        - The RNA primer consists of RNA nucleotides and it is 5–10 nucleotides long
    - *DNA polymerase III* can now add nucleotides in the 5' to 3' direction
        - One strand will be formed continuously and fast
            - The *leading strand*
        - One strand will be formed in fragments and slower
            - The *lagging strand*
            - The fragments are called *Okazaki fragments*
        - When DNA polymerase III has formed the Okazaki fragments, *DNA ligase* joins the backbones of the fragments
    - When DNA polymerase III is done, *DNA polymerase I* comes and exchanges the RNA primer to DNA
    - The nucleotides that are added to the elongating DNA molecule are actually *deoxynucleoside triphosphate (dNTP)* molecules
        - Contain deoxyribose, a nitrogenous base and 3 phosphate groups
        - When added, 2 phosphate groups leave providing enough energy for the chemical bonding of the nucleotide to occur
    - A *single strand binding protein* binds to the 2 strands to prevent the double strands from reforming

DNA profiling

- The process of obtaining a specific DNA pattern from an organism
- Most of our own DNA is identical to the DNA of other people
    - There are specific regions called *polymorphisms* that show significant variation
        - Polymorphisms are analysed with DNA profiling
- To profile polymorphisms we look at a group of 13 very specific *loki* (locations on a chromosome) referred to as *short tandem repeats (STRs)*
- STRs are short, repeating sequences of DNA that do not code for any protein
    - Composed of 2–5 base pairs
    - Example: GATA
        - CTAACGATAG ATAGATAGAT AGATAGATAG ATAGATAGATA