



# Causes of Human Disease: Understanding Cardiovascular Disease

## Scheme of Work

|                   | Lesson 1                                                                                                                                                                                                                              | Lesson 2                                                                                                                                                                                                      | Lesson 3                                                                                                                                                                                                                                                 |
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| <b>Length</b>     | Approx. 1 hour                                                                                                                                                                                                                        | Approx. 1 hour                                                                                                                                                                                                | Approx. 1 hour                                                                                                                                                                                                                                           |
| <b>Objectives</b> | <p>To explain some of the differences between the systemic and pulmonary circulation systems.</p> <p>To produce detailed diagrams of the circulation systems.</p> <p>To identify five different types of coronary heart diseases.</p> | <p>To review learning on circulation systems.</p> <p>To identify the causes and factors which contribute to CVD.</p> <p>To analyse preventative measures of CVD and the extent to which they reduce risk.</p> | <p>To explore what affects blood pressure and blood sugar.</p> <p>To research and present key information about high blood pressure or high blood sugar.</p> <p>To evaluate where responsibility lies for making lifestyle changes that prevent CVD.</p> |

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

# Causes of Human Disease: Understanding Cardiovascular Disease

## Lesson 1 plan

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| <p><b>Starter activity</b></p> <p>Students answer the question ‘What is cardiovascular disease?’ and name any specific diseases they can think of.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Learning objectives</b></p> <ul style="list-style-type: none"> <li>• To explain some of the differences between the systemic and pulmonary circulation systems.</li> <li>• To produce detailed diagrams of the circulation systems.</li> <li>• To identify five different types of coronary heart diseases.</li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| <p><b>Main activities</b></p> <p>The class watches the video in Step 1.4 (The cardiovascular system in action) and takes notes. Information and diagrams from Step 1.4 can also be used. Divide the class in two. Ask one group to create a diagram of the systemic circulation system, and the other a drawing of the pulmonary system.</p> <p>The class compares the two diagrams together. Assign a notetaker to create a shared list on the board of the key points about each system.</p> <p>Using the information in Step 1.6, pre-prepare five short descriptions of CHD examples on A3 paper (stroke, arrhythmia, cardiomyopathies, cardiac failure and angina). Place around the room, then ask students to circulate and take notes on each of the examples in preparation for a short quiz.</p> | <p><b>Resources required</b></p> <ol style="list-style-type: none"> <li>1. Flipchart paper and creative materials for creating circulation diagrams.</li> <li>2. A3 paper with prepared information on CHDs.</li> <li>3. Pens and paper for notetaking.</li> </ol> <p><b>Assessment for Learning</b></p> <p>Circulation diagrams, quiz answers.</p> <p><b>Differentiation</b></p> <p><b>SEND:</b> Videos have subtitles.<br/> <b>Low ability:</b> Peer-learning.<br/> <b>Gifted and Talented:</b> Peer-teaching.</p> <p><b>Plenary</b></p> <p>Take the A3 papers down and conduct a short verbal quiz on the different types of coronary heart diseases.</p> |

# Causes of Human Disease: Understanding Cardiovascular Disease

## Lesson 2 plan

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| <p><b>Starter activity</b></p> <p>Students revisit their circulation system diagrams and recap their learning, drawing out key points and differences between them.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Learning objectives</b></p> <ul style="list-style-type: none"> <li>• To review learning on circulation systems.</li> <li>• To identify the causes and factors which contribute to CVD.</li> <li>• To analyse preventative measures of CVD and the extent to which they reduce risk.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>Main activities</b></p> <p>The class attempts to list as many causes or contributing factors to CVD as they can think of in a discussion guided by the teacher (using information from Step 1.8, elicit factors that are not named). Put each factor on a post-it note on the board.</p> <p>Once they have made the list, collect the post-its and draw two columns on the board: 'modifiable' and 'non-modifiable'. Taking each factor in turn, the class discusses each of the factors and then decides which can be controlled by an individual, and which cannot.</p> <p>Divide the class into small groups and ask each group to copy down the 'modifiable' factors column from the board. Now, ask each group to look at each of the factors and brainstorm specific measures or activities that may help to prevent CVD (information from Step 1.10 can be used to guide students). They should consider to what extent each preventative measure would have an effect on the risk of CVD.</p> | <p><b>Resources required</b></p> <ol style="list-style-type: none"> <li>1. Post-it notes, pens and whiteboard.</li> <li>2. Paper for group work.</li> </ol> <p><b>Assessment for Learning</b></p> <p>Lists of factors and preventative measures identified.<br/>Contributions to class discussions.</p> <p><b>Differentiation</b></p> <p><b>SEND:</b> Teacher-led support.<br/><b>Low ability:</b> Peer-learning.<br/><b>Gifted and Talented:</b> Peer-teaching.</p> <p><b>Plenary</b></p> <p>Hold a class discussion considering the following question:</p> <ul style="list-style-type: none"> <li>• If you were to plan a new health promotion campaign to raise awareness of risk factors for cardiovascular disease, what lifestyle changes would you prioritise in the campaign?</li> </ul> <p>Students can debate and make arguments for prioritising specific lifestyle changes. Hold a vote at the end to decide on one priority for the class.</p> |

# Causes of Human Disease: Understanding Cardiovascular Disease

## Lesson 3 plan

| Starter activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Learning objectives                                                                                                                                                                                                                                                                                           |
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| <p>In pairs, students make notes of everything they know about hypertension and diabetes, and attempt to create a definition for each. The class discusses briefly.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• To explore what affects blood pressure and blood sugar.</li> <li>• To research and present key information about high blood pressure or high blood sugar.</li> <li>• To evaluate where responsibility lies for making lifestyle changes that prevent CVD.</li> </ul> |
| Main activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Resources required                                                                                                                                                                                                                                                                                            |
| <p>Divide the class into two research groups. One will focus on blood pressure, and one will focus on blood sugar. Using the videos and information in Step 2.2 (What affects blood pressure?) and Step 2.6 (What affects blood sugar levels?) as well as their own research, each group prepares an informative presentation on their topic.</p> <p>Presentations must include:</p> <ul style="list-style-type: none"> <li>• information about blood pressure and blood sugar</li> <li>• the factors which create high blood pressure/sugar</li> <li>• the symptoms that are presented in each issue</li> <li>• the management and treatment of high blood pressure/sugar.</li> </ul> <p>Each group presents to the other, taking questions and discussing both issues at the end.</p> | <ol style="list-style-type: none"> <li>1. Devices for watching videos and researching.</li> <li>2. Any materials required for presentations (can be on paper or digital).</li> <li>3. Pens and paper for reflections.</li> </ol>                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Assessment for Learning                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Presentations, answers to reflective plenary.</p>                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Differentiation                                                                                                                                                                                                                                                                                               |
| <p><b>SEND:</b> Videos have subtitles.<br/> <b>Low ability:</b> Peer-learning.<br/> <b>Gifted and Talented:</b> Peer-teaching.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                               |
| Plenary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                               |
| <p>Students write a short individual reflection on the following question:</p> <ul style="list-style-type: none"> <li>• Whose responsibility do you think it is to make changes to lifestyle factors such as diet and exercise? Consider whether you think this is the responsibility of individuals, health care providers, private businesses or governments.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                               |