How to make a double helix

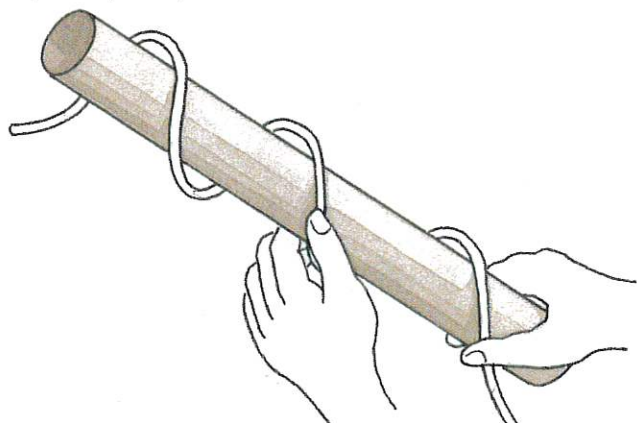These questions will help you practise:
- ★ identifying and explaining how information is related
- ★ identifying and explaining how information contributes to meaning as a whole
- ★ making inferences
- ★ retrieving and recording information
- ★ identifying and explaining how language choices enhance meaning.

Almost all organisms, including human beings, have a 'genetic fingerprint', determined by their DNA. The DNA molecules hold information about an organism's inherited traits, and they can copy themselves by 'unzipping' down the middle and re-generating their missing half. Here, you can make a simplified model of a DNA molecule, showing all the components.
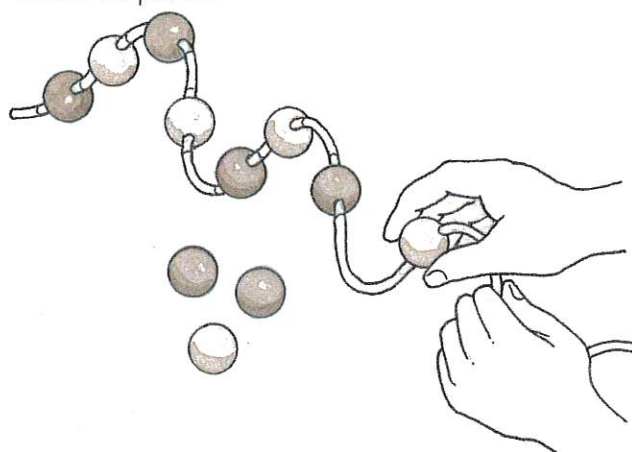
You will need
- inner tube of a kitchen roll
- pen
- wire
- modelling clay in two colours
- toothpicks
- adhesive tape
- scissors

1. Using the kitchen-roll tube as a template, curl the wire up around it in a spiral. Follow the seam on the tube to keep the coils evenly spaced. Make another identical spiral (helix).
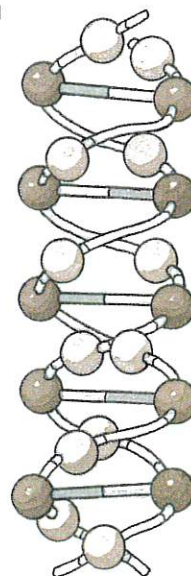

2. Mould the modelling clay into 12 balls in each colour. These balls represent the sugars and phosphates on the outside of the molecule. Thread them onto each helix, alternating the colours as you go. Make sure that both helixes start with the same colour. Wrap strips of adhesive tape around the wire above and below the balls to hold them in place.

3. Cut the ends off the toothpicks, then colour half of each with the pen. These two-coloured sticks represent the pairs of chemical compounds (bases) that join the helixes together. Line up the wires so that they intertwine, then use the sticks to link each pair of clay balls in one colour. The sticks should run horizontally across the centre of the model.

Making a double helix by Carol Vorderman

1 a) What is the purpose of this text?

_____

(1 mark)

b) Choose **two** features to support your answer.

1. _____

2. _____

1b

(2 marks)

2 **Find** and **copy one** fact from the section beginning: *Almost all organisms....*

_____

2

(1 mark)

3 Following the introduction, how is the text organised?

Tick **one**.

in no particular order ☐

in order of colours ☐

in chronological order ☐

in order of resources used ☐

3

(1 mark)

4 In step 1, the writer uses a word that means *guide*.

Find and **copy** the word.

_____

4

(1 mark)

5 a) **Find** and **copy three** command words.

_____

5a

(1 mark)

b) Explain why commands are used in this text.

_____

_____

5b

(1 mark)

/ 8

Total for this text

39