**Activity**: Transcription in Action

*AP Biology*

As you reach this activity, you should already be able to outline the differences between DNA and RNA in terms of structure and process. You should also be comfortable describing the history of experiments that led to the finding that DNA is the heritable material. This activity will now strengthen your ability to describe the process of transcription through models and representations. Complete all the tasks in your **BILL**.

**Task 1: Visualizing transcription**

1. Go to <http://www.dnalc.org/resources/3d/12-transcription-basic.html> and watch the video clip describing the process of transcription.
2. Based on the video clip, answer the questions that follow:
   1. What is a gene?
   2. As the gene is read, what is produced? (Hint: the product was yellow in the video clip.)
   3. What replaces thymine (T) when RNA is being produced?
   4. Where is transcription happening in your body?

**Task 2: Mechanics of transcription**

1. Go to <https://learn.genetics.utah.edu/content/basics/transcribe/> and complete the activity about transcribing a segment of DNA and translating it into a protein.
2. Once you have completed the activity, in your BILL prepare a diagram depicting the events to transcription. Use the information from the site as a guide while preparing your diagram. Your diagram should include the relevant and essential components.

**Task 3: Practicing transcription**

1. The three DNA strands shown below are coding strands. Transcribe each segment by writing the corresponding base pairs on the line labeled “Transcript”.
2. Once you have the transcript recorded, divide it into codons by drawing a vertical line after every third base of the transcript.

**T A C G G G T T A A A A A T C C C G C T A C A G G C T T C C G T A**

**Transcript:**

**T A C A G G A G A A A A T A A G A C C G A A G C T G C T C A A T T**

**Transcript:**

**T A C T T T T G G A G A G A G G G C T C G C A T A A T T T C C G A**

**Transcript:**