

## 1 Introduction

## Vocabulary, Speaking

You are going to work on a poster about diseases and diet.

Before you start, what do you know about diseases that are caused by a poor diet?

What do you think you should eat more or less of to avoid or alleviate these diseases?

Beri-beri    Diabetes    High blood pressure    Influenza    Obesity    Rickets    Scurvy

## 2 Hormones and vitamins

## Reading, Writing

Read the text about diabetes and rickets.

A hormone is a chemical messenger in the body: insulin is a hormone that makes cells break down sugars in the blood. Diabetes is a condition in which the body cannot break down sugar properly because the pancreas is not producing enough insulin. Type 1 diabetes, in which the pancreas is attacked by the body's autoimmune system, is more common in younger people. Type 2 diabetes affects older people whose bodies become resistant to insulin so that they require more than they can produce.

Substances which the body needs in tiny amounts are called vitamins. Rickets is caused by a lack of vitamin D, which the skin produces in reaction to sunlight and is also found in mushrooms and fish. Vitamin D helps metabolise calcium and phosphorus, which is essential for building strong bones. Rickets is most often found in malnourished children, who have bent and weak bones, leaving them with physical deformities.

Now work in pairs. The text contains 10 spelling mistakes. Find them and correct them.

## 3 Influenza

## Reading, Writing

**Read this student's text about influenza. What has the student not done?**

people often say that someone's got the flu whenever they have a bad cold or a stomach upset flu is short for influenza but influenza is a more serious illness carried by the influenza virus the virus is spread by coughs and sneezes and spreads quickly in epidemics the symptoms include high fever and a bad cough the disease is often fatal especially to small children and to old people

as influenza is spread by a virus it doesn't make any difference what a patient eats except of course that someone with a healthy diet will be less vulnerable vaccines are used against influenza but they are not always effective because the virus changes very quickly

there is usually a new mutated strain that becomes dominant each year when a new strain of animal influenza mutates to attack humans for the first time there can be an influenza pandemic in 1918 an influenza pandemic killed more than fifty million people around the world far more than were killed in the first world war there were smaller pandemics in 1957 and 1968 in 1997 a new strain of bird flu mutated to attack humans but luckily it didn't become easily infectious and a pandemic was avoided

**Now read the text again and correct the student's errors.**

## 4 Health risks from diet

## Reading, Speaking

**Work in pairs. Read the text about two increased health risks, but don't show it to your partner, who has a different text. Ask your partner questions to complete the table below about the details in his or her text. Then answer questions about your text to complete your partner's table.**

### Obesity

Obesity is simply the condition of being too fat. It is caused by eating too much, especially too many fatty and sugary foods, and by lack of exercise, as well as genetic factors. Medical definitions vary, but many studies have shown that obese people have a greatly increased risk of heart disease and high blood pressure, and therefore tend to die younger. These risks become significant if you are 'morbidly obese', with a body mass index (weight divided by height squared) of more than 40 kg/m<sup>2</sup>. Different levels are normal, though, for people of different ages and genders.

**Vitamin C**

Collagen is a structural protein which makes up about a quarter of the body including most of the bones and teeth. Vitamin C helps build collagen, and a lack of Vitamin C leads to scurvy. Vitamin C is found in fruits and vegetables, especially oranges and lemons. If you contract scurvy from eating no fresh food, first you become pale and depressed, then you get large purple spots on your legs and your teeth and fingernails start to fall out, and then if you still get no fresh food the disease will kill you. It used to be common in sailors who were at sea for a long time.

**DETAILS OF STUDENT B'S TEXT:**

<b>Health risk</b>		
Name of condition:		
Causes:	Dietary	Other
Medical definition:		
Increased risk of:		

<b>Vitamin deficiency</b>		
Name of vitamin:		
Food sources of vitamin:		
Name of illness caused by deficiency:		
Symptoms:	Initial	Ultimate
People commonly affected:		

**5 Researching a disease**

**Reading, Speaking, Writing**

**Work in groups. Choose one of the medical conditions from this worksheet. Prepare an informative poster about the disease and give a presentation about it to the class. You will need to find more information about the disease. Use food wrappers from home and other illustrations for your poster.**



## 1 Introduction

## Vocabulary, Speaking

You are going to work on a poster about diseases and diet.

Before you start, what do you know about diseases that are caused by a poor diet?

What do you think you should eat more or less of to avoid or alleviate these diseases?

Beri-beri    Diabetes    High blood pressure    Influenza    Obesity    Rickets    Scurvy

## 2 Hormones and vitamins

## Reading, Writing

Read the text about diabetes and rickets.

