

GCSE Biology B (Twenty First Century Science)
J257/03 Breadth in Biology (Higher)

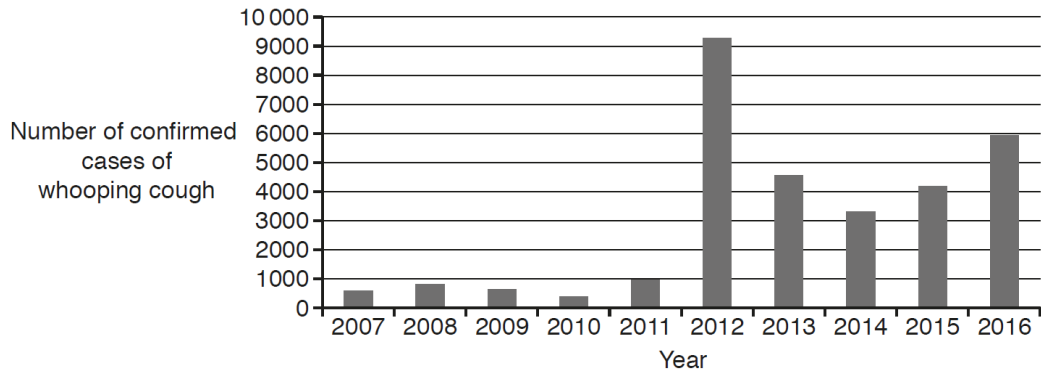
Question Set 29

1 Whooping cough is a communicable disease caused by bacteria.

(a) Explain how vaccines are used to prevent the spread of diseases such as whooping cough.

[3]

(b) The graph shows the number of confirmed cases of whooping cough in England from 2007 to 2016.

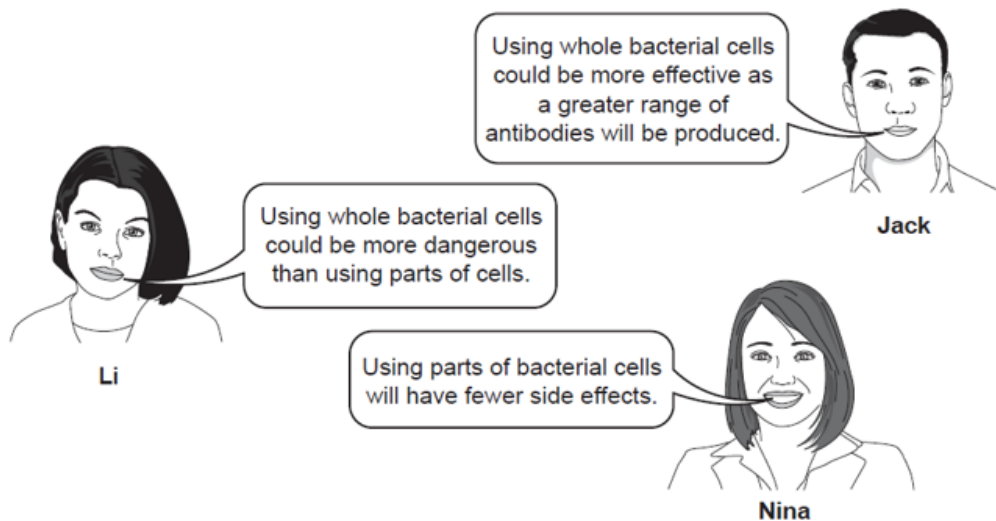


Describe the trends shown in the graph and suggest a reason for the trends.

[3]

(c) The first vaccine for whooping cough contained whole bacterial cells. Today vaccines contain parts of the bacterial cells.

Some friends are discussing the different vaccines for whooping cough.



- (i) Who is suggesting a benefit of using whole bacterial cells?
Tick (✓) **one** box.

Jack

Li

Nina

[1]

- (ii) Who is suggesting a benefit of using parts of bacterial cells?
Tick (✓) **one** box.

Jack

Li

Nina

[1]

- (iii) Why do you think using whole bacterial cells could be more dangerous?

[1]

- (d) Scientists are continually developing new drug treatments for diseases. Many tests must be carried out before a new drug is made available for use on humans.

The statements, **A–F**, describe the testing process of a new drug but they are in the wrong order.

Put the statements in the correct order by writing a letter in each box.

One has been done for you.

- A** Drugs are tested on animals for safety and effectiveness.
- B** Drugs are tested on a small number of healthy humans to check the drugs are safe to use.
- C** Drugs are tested on a small number of humans with the disease to check for safety and effectiveness.
- D** Drugs are modelled in the lab using computer software.
- E** Drugs are tested on cells and tissues in the lab.
- F** Larger clinical trials are conducted.

		A			
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[3]

Total Marks for Question Set 29: 12

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