Combined Science - Biology - Key Stage 4

Evidence for Evolution - Part 2

Mrs Gibbs

OAK NATIONAL ACADEMY

Antibiotic resistance

1) Antibiotic resistance is when bacteria cannot...

2) Antibiotic resistance is caused by...

3) An example of a bacteria with antibiotic resistance is...

Explain how antibiotic resistant bacteria have evolved.

- Within a bacteria population, a m_____ for antibiotic resistance develops, creating v_____ in the population.
- There is c_____ for n_____ and o_____.
- The bacteria are exposed to an a_____. The bacteria without r_____ die, whereas those with the resistance m_____ survive. They have less c_____.
- The surviving bacteria reproduce and pass on the g_____ for antibiotic r_____ to o_____.

Exam question

a) Tony has pneumonia. His doctor prescribes antibiotics.
Suggest why it is important that Tony starts his course of treatment as soon as possible. **(1)**

b) The doctor tells Tony to complete the course of treatment. Explain why this is important. **(2)**

c) Tony recovers. Several years later, Tony's friend, Gordon, also catches pneumonia.

This time the antibiotic does not work. The doctor decides to give Gordon two other antibiotics at the same time. Gordon recovers.

Suggest why:

- the original antibiotic did not work;
- using two other antibiotics was effective. **(3)**

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