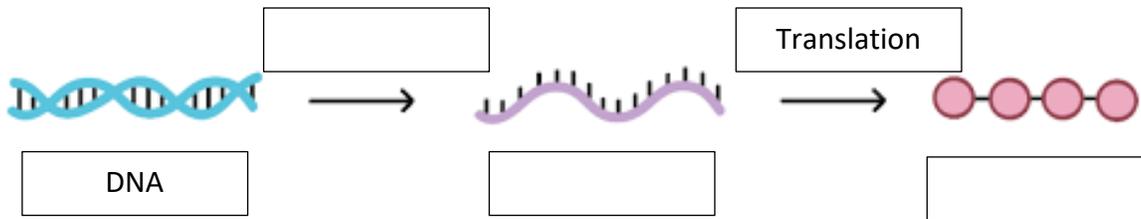




PTC Lab

Pre-lab:

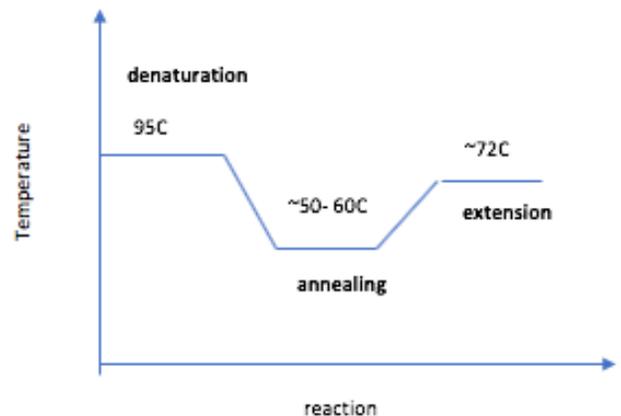
1. Use your textbook or an internet search to look up “the central dogma of molecular biology”. Fill in the diagram below with the names of the molecules and the processes in the central dogma. (Image adapted from *Khan Academy, Intro to gene expression*).



2. If both mom and dad have heterozygous Tt genotypes, what are all of the possible genotypes their children might have?

Post-Lab:

1. What is the name of the gene being analyzed today? Write out the possible genotypes for the gene analyzed today.
2. What was the purpose of Chelex resin in this experiment?
3. To the right is a temperature course for a typical PCR reaction. Explain what is happening to DNA at each step of the reaction. Use the words “primer”, “DNA strand”, and “nucleotides” in your response.



4. What is the name of the restriction enzyme we used today? How do we use it to determine the student’s genotype?
5. Gel electrophoresis allowed us to visualize our DNA based on its size and charge. What would the result have been if you misplaced the electrodes on the gel (i.e. if you had attached the positively charged cord, or cathode, to the top of the gel where samples were loaded and the negatively charged cord, or anode, to the bottom of the gel)? You may find it helpful to draw a diagram to support your answer.



6. Displayed below are previous student data. Determine the genotype for each student and predict the student's ability to taste PTC.

