

Knowledge Organiser

8B Classification and Adaptation