Autumn 2

Year 11 B14 Genetics and evolution

Aiming for Grade 4 (Combined)

Extended Homework Assignment

Name: _____

Set: _____

Instructions

A printed copy should be handed into your teacher.

The knowledge required to complete this assignment will be supported in class in lessons of the half term.

B14 Genetics and evolution – Aiming for Grade 4 (Combined)

Aims

The aim of this homework is to help you revise the main topics in Chapter 14, Genetics and evolution.

Learning outcomes

After completing this activity, you should be able to:

- state some causes of extinction
- describe how antibiotic resistance develops in bacteria.

Task

There are two activities to complete. Both activities will help you to revise different material from Chapter B14, *Genetics and evolution*.

Activity 1 – Fossils and extinction

Answer question on fossils and extinction.

Activity 2 – Antibiotic resistance

You will be drawing a flowchart to describe how antibiotic resistance develops in bacteria, and stating some ways to avoid antibiotic resistance developing.

Activities:

1 Fossils and extinction

a What conditions are needed for fossils to form?

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b Give one reason why we do not have a complete fossil record.

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c Write down as many reasons as you can think of why species might become extinct.

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2 Antibiotic resistance

a Copy out these statements about the development of resistance to antibiotics in bacteria in the correct order.

Add pictures to go with each statement.

resistant strains survive and reproduce
bacteria mutate and produce new strains
resistant strain will spread
some strains are resistant to antibiotics and are not killed
population of resistant strain increases due to natural selection

b i Write down ways we can avoid the development of antibiotic resistant bacteria.

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ii Write down ways we can reduce the spread of antibiotic resistant bacteria such as MRSA (Methicillin-resistant *Staphylococcus aureus*).

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