

**AQA - Carbon dioxide and methane as greenhouse gases – GCSE Chemistry**

1. [May/2020/Paper\\_8462/2F/No.2.4](#)

Carbon monoxide is produced by the incomplete combustion of methane.

Balance the equation for the reaction.

[1 mark]



2. [May/2020/Paper\\_8462/2H/No.9](#)

This question is about algae.

A student:

- placed algae in water containing dissolved carbon dioxide
- shone bright light on the algae.

Gas bubbles were collected as the algae photosynthesised.

Describe a test that would identify the gas collected.

Give the result of the test.

[2 marks]

Test \_\_\_\_\_

Result \_\_\_\_\_

Glucose is produced when algae photosynthesise.

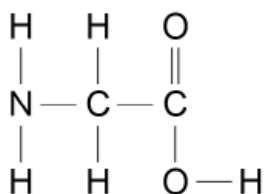
Name **two** naturally occurring polymers produced from glucose.

[2 marks]

\_\_\_\_\_ and \_\_\_\_\_

**Figure 6** shows the displayed structural formula of an amino acid called glycine.

**Figure 6**



How many functional groups are there in the molecule in **Figure 6**?

[1 mark]

Tick (✓) **one** box.

1

2

3

4

Glycine reacts by condensation polymerisation to produce a polypeptide and one other substance.

Name the other substance produced.

[1 mark]

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Scientists think that algae may have used gases in Earth's early atmosphere.

Algae need an element to produce the molecule in **Figure 6** which is **not** present in water or carbon dioxide.

Which **two** gases from Earth's early atmosphere could have provided this element?

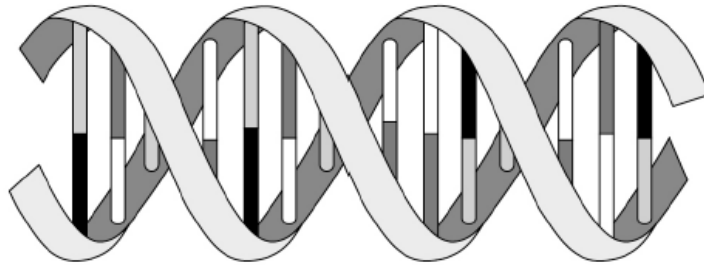
[2 marks]

\_\_\_\_\_ and \_\_\_\_\_

The development and function of algae are controlled by a naturally occurring polymer.

**Figure 7** represents the shape and structure of this polymer.

**Figure 7**



Describe the shape and structure of this polymer.

**[3 marks]**

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