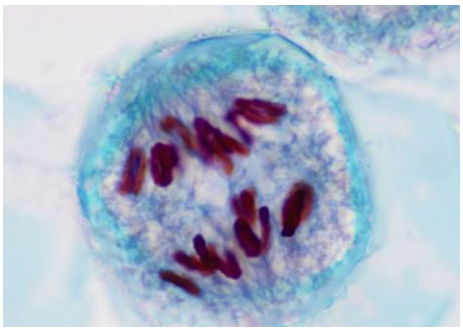
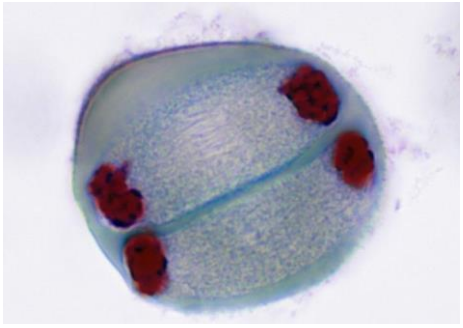
Meiosis

Identify each stage and link to the correct description:



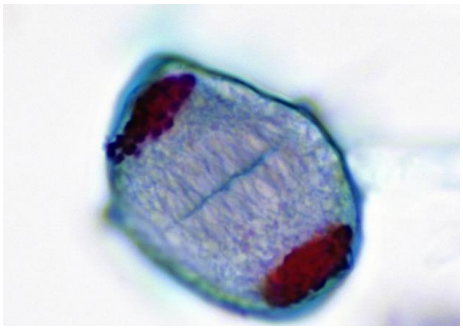
Tetrads align at the metaphase plate.

Note that the centromeres of homologous chromosomes are oriented toward the opposite cell poles.



The spindle fibres continue to move the homologous chromosomes to the poles.

Once movement is complete, each pole has a haploid number of chromosomes.

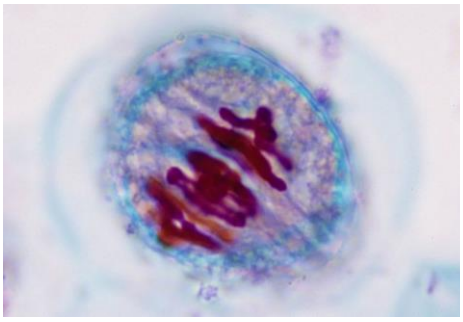


Sister chromatids separate and begin moving to opposite ends (poles) of the cell. Spindle fibres not connected to chromatids lengthen and elongate the cell.

Once the paired sister chromatids separate from one another, each is considered a full chromosome.

Images: Lily Anther Microsporocyte in Telophase II of Meiosis. Ed Reschke/Photolibrary/Getty Images

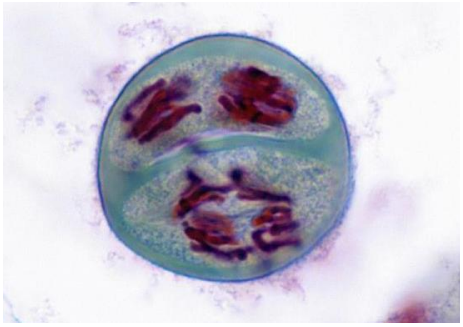
Meiosis



The nuclear membrane and nuclei break up while the spindle network appears.

Chromosomes do not replicate any further in this phase of meiosis.

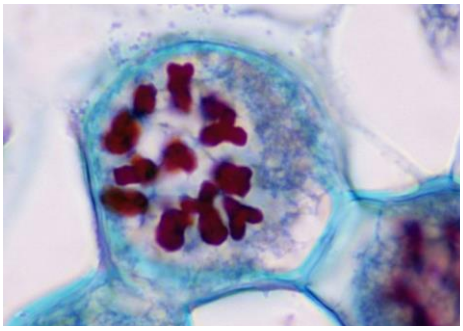
The chromosomes begin migrating to the metaphase II plate (at the cell's equator).



In the latter part of interphase, the cell still has nucleoli present.

The nucleus is bounded by a nuclear envelope and the cell's chromosomes have duplicated but are in the form of chromatin.

In animal cells, two pair of centrioles formed from the replication of one pair are located outside of the nucleus.



Distinct nuclei form at the opposite poles.

Cytokinesis (division of the cytoplasm and the formation of two distinct cells) occurs.

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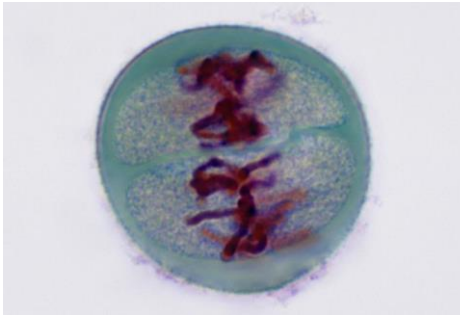
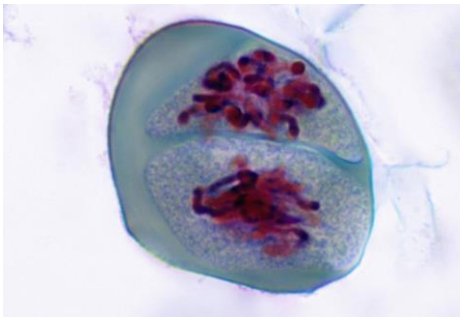
Meiosis



Chromosomes condense and attach to the nuclear envelope.

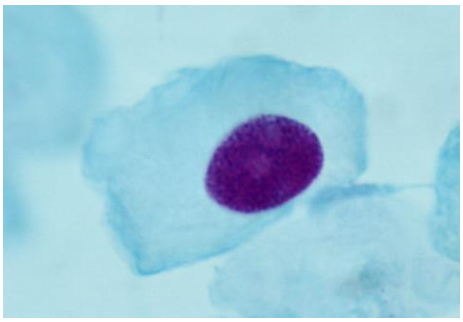
Synapsis occurs (a pair of homologous chromosomes lines up closely together) and a tetrad is formed. Each tetrad is composed of four chromatids.

Genetic recombination via crossing over may occur.



The chromosomes line up at the metaphase II plate at the cell's centre.

The kinetochore fibres of the sister chromatids point toward opposite poles.



Chromosomes move to the opposite cell poles. Similar to mitosis, microtubules pull the chromosomes to the cell poles.

Unlike in mitosis, sister chromatids remain together after the homologous chromosomes move to opposite poles.

Then paste the images and descriptions into your books in the correct order.

Images: Lily Anther Microsporocyte in Telophase II of Meiosis. Ed Reschke/Photolibrary/Getty Images