



Viral Disease

1 Fill in the missing words

Reproduce / Organisms / Kill / Cells / Animal / Copies / Bacteria / Burst / Ill / Damages / New

Viruses are difficult to understand. They are not **cells**, and they not living, but we normally still consider them to be **organisms**. They're about 10,000 times smaller than **animal** cells, and they can't **reproduce** by themselves. However, once they get inside another organism's cell, they can use that cell's own machinery to make multiple **copies** of themselves. At some point, they can **burst** the cell, and all of the **new** viruses will spread out to find new cells to take over. This process **damages** our bodies and can make us feel **ill**.

[9 marks]

2 Measles is very serious disease that can be fatal. Luckily most people in the UK are vaccinated against it.

a) How is the measles virus spread?

- Through air droplets e.g. when coughing

[1 mark]

b) What symptoms does measles give?

- Red rash across most of body or fever

[1 mark]

3 HIV is virus that cause the disease known as AIDS

a) Give two ways in which HIV (human immunodeficiency virus) can be spread?

- 1) Unprotected sex
- 2) Sharing needles

[2 marks]

b) When somebody first catches HIV they may experience a fever, tiredness and headache. However they will soon start to feel better. At some point in the future though they may develop AIDS (acquired immune deficiency syndrome). What is AIDS and how can it lead to death?

- AIDS is a disease in which the immune system is weakened
- This means patients can catch infectious diseases and cancers more easily
- These diseases may then kill the patients

[3 marks]

c) Luckily we can now treat HIV to prevent AIDS from developing, or treat AIDS itself. What are these medications called and how do they work?

- Antiretrovirals - work by stopping viruses from reproducing

[2 marks]

4 Tobacco mosaic virus (TMV) affects plants

a) Name two species of plants it affects

- 1) Tomato
- 2) Tobacco

[2 marks]

b) Discuss how TMV affects plants

- It discolours patches on the leaves, causing a 'mosaic pattern' to form.
- This prevents photosynthesis from taking place in these discoloured patches
- So overall the plant won't be able to produce enough sugars for proper growth.
- So it will start to falter or its leaves will fall off

[4 marks]

[Total 24 marks]