

### 3.3 Meiosis

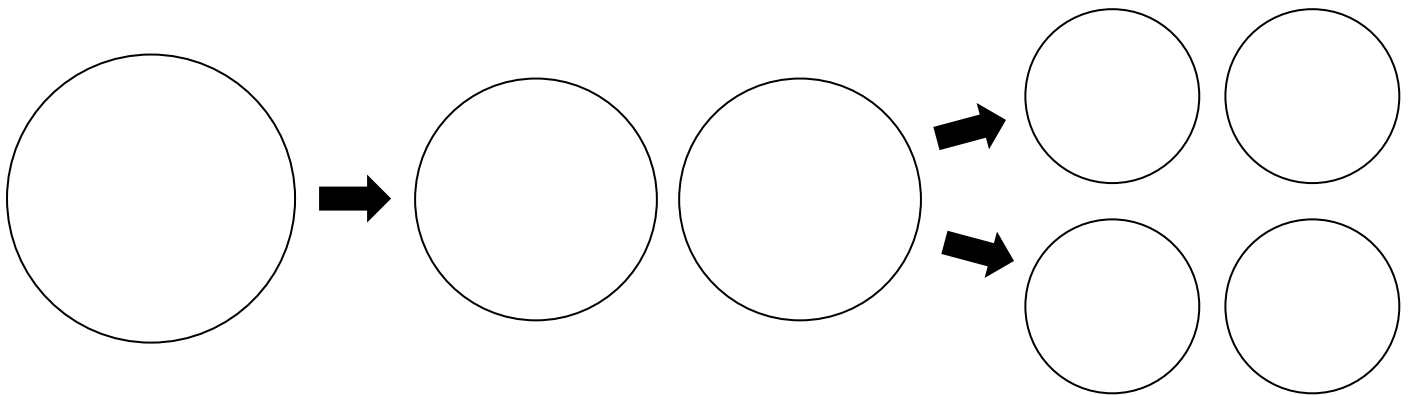
#### Stages of Meiosis

*Define meiosis*

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*Complete the following diagram to show meiosis in a cell containing FOUR chromosomes*



*Identify the main differences between meiosis I and meiosis II*

Meiosis I:

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Meiosis II:

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*Differentiate between homologous chromosomes and sister chromatids*

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*Compare the processes of meiosis and mitosis*

	<b>Meiosis</b>	<b>Mitosis</b>
Type of cell produced		
Number of cells produced		
Number of divisions		
Ploidy of daughter cells		
Genetics of daughter cells		

**Genetic Variation**

*Outline how crossing over and independent assortment give rise to infinite genetic variety*

Crossing Over:

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Independent Assortment:

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*Explain how random gamete fusion promotes variation within a species*

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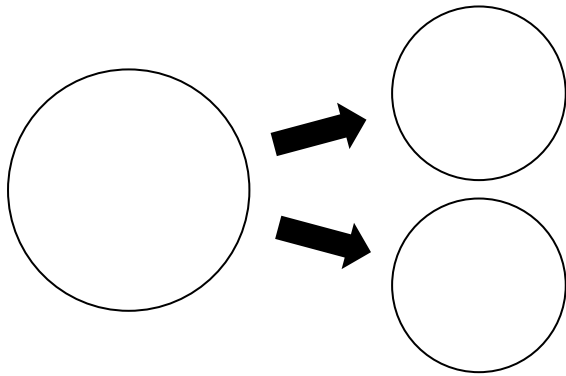
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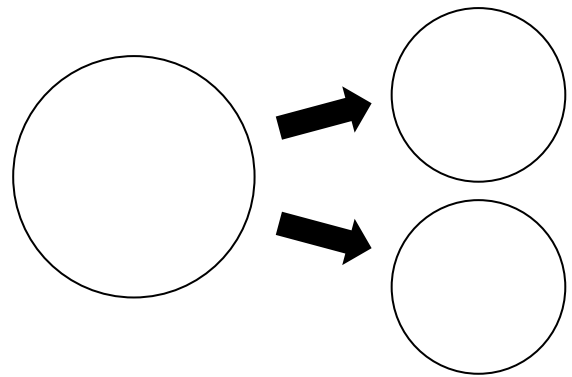
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## Non-Disjunction

Explain, with the aid of the diagrams, how non-disjunction can give rise to aneuploidy



**Anaphase I**



**Anaphase II**

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List the genetic condition that causes Down syndrome and identify a contributing factor

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Describe the method by which cells are obtained for karyotyping

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Compare the benefits and risks associated with amniocentesis and chorionic villi sampling

Amniocentesis:

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Chorionic Villi Sampling:

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