

## Before-reading questions

- 1 *Reader's own answer.*
- 2 a, b, c, e and g
- 3 *Reader's own answer.*
- 4 *Reader's own answer.*
- 5 *Reader's own answer.*

## During-reading questions

### CHAPTER ONE

- 1 Two from: DNA/RNA, protein, spiky coat, envelope
- 2 Three from: touch, breathing in, through broken skin, by air (sneezing, coughing, talking), unprotected sex and kissing, through mother's milk, giving birth or before birth
- 3 The incubation period is the time after catching the virus but before the symptoms appear. The contagious period is the time when another person can catch the virus from an infected person.

### CHAPTER TWO

- 1 Influenza A, Influenza B, Influenza C
- 2 Measles: red-brown spots on the forehead, then later on the face and neck and finally on the body and legs. There are no blisters and no scratching.  
Chickenpox: red spots on the chest, face and back that turn into blisters and are hard not to scratch.  
German measles: pink or red spots on the face and then on the rest of the body.  
Mild fever and a swollen neck and throat.
- 3 Shingles is a disease that affects older people who have already had chickenpox. It is the same virus that has been sleeping.

### CHAPTER THREE

- 1 The virus can live in the faeces of a patient several weeks after they have had the virus. It can also survive after cleaning infected

areas and in very hot temperatures.

- 2 It can attack the nervous system and cause paralysis. It can also cause very serious breathing problems which can kill the patient.
- 3 It was first transmitted from fruit bats to humans.

### CHAPTER FOUR

- 1 Honey is used to treat a sore throat and to stop coughing. It can be as good as medication from the pharmacy.
- 2 Don't visit the hospital if you are unwell and don't bring babies or young children to hospital. Wash your hands when you arrive and when you leave the patient's room. Don't touch medical equipment or sit on the patient's bed.
- 3 He tried the vaccination on monkeys, then on himself and his family, then on people who had already had the virus, and finally on two million children who had never had the virus.

### CHAPTER FIVE

- 1 Epidemiologists study how diseases appear and how they spread. They advise others, including hospitals, pharmaceutical companies and governments, on how to control diseases. Some teach in universities.
- 2 She discovered (with Luc Montagnier) that AIDS was caused by HIV. She also discovered that women could catch the virus through unprotected sex with infected men.
- 3 She developed a technique for seeing viruses under a microscope and identified the coronavirus.

### CHAPTER SIX

- 1 The skin of someone infected with the plague turns black before they die.
- 2 They closed their village.
- 3 The Spanish flu appeared three times, it affected more young people between

the ages of 15 and 34 than other types of influenza, and humans could transmit the virus to pigs.

## CHAPTER SEVEN

- 1 Three from: Being male or female, age, DNA, where we live, education, job, salary, diet, exercise, smoking
- 2 Three from: Produced information documents about the virus in different languages; introduced a law about wearing a mask; changed opening times for companies; closed places where people meet (schools, theatres, etc.); introduced quarantine; encouraged to wash hands more frequently.
- 3 They are people who disagree with the use of vaccinations.

## CHAPTER EIGHT

- 1 Chagas disease was named after the person who discovered the virus, Carlos Chagas. Zika virus was named after the forest in Uganda where it was first discovered.
- 2 An outbreak is when a small number of people catch a virus, for example in a school or a hospital. An epidemic is when an outbreak becomes larger and affects a larger area, like the district of a town. A pandemic is when a virus affects many or all countries.
- 3 WFH means “working from home”. During the Covid-19 pandemic, people were encouraged to work from home in many countries to try and stop the spread of the disease.

## CHAPTER NINE

- 1 He was born just before an outbreak of the plague. He described some of his characters as symptoms of the plague.
- 2 They both caught Spanish flu, but only Munch survived.

- 3 The ballet company used dance to help HIV/AIDS patients to exercise.

## CHAPTER TEN

- 1 David Lloyd George, Kaiser Wilhelm II, Haile Selassie I and Woodrow Wilson all survived the Spanish flu during the First World War.
- 2 It was named after Eric Cantor’s radio show called “The March of Dimes”. During his show he encouraged Americans to send a dime to the President for research into polio.
- 3 Women can learn about the virus, how it is transmitted and how to prevent it and then teach other people in their communities. They can also work to help rebuild the economy destroyed by the virus.

## After-reading questions

- 1 *Reader’s own answers.*
- 2 *Reader’s own answer.*
- 3 **Model answer:** Hospitals have clean rooms and equipment, treat infected patients in isolation and try to protect patients with weak immune systems. The staff educate patients about how to prevent diseases and wear special protective clothes (PPE).
- 4 **Model answer:** Incorrect information, for example if people don’t know how a virus is transmitted, causes confusion and false ideas to spread.
- 5 **Model answer:** Antibiotics are used to treat bacterial infections but cannot be used to treat viral infections. Antiviral drugs stop viruses developing in the body and can be used to treat the flu, shingles, herpes and HIV/AIDS. Vaccines prevent viruses developing in the body by creating antibodies to fight against them.
- 6 **Model answer:** The WHO decides when a disease is an epidemic or a pandemic and

is responsible for choosing the flu virus to include in the new vaccine for each year. It also encourages governments to introduce vaccination programmes and education programmes in their countries to help stop the spread of viruses.

## Exercises

### CHAPTERS ONE AND TWO

- 1 1 pathogen
- 2 mosquito
- 3 transmit
- 4 blister
- 5 painkiller
- 6 incubation
- 7 complication
- 8 influenza

### CHAPTER ONE

- 2 1 false
- 2 true
- 3 false
- 4 false
- 5 true
- 6 false

### CHAPTER FOUR AND FIVE

- 3 1 An **antiviral** drug is a medicine that stops the virus from developing in the body.
- 2 Unlike **antibiotics** used to treat bacterial infections, **antiviral** drugs can only be used to treat one kind of virus.
- 3 In the UK, patients who catch norovirus or MRSA are immediately moved to a room by themselves with their own bathroom to protect other patients. We call this **isolation**.
- 4 **Virologists** are researchers whose main job is to study the science behind viruses. They are interested in knowing how different viruses behave and develop.

5 **Epidemiologists** look at how and where outbreaks of a disease first begin and how they spread.

6 Almeida discovered that, by putting **antibodies** under the microscope together with the rubella virus, it finally became possible for scientists to see this virus, as well as others.

### CHAPTER SIX

- 4 1 How do historians find out about pandemics in history?
- 2 How was the plague transmitted?
- 3 How did people try to treat the symptoms of the plague?
- 4 What was one of the main differences between the Spanish flu and other types of flu?
- 5 Why do some historians believe the Spanish flu stopped spreading?
- 6 How can babies become infected with HIV?

### CHAPTER SEVEN

- 5 1 Responsible **for** the health of the population, public health organizations have an important role in preventing the spread **of** disease.
- 2 Diseases have many negative effects **on** our lives, not just our health.
- 3 In many regions in Sweden, women had to work in the factories because large numbers of young men had been killed **by** the Spanish flu.
- 4 According **to** government documents, policies introduced in San Francisco helped stop thousands **from** dying.
- 5 Wearing masks was often unpopular **with** people, and the Anti-Mask League fought **against** the policy when it was introduced in San Francisco.
- 6 After Dr Wakefield's report was written, the public health organization in the UK became afraid **of** a measles epidemic.

## CHAPTER EIGHT

- 6 1 Language can be used to help make necessary changes to the **economy** during a pandemic.
- 2 The word virus is also used to describe something that **infects** a computer.
- 3 It took **researchers** four years to identify the norovirus.
- 4 They now **advise** health workers to use more positive language to talk about disease.
- 5 Public health **organizations** like the NHS use special language to encourage people to look after their health.
- 6 By looking at language we can see what **social** changes have happened after a pandemic.

## CHAPTER NINE

- 7 1 In her diary, Virginia Woolf writes about her own experience of the Spanish flu; a disease which seriously affected her heart.
- 2 In fact, some believe *La Peste* is more about the effects of war and politics on people than about the disease itself.
- 3 The artist showed people in a hospital in London just after they were vaccinated against smallpox.
- 4 Although the Spanish flu killed millions around the world, the disease was important to very few artists.
- 5 She developed an interest in art and medicine and at first wanted to draw art books for students of medicine.
- 6 The work of the American photographer continues to live today through his photographs and through The Robert Mapplethorpe Foundation, which gives money for HIV/AIDS research.

## CHAPTER TEN

- 8 1 Some of the most famous leaders in history **have been** attacked by one or more serious viruses.
- 2 David Lloyd George **caught** the Spanish flu during the First World War.
- 3 The money **was given** to researchers **to help** find a vaccine for polio.
- 4 Paul Alexander **is** one of the only people still **living** in an iron lung today.
- 5 After **surviving** polio, Paul Alexander **had not expected** to experience another pandemic like Covid-19.
- 6 UN Sustainable Development Goal 3.3 **hopes** there will no longer be epidemics of the types of viruses **found** in this book by 2030.

## Project work

*Reader's own answers.*

## Essay questions

*Reader's own answers.*