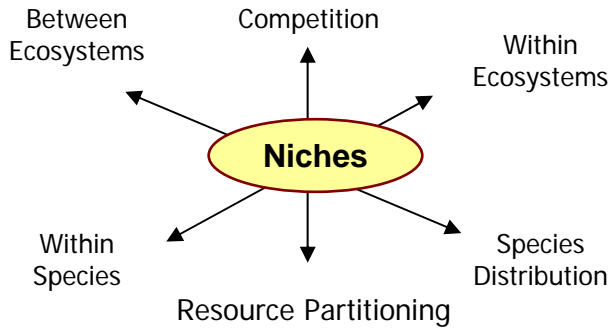


# Grade 9 - Unit 1 – Biological Diversity Concepts



**Selection**

**Natural**  
Occurs when the environment 'selects' which individuals within a species will survive to reproduce

**Artificial**  
Occurs when humans intervene using biotechnologies to select desirable characteristics

**Biotechnology**  
Cloning  
Artificial insemination  
In vitro fertilization  
Genetic engineering

**Interdependence (Symbiosis)**

**Commensalism**  
One Benefits, the other is not affected

**Mutualism**  
Both benefit

**Parasitism**  
One benefits, the other is harmed

**Variation**

**Heritable**  
Discrete  
Continuous

**Non-heritable**

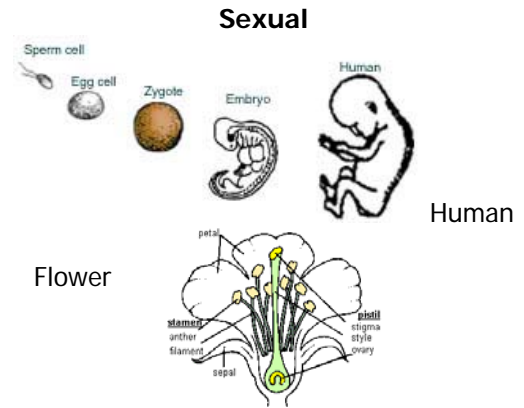
**Classification System**

Kingdom  
Phylum  
Class  
Order  
Family  
Genus  
Species

**Asexual**  
Binary Fission  
Budding  
Spore Production

Vegetative Reproduction  
- cutting  
- tuber  
- runner  
- sucker

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**Science of Genetics** is the study of how heritable characteristics are passed on from generation to generation.

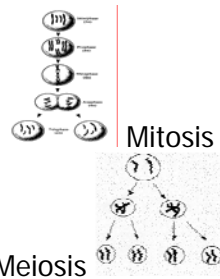
**DNA**



Genetic Code

Chromosomes  
(46 in humans)

Genes  
(alleles)



**Traits**

<b>Dominant</b> Always show when they are present	<b>Recessive</b> Show only when dominant traits are not present
<b>Incomplete dominance</b> Offspring unlike either parent	
<b>Environmental Factors</b>	

## Impacts on Biodiversity

**Natural causes**  
(earthquakes, volcanoes, floods, fires, lack of food, disease, overspecialization)



**Human causes**  
(habitat destruction, introduced species, over-hunting, pollution)

## Biodiversity Conservation Strategies

- Protected Areas
- Restoration Programs
- Regulations and Restrictions
- Controlling Exotic Species
- Genetic Resources Conservation