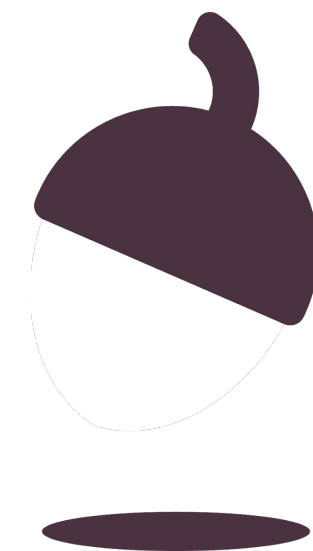


Biology - Key Stage 4

# Protein Synthesis

Mrs Gibbs



**OAK**  
NATIONAL  
ACADEMY

# Independent task

1. What shape does DNA have?
2. What type of molecule is DNA?
3. What is each nucleotide made from?
4. What are the 4 bases of DNA called?
5. How do the bases of DNA pair?
6. What is a gene?



# Independent task

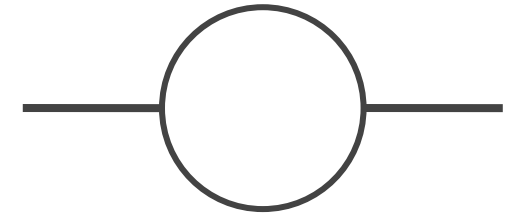
1. How many amino acids will this DNA sequence code for?

**GACTTCGACCGCATC**

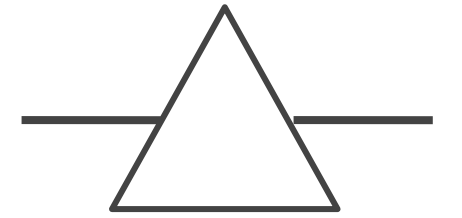
2. Use the key to draw the amino acid chain that the sequence would form

## Key

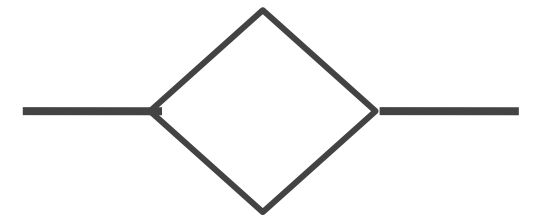
ATC



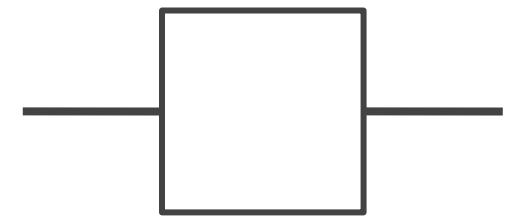
CGC



TTC



GAC



# **Exam practice: How is a collagen protein produced using the DNA code? (5)**

**Key word bank: base, sequence, amino acid, carrier molecule, ribosome, fold, shape**

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- 
- 
- 
- 



# Independent task

A mutation altered a base sequence of DNA coding for a hormone. This caused one amino acid to be changed. Explain why the hormone could no longer function.

- *This will affect how the protein chain \_\_\_\_\_.*
- *This will affect the \_\_\_\_\_ shape of the protein.*
- *The hormone may be unable to \_\_\_\_\_ to the \_\_\_\_\_.*

