



1 What is a chemical barrier to pathogens?

- A nose hairs
- B skin
- C stomach acid
- D white blood cells

2 Which row describes the features of passive immunity?

	antibodies made	involves memory cells	effective period
A	no	no	short term
B	no	yes	short term
C	yes	no	long term
D	yes	yes	long term

3 The antibodies that give immunity to a disease can be acquired in the following different ways.

- 1 feeding on breast milk
- 2 infection by disease
- 3 vaccination

Which give active immunity?

- A 1 and 2 only
- B 1 and 3 only
- C 2 and 3 only
- D 1, 2 and 3

4 Which part of a pathogen is recognised by the immune system?

- A active site
- B antibiotic
- C antibody
- D antigen



5 What happens when a child is vaccinated against tuberculosis?

	type of immunity	production of memory cells
A	active	no
B	active	yes
C	passive	no
D	passive	yes

6 Poor nutrition can lead to a condition called rickets in which bones fail to develop properly.

The table shows some minerals and vitamins present in four foods.

Which food would be best for a child who has rickets?

	calcium	iron	vitamin C	vitamin D
A	✓	x	✓	x
B	✓	x	x	✓
C	x	✓	✓	x
D	x	✓	x	✓

key

✓ = substance present

x = substance absent



7 Bacteria are classified as belonging to the Prokaryote kingdom.

(a) State two features of all prokaryotes.

1

2

[2]

MRSA is a type of bacterium that is resistant to antibiotics. The number of cases of MRSA identified in hospitals in the USA between 1995 and 2005 was recorded.

Fig. 2.1 shows these data.

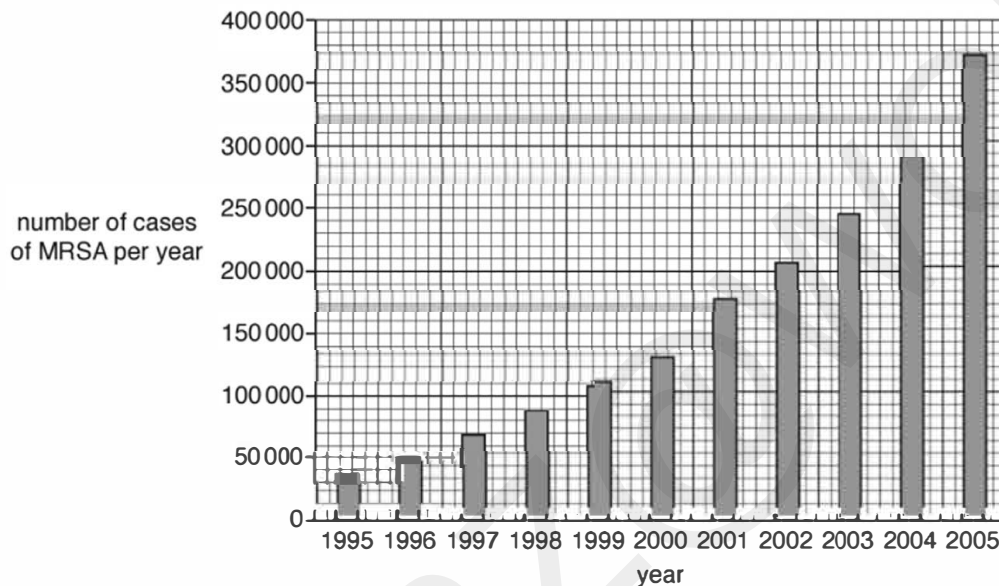


Fig. 2.1

(b) (i) Describe the results shown in Fig. 2.1.

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[2]



(ii) Explain how bacteria become resistant to antibiotics.

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.....[4]

(c) The number of cases of MRSA has decreased since 2005.

Suggest reasons for this decrease.

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[Total: 10]

(e) Explain why antibiotics, such as penicillin, affect bacteria but not viruses.

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..... [2]