A hormone is a chemical messenger in the body: insulin is a hormone that makes cells break down sugars in the blood. Diabetes is a condition in which the body cannot break down sugar properly because the pancreas is not producing enough insulin. Type 1 diabetes, in which the pancreas is attacked by the body's autoimmune system, is more common in younger people. Type 2 diabetes affects older people whose bodies become resistant to insulin so that they require more than they can produce.

Substances which the body needs in tiny amounts are called vitamins. Rickets is caused by a lack of vitamin D, which the skin produces in reaction to sunlight and is also found in mushrooms and fish. Vitamin D helps metabolise calcium and phosphorus, which is essential for building strong bones. Rickets is most often found in malnourished children, who have bent and weak bones, leaving them with physical deformities.

Now work in pairs. The text contains 10 spelling mistakes. Find them and correct them.

## 3 Influenza

## Reading, Writing

**Read this student's text about influenza. What has the student not done?**

people often say that someone's got the flu whenever they have a bad cold or a stomach upset flu is short for influenza but influenza is a more serious illness carried by the influenza virus the virus is spread by coughs and sneezes and spreads quickly in epidemics the symptoms include high fever and a bad cough the disease is often fatal especially to small children and to old people

as influenza is spread by a virus it doesn't make any difference what a patient eats except of course that someone with a healthy diet will be less vulnerable vaccines are used against influenza but they are not always effective because the virus changes very quickly

there is usually a new mutated strain that becomes dominant each year when a new strain of animal influenza mutates to attack humans for the first time there can be an influenza pandemic in 1918 an influenza pandemic killed more than fifty million people around the world far more than were killed in the first world war there were smaller pandemics in 1957 and 1968 in 1997 a new strain of bird flu mutated to attack humans but luckily it didn't become easily infectious and a pandemic was avoided

**Now read the text again and correct the student's errors.**

## 4 Health risks from diet

## Reading, Speaking

**Work in pairs. Read the text about two increased health risks, but don't show it to your partner, who has a different text. Ask your partner questions to complete the table below about the details in his or her text. Then answer questions about your text to complete your partner's table.**

### Hypertension

Blood circulates around the body from the heart carrying nutrients and other vital chemicals. High blood pressure, or hypertension, is not itself an illness, but if untreated it can lead to damage to the heart, brain, eyes and kidneys. It is caused by genetic factors and by age, as well as by dietary factors including excess salt and low potassium, and even eating too much liquorice! Hypertension is defined as a blood pressure consistently higher than 140 beats per minute (leaving the heart, 'systolic') over 90 (returning to the heart, 'diastolic').

## Vitamin B1

Vitamin B1, known as thiamin, is found in many foods including whole grains, cereals and bran. It is needed by the nerves, and for metabolizing carbohydrates. A thiamin deficiency will make you confused and irritable: with a severe deficiency you will contract beriberi. The name 'beriberi' comes from a Sinhalese expression meaning 'I can't, I can't': the disease was most common among people who ate only white rice. Sufferers experience pain and weakness, and it can lead to paralysis or heart failure.

### DETAILS OF STUDENT A'S TEXT:

Health risk		
Name of condition:		
Causes:	Dietary	Other
Medical definition:		
Increased risk of:		

Vitamin deficiency		
Name of vitamin:		
Food sources of vitamin:		
Name of illness caused by deficiency:		
Symptoms:	Initial	Ultimate
People commonly affected:		

## 5 Researching a disease

## Reading, Speaking, Writing

**Work in groups. Choose one of the medical conditions from this worksheet. Prepare an informative poster about the disease and give a presentation about it to the class. You will need to find more information about the disease. Use food wrappers from home and other illustrations for your poster.**

**Teacher's Notes and Answer Key**

The worksheet on diet and disease will take at least two hours to complete, and could be longer if you choose to use the poster project activity. There are two different versions of the worksheet; split the class into pairs. Each pair will need one copy of each version of the worksheet for the information-gap task in exercise 4.

**1 Introduction****Vocabulary, Speaking****Aims**

- to build on students' existing knowledge about diseases
- to discuss the link between disease and diet
- to introduce some vocabulary

This should be a discussion with the whole class. They may already know some ways of tackling obesity or some of the other conditions. This worksheet will be about diseases that are related to dietary issues: influenza is included so that the students can later identify it as a disease that is **not** dietary. They may already be able to say that in the initial discussion.

**2 Hormones and vitamins****Reading, Writing****Aims**

- to learn about a common hormone related condition (diabetes) and a vitamin deficiency condition (rickets)
- to practice text editing skills by spotting spelling mistakes

Allow students to read through the text individually first, and talk to the whole class about the content. Make sure they understand what a hormone is, and what a vitamin is.

A hormone is a chemical substance released by a cell, usually into the bloodstream. It is called a messenger because particular other cells are chemically stimulated by it to perform particular actions.

A vitamin is defined relative to the organism for which it is a vitamin: any substance that the organism needs to take in from outside in small quantities can be defined as a vitamin.

Put the students into pairs and get them to race to see which pair can find the ten spelling mistakes fastest. When one pair has finished, have them come and write their correct spellings on the board. The rest of the class can help to judge whether they were right.

### Key

The incorrectly spelled words are:

chemical, sugars, enough, attacked, younger, produce, tiny, sunlight, essential, physical

## 3 Influenza

## Reading, Writing

### Aims

- to learn about a virally transmitted condition
- to distinguish influenza from other conditions known as 'flu'
- to understand a spoken text with the help of a written one
- to practice punctuation

Students should work individually while they listen to the recording, putting in any punctuation marks they are sure about. Then put them in pairs to compare and discuss. When each pair is fairly close to finishing punctuating the text, stop them and play the recording again, so that they can check if their sentence breaks match. Give them time to finish before taking feedback on the board. Students take turns writing up one sentence of the text.

### Teacher's script and key

People often say that someone's 'got the flu' whenever they have a bad cold or a stomach upset. 'Flu' is short for 'influenza', but influenza is a more serious illness, carried by the influenza virus. The virus is spread by coughs and sneezes and spreads quickly in epidemics. The symptoms include high fever and a bad cough. The disease is often fatal, especially to small children and to old people.

As influenza is spread by a virus, it doesn't make any difference what a patient eats – except, of course, that someone with a healthy diet will be less vulnerable. Vaccines are used against influenza, but they are not always effective because the virus changes very quickly.

There is usually a new mutated strain that becomes dominant each year. When a new strain of animal influenza mutates to attack humans for the first time, there can be an influenza pandemic. In 1918 an influenza pandemic killed more than fifty million people around the world – far more than were killed in the First World War. There were smaller pandemics in 1957 and 1968. In 1997 a new strain of bird flu mutated to attack humans, but luckily it didn't become easily infectious and a pandemic was avoided.



**Aims**

- to learn about health risks from diet
- to communicate key details of a technical text orally

This activity exploits the two different versions of the worksheet. Each pair requires one copy of each version, and partners must not show one another their worksheets.

First give students time to read through the texts alone. Then instruct them that student A must ask questions first to complete the first part of the table, about health risks. When you can see that most pairs have the first part of A's table completed, tell them that student B should then ask questions to complete the other table. When all of student B's table has been completed, student A asks again to complete the second half of the table. This procedure makes the activity fairer than if one student goes first on both halves of the task.

**Key to Student A's table:****Health risk**

Name of condition: high blood pressure or hypertension

Dietary causes: high salt, low potassium, liquorice (/ˈlɪkərɪʃ/)

Other causes: genetic factors, age

Medical definition: blood pressure consistently above 140 over 90

Increased risk of: damage to heart, brain, eyes and kidneys

**Vitamin deficiency**

Name of vitamin: Vitamin B1, Thiamin

Food sources of vitamin: whole grains, cereals, bran

Name of illness caused by deficiency: beriberi

Initial symptoms: confusion, irritability

Ultimate symptoms: paralysis, heart failure

People commonly affected: those who only eat white rice

**Key to Student B's table****Health risk**

Name of condition: obesity

Dietary causes: eating too much, fatty and sugary foods

Other causes: lack of exercise, genetic factors

Medical definition: a body mass index of more than 40kg/m<sup>2</sup>

Increased risk of: heart disease, high blood pressure

**Vitamin deficiency**

Name of vitamin: Vitamin C

Food sources of vitamin: fruits and vegetables, especially oranges and lemons

Name of illness caused by deficiency: scurvy

Initial symptoms: pallor, depression

Ultimate symptoms: loss of teeth and fingernails, death

People commonly affected: sailors at sea for a long time

**Aims**

- to begin to carry out autonomous research
- to present scientific information
- to collate information onto a poster
- to read a variety of sources to find specific information
- to write short clear explanatory texts and illustrate them

If you choose to do this final project activity, the groups will need a little class time to discuss their ideas, and plenty of homework time with free internet access to research and make their posters. Then a class should be given over to the presentations and space must be found for the posters. Make sure that you are available to give students any help and support they may need both with the content and with the language.