DNA and Transcription Tutorial
Directions: Start the program titled “DNA and Transcription tutorial.” Press the F5 button to start the tutorial.

Click “START FROM BEGINNING”

**Genes and DNA**
1. What is a gene?

2. How many genes do humans contain?

3. Proteins are made from smaller units called ____________________________

**Genes**
4. What is created from the instructions found within genes?

5. Where are genes located?

6. Which organelle creates proteins?

Meet Melissa
7. What is Melissa’s task?

8. What do construction blue-prints contain?

9. What do genes contain?

10. A gene is a small section of ________________

**Transcription**
11. Define TRANSCRIPTION.

12. Where is DNA stored?

13. What is the function of RNA polymerase?

14. Which type of organic molecule is RNA polymerase?

15. What happens once the entire strand of DNA has been separated?

**Transcription Rules**
16. Fill in the transcription table below.

<table>
<thead>
<tr>
<th>DNA</th>
<th>mRNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td></td>
</tr>
</tbody>
</table>
Predicting Transcription

17. Perform transcription and click on the proper RNA base that will match with the given DNA base.

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18. In order, list 3 things that happen once the mRNA is created.
   a. ____________________________________________
   b. ____________________________________________
   c. ____________________________________________

Fate of the DNA

19. After the mRNA is created, what happens to the separated DNA? ____________________________

The Final Stage

20. Why is a fax a good analogy to mRNA? ________________________________________________

21. What is the construction site of a protein? _____________________________________________

22. Which process begins at the ribosome? ________________________________________________

23. Define TRANSLATION. ____________________________________________________________

Review Questions

1. What will eventually be created by the DNA code of a gene? _____________________________

2. RNA polymerase separates DNA at the start of which process? ___________________________

3. RNA polymerase is a type of which organic molecule? ________________________________

4. Which shows the process of transcription done properly?

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5. After exiting the nucleus, where will the finished mRNA travel? ________________________

6. Once arriving at the ribosome, which process will begin next? __________________________

7. Which RNA was not matched properly? U U G C G G C A U A G

8. Genes are small segments of _______________________.