**Hand-out 2**

**Replication of DNA**

* DNA is a unique molecule because it can make exact copies of itself using a process called **DNA** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This is a complex process involving **many** \_\_\_\_\_\_\_\_\_\_\_.
* DNA replication is the process used by cells to duplicate their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ prior to cell division.
* It ensures the new cells have the **same** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_as the original parent cell.

 The process is shown in a simple way in the diagram below. *Label the diagram:*

**Steps in DNA Replication: A simple overview**

**Requirements for DNA Replication**

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**Stages of DNA replication**

**Just for info!** (you don’t need to know this)

*Helicase* - enzyme that breaks the bonds between base pairs in DNA, leaving two rows of bases with free-ends, on which new complementary strands can form

* Write notes to give a summary of DNA replication.



**Key terms: In a sentence!**

|  |  |
| --- | --- |
| **Term** | **In a sentence….**  |
| **Replication fork** |  |
| **DNA polymerase** |  |
| **Primer** |  |
| **Leading strand** |  |
| **Lagging strand** |  |
| **Ligase** |  |

* Why is DNA replication described as being **semi-conservative**?
* Explain the Importance of DNA replication: