

## Binary Fission

Prokaryote cell division is asexual meaning that the DNA does not have maternal and paternal contributions. In fact, binary fission does not involve chromosomes, but the DNA is still replicated so that when the cell is pulled apart the original and the replicated DNA are separated. This means that the new cells are genetically identical unless errors during replication are made. This process is very fast, allowing prokaryote growth to double each division causing it to have a logarithmic growth cycle. For example, *E. coli* bacteria cells double every 20 minutes referred to as the **doubling time**. Doubling times varying between different prokaryotes and are dependent upon the availability of nutrients, space, temperature, etc.



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