in understanding the health of a population.</li> <li>• To understand some of the different ways in which health and disease are measured.</li> </ul>
<p><b>Main activities</b></p> <p>In pairs, students work through the 'Understanding demography' quiz exercise (PDF) in Step 1.3. The teacher then hands out the answers and students mark and discuss their own answers. Students reflect in pairs on the following two questions:</p> <ul style="list-style-type: none"> <li>• What surprised you most about the answers?</li> <li>• How do you think these statistics could help you to understand the health of a population?</li> </ul> <p>The class watches the video 'Measuring disease frequency' in Step 1.7 and takes notes. The teacher hands out the information sheet. In small groups, students research and answer the following questions:</p> <ul style="list-style-type: none"> <li>• Why would 'prevalence' be used as a measure for COPD?</li> <li>• Why would 'incidence' be used as a measure for cancer?</li> </ul>	<p><b>Resources required</b></p> <ol style="list-style-type: none"> <li>1. Understanding demography quiz and answer sheet handouts</li> <li>2. Paper and pens</li> <li>3. Device for watching video as class</li> </ol> <p><b>Assessment for Learning</b></p> <p>Quiz answers, group research.</p> <p><b>Differentiation</b></p> <p><b>SEND:</b> Video has subtitles.  <b>Low ability:</b> Peer-learning.  <b>Gifted and Talented:</b> Peer-teaching.</p> <p><b>Plenary</b></p> <p>Groups present their findings briefly to each other, and decide on the answers to the two research questions, recapping the meaning of 'prevalence' and 'incidence' in measuring disease frequency.</p>

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## Lesson 2 plan

<p><b>Starter activity</b></p> <p>The class are given the following hypothetical situation:</p> <ul style="list-style-type: none"> <li>• Many people in the town you live become ill suddenly. You need to identify the cause. How do you begin your investigations? What information do you need, and what questions will you ask?</li> </ul> <p>Discuss as a class and make a list on flipchart paper of questions and information you would need.</p>	<p><b>Learning objectives</b></p> <ul style="list-style-type: none"> <li>• To explore how the causes of disease are researched and investigated.</li> <li>• To consider an important historical case of research into the cause of disease.</li> </ul>
<p><b>Main activities</b></p> <p>In groups of 3 or 4, students research John Snow and the Broad Street Pump cholera outbreak, creating a poster of their findings. Information from Step 1.11 can be used as well as devices and books if needed.</p> <p>When making the poster, students must consider the following:</p> <ul style="list-style-type: none"> <li>• How did John Snow conduct his research?</li> <li>• What were his findings?</li> <li>• What did he believe was the cause of cholera based on these findings?</li> </ul> <p>The groups present their posters to each other.</p>	<p><b>Resources required</b></p> <ol style="list-style-type: none"> <li>1. Large poster paper, pens, post-it notes etc. for creating posters</li> <li>2. Devices, handouts, books for performing research</li> </ol> <p><b>Assessment for Learning</b></p> <p>Poster content and presentations.</p> <p><b>Differentiation</b></p> <p><b>SEND:</b> Teacher-led support.  <b>Low ability:</b> Peer-learning.  <b>Gifted and Talented:</b> Peer-teaching.</p> <p><b>Plenary</b></p> <p>The class revisits the hypothetical situation from the start of the class. Having considered John Snow's approach, would they add any questions to their original list?</p>

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## Lesson 3 plan

<p><b>Starter activity</b></p> <p>In groups, brainstorm answers to the following question:</p> <ul style="list-style-type: none"> <li>• What are the main factors, or determinants, that affect a person's health?</li> </ul>	<p><b>Learning objectives</b></p> <ul style="list-style-type: none"> <li>• To consider what affects a person's health.</li> <li>• To produce a list of the main determinants of health.</li> <li>• To explore global health inequalities and their effects.</li> </ul>
<p><b>Main activities</b></p> <p>The class watches the video from Step 2.2 'What are the determinants of health?'</p> <p>Groups revisit the lists they made in the starter activity and count how many determinants they identified, then add any new factors that they discovered in the video.</p> <p>In pairs, students visit the <a href="#">Worldmapper</a> website. Give a brief overview of how to use it and what it shows, before asking pairs to research and answer the following questions:</p> <ul style="list-style-type: none"> <li>• In which countries are infant mortality rates highest and lowest?</li> <li>• Which countries have the highest burden of disease?</li> <li>• How could the determinants of health be used to explain the differences in health outcomes?</li> <li>• Is there a relationship between mortality rates and levels of spending on healthcare?</li> </ul> <p>The class then discusses their answers and analysis of global health inequalities.</p>	<p><b>Resources required</b></p> <ol style="list-style-type: none"> <li>1. Device for watching video.</li> <li>2. Pens and paper (or determinants could be put on post-its on flipchart paper)</li> <li>3. Devices for using the internet and exploring Worldmapper.</li> </ol> <p><b>Assessment for Learning</b></p> <p>The determinants of health that are identified. Answers to the questions based on Worldmapper research.</p> <p><b>Differentiation</b></p> <p><b>SEND:</b> Videos have subtitles.  <b>Low ability:</b> Peer-learning.  <b>Gifted and Talented:</b> Peer-teaching.</p> <p><b>Plenary</b></p> <p>Individually, students write a short reflection on what they have learned today, answering the following questions:</p> <ul style="list-style-type: none"> <li>• What were you surprised about?</li> <li>• What were you not surprised at – why?</li> <li>• What factors do you think contribute to causes of death in different parts of the world?</li> </ul>