SECTION 8.4 | TRANSCRIPTION

Study Guide

KEY CONCEPT
Transcription converts a gene into a single-stranded RNA molecule.

VOCABULARY
- central dogma
- messenger RNA (mRNA)
- RNA
- ribosomal RNA (rRNA)
- transcription
- transfer RNA (tRNA)
- RNA polymerase

MAIN IDEA: RNA carries DNA’s instructions.
Label each of the processes represented by the arrows in the diagram below. Write where each of these processes takes place in a eukaryotic cell in parentheses.

1._________________________________

2._________________________________

3._________________________________

Fill in the table below to contrast DNA and RNA.

<table>
<thead>
<tr>
<th>DNA</th>
<th>RNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Contains the sugar deoxyribose</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Has the bases A, C, G, and U</td>
</tr>
<tr>
<td>6. Typically double-stranded</td>
<td></td>
</tr>
</tbody>
</table>

MAIN IDEA: Transcription makes three types of RNA.
7. What enzyme helps a cell to make a strand of RNA?
8. Summarize the three key steps of transcription.


9. Write the basic function of each type of RNA in the chart below.

<table>
<thead>
<tr>
<th>Type of RNA</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>mRNA</td>
<td></td>
</tr>
<tr>
<td>rRNA</td>
<td></td>
</tr>
<tr>
<td>tRNA</td>
<td></td>
</tr>
</tbody>
</table>

MAIN IDEA: The transcription process is similar to replication.

10. List two ways that the processes of transcription and replication are similar.


11. List two ways that the end results of transcription and replication differ.


Vocabulary Check

12. How does the name of each type of RNA tell what it does?


13. What is transcription?