12.2 The Structure of DNA

The Components of DNA

For Questions 1–5, complete each statement by writing in the correct word or words.

1. The building blocks of DNA are ________________.
2. Nucleotides in DNA are made of three basic components: a sugar called __________, a __________, and a nitrogenous ________________.
3. DNA contains four kinds of nitrogenous bases: ________________, ____________, ________________, and ____________.
4. In DNA, __________ can be joined in any order.
5. The nucleotides in DNA are joined by ________________ bonds.

Solving the Structure of DNA

6. Complete the table to describe each scientist’s contribution to solving the structure of DNA.

<table>
<thead>
<tr>
<th>Scientist</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erwin Chargaff</td>
<td></td>
</tr>
<tr>
<td>Rosalind Franklin</td>
<td></td>
</tr>
<tr>
<td>James Watson and Francis Crick</td>
<td></td>
</tr>
</tbody>
</table>

The Double-Helix Model

For Questions 8–13, on the lines provided, label the parts of the DNA molecule that correspond to the numbers in the diagram.
14. **THINK VISUALLY** The drawing below shows half of a DNA molecule. Fill in the appropriate letters for the other half. Explain why you drew your sketch the way you did.