



# Causes of Human Disease: Nutrition and Environment

*Explore how nutrition and environmental factors such as toxins influence your chance of developing human disease.*

If your students are completing the whole of this course online and are not participating in the teacher-led lessons based on it, then they can complete useful and engaging activities based on the content covered. You can choose for your students to complete individual tasks by themselves or encourage group work. Though you may have your own ideas about what your students can do with the course content, we've made things easy for you by suggesting some activities that you can submit to your students below. Instructions for the students can be found later in this document.

## Individual student tasks taken from the course

**Reflection:** Students write a 500 word reflection on what they learned from the course, including anything they might do differently now as a result of their learning, and anything additional they found out from their own reading around the topic. They will submit this reflection as a written essay, podcast or video.

**Activity 1:** Students look up and define the terms 'macronutrient' and 'micronutrient', and give examples for each. They can submit their definitions.

**Activity 2:** Students complete the PDF exercise from Step 1.3, using the Eatwell Guide Food Plate for reference, and submit their answers.

**Research task:** Students research and produce a report on UV light and skin cancer. They can use the information in Step 2.4, and the website links ([Sun facts and evidence](#) and [How the sun and UV cause cancer](#)), as well as any other sources they identify, to produce their report. Reports should present any relevant information and statistics, and summarise the evidence that high exposure to sunlight is a cause of skin cancer. Students should consider cause and association in their report, and provide a conclusion.

## Group tasks based on the course

**Research task:** Groups research heavy metals (using arsenic as an example) and endocrine disruptors (using Bisphenol A as an example) and produce an informative poster on the topic. Posters should include a definition of the term, with at least one specific example or case study.

To inform their research, groups can watch the video in Step 2.7 and visit the NIH link provided in Step 2.8. Other research sources can also be used.

**Collaborative task:** Choose one of the three breakfasts from the exercise in Step 1.3 and then complete a daily meal plan by designing a balanced lunch and dinner. Groups could draw their meals onto pre-prepared empty plate templates, annotating with nutrition information. Groups can research further into nutrients if needed.

## Additional support

You can use the [How to use FutureLearn guide](#) with your students to get them started. There is also a school-facing [Guide to safeguarding and security on FutureLearn](#) if you need it.

## Test

You can use the test questions listed in the student instructions below as a short assessment to enable your students to demonstrate what they have learned on the course. The assessment has 15 marks in total.

The questions have been designed to be flexible and open. The questions indicate which steps the answers can be found on. The marks available reflect the likely length and complexity of the answer expected, and how many points they are likely to make. For example, a 5-mark question might reflect a longer, more complex question, or one where they have asked to describe or explain a number of elements. Depending on the level and ability of your students, you can decide how you wish to award the marks so they are appropriate for your class.

Each question suggests which steps the students may wish to return to answer the questions. **You can decide if you want to include this information when you share the assessment with your students.**

# Student instructions

## Reflection

Write a 500 word reflection of what you have learned from the course. It should include anything you might do differently now because of what you learned and anything additional you found out in your reading around the topic. Submit this reflection to your teacher as a written essay, podcast or video.

## Activity

Look up and define the terms 'macronutrient' and 'micronutrient'. Submit your definitions with examples to your teacher.

## Activity 2

Complete the PDF exercise from Step 1.3, using the Eatwell Guide Food Plate for reference, and submit your answers.

## Research task

Research and produce a report on UV light and skin cancer. You can use the information in Step 2.4, and the website links ([Sun facts and evidence](#) and [How the sun and UV cause cancer](#)), as well as any other sources you identify, to produce your report. Reports should present any relevant information and statistics, and summarise the evidence that high exposure to sunlight is a cause of skin cancer. You should consider cause and association, and provide a conclusion.

## Group collaborative task

As a group, choose one of the three breakfasts from the exercise in Step 1.3 and then complete a daily meal plan by designing a balanced lunch and dinner. Draw/present your meals onto the empty plate templates, annotating with nutrition information. Your group can research further into nutrients if needed.

## Group research task

In your group, research heavy metals (using arsenic as an example) and endocrine disruptors (using Bisphenol A as an example) and produce an informative poster on the topic. Posters should include a definition of the term, with at least one specific example or case study.

To inform your research, you can watch the video in Step 2.7 and visit the NIH link provided in Step 2.8. Other research sources can also be used.

## Test

Complete the assessment questions below to demonstrate your understanding of the course. You can refer back to the course to find the answers or more detail as you need to. You should not however share your answers with other students.

Your answers should be written in full sentences and be appropriately detailed. Make sure you read the questions carefully before starting to answer. Each question shows how many marks are available – use this to guide how much detail or how many points you need to include.

[The questions also indicate where you can start to look to find the answer. You can also include information from other steps if that is relevant.]

1. What is a macronutrient and what is a micronutrient? Give an example of each. (4 marks) [Step 1.5]
  
2. Give three examples of environmental factors which increase the risk of disease, and describe how they increase the risk of disease. (6 marks) [Step 2.2 and 2.3]
  
3. What can governments do to reduce obesity? Give three suggestions. (3 marks) [Step 1.9]
  
4. What is a 'heavy metal'? Give an example. (2 marks) [Step 2.7]