

0 8

Genetic material is made of DNA.

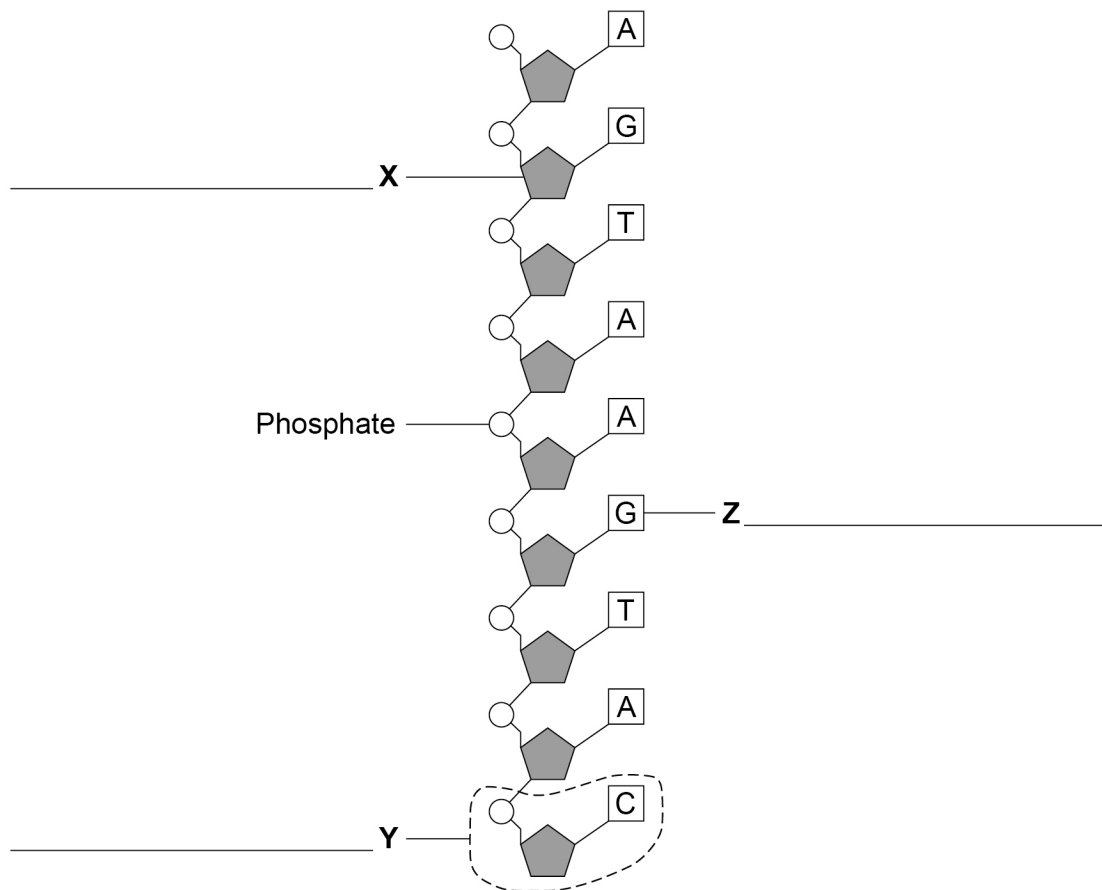
0 8 . 1

Which structures in the nucleus of a human cell contain DNA?

[1 mark]

Figure 16 shows part of one strand of a DNA molecule.

Figure 16



0 8 . 2

Label parts X, Y and Z on Figure 16.

[3 marks]

Choose answers from the box.

Base

Fatty acid

Nucleotide

Sugar

Glycerol



**0 8 . 3** A complete DNA molecule is made of two strands twisted around each other.

What scientific term describes this structure?

[1 mark]

---

**0 8 . 4** DNA codes for the production of proteins.

A protein molecule is a long chain of amino acids.

How many amino acids could be coded for by the piece of DNA shown in **Figure 16**?

[1 mark]

Tick (✓) **one** box.

2

3

9

18

**0 8 . 5** Scientists have now studied the whole human genome.

Give **two** benefits of understanding the human genome.

[2 marks]

1 \_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

**8**

**Turn over for the next question**

**Turn over ►**



Question	Answers	Extra information	Mark	AO / Spec. Ref.
08.1	chromosome(s)	allow gene(s) / allele(s)	1	AO1 4.6.1.4 4.1.2.1
08.2	X = sugar Y = nucleotide Z = base		1 1 1	AO1 4.6.1.5
08.3	double helix		1	AO1 4.6.1.4
08.4	3		1	AO2 4.6.1.5
08.5	any <b>two</b> from: <ul style="list-style-type: none"> <li>• diagnosis of inherited / genetic disorder</li> <li>• gene therapy <b>or</b> treatment of inherited disorders</li> <li>• understanding (human) evolution</li> <li><b>or</b></li> <li>• understanding ethnic origins (of a person)</li> <li><b>or</b></li> <li>• understanding ancestry</li> <li>• tracing human migration patterns</li> </ul>	allow descriptions or named examples  allow research / understand genetic disorders  allow other examples – eg identification of criminals (1) paternity determination (1)	2	AO1 4.6.1.4
<b>Total</b>			<b>8</b>	