AQA, OCR, Edexcel

GCSE Science

GCSE Biology

DNA and Genome Answers

Name:

M M E

Mathsmadeeasy.co.uk

Total Marks: /23

Q1: How many chromosomes does a human have?

A= 46 Chromosomes/ 23 pairs

(1 mark)

Q2: Describe the structure of DNA.

A= 1 mark each of the following:

- Polymer
- Double Helix

(2 marks)

Q3: Where is the DNA of a cell stored?

A= Nucleus

(1 mark)

Q4: What is the purpose of a gene?

A= Encodes a specific protein

(1 mark)

Q5: Discuss the purpose of the human genome project.

A= Accept any 2 of the following:

- To sequence all the human genome
- Learn as much as possible about the human DNA as possible
- Find genes for genetic conditions

(2 marks)

Q6: Why is mitochondrial DNA important?

A= only contains mother's DNA

(1 mark)

Q7: What can the analysis of the human genome tell us about history?

A= 1 mark for each of the following:

- Evolution
- Human migration

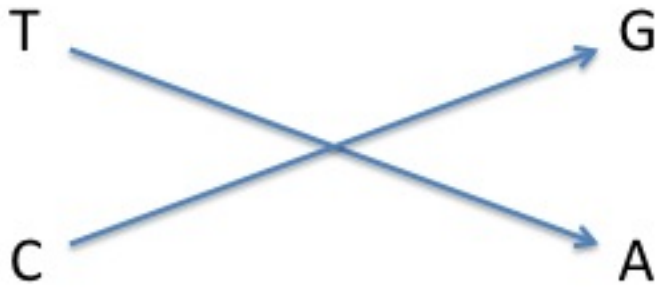
(2 marks)

Q8: What is a DNA base?

A= Backbone of DNA molecule

(1 mark)

Q9: Draw a link to the complementary base pairs.



(2 marks)

Q10: How many bases are required to make a nucleotide?

A=3

(1 mark)

Q11: What effect can a genetic mutation cause to the amino acid sequence?

A= Code the incorrect protein

(1 mark)

Q12: Explain how proteins are synthesised.

A= Award 1 mark for continuous prose and any 5 of the following:

- Synthesised to a template
- Carrier molecules bring specific amino acids
- Grows protein chain
- When complete it folds
- Unique shape protein
- Specific shape allows it to carry out function

(6 marks)

Q13: Which cell component contains the template for protein synthesis?

A= Ribosome

(1 mark)

Q14: How many bonds are present in the G-C nucleotides? Circle one.

2 3 5 6

(1 mark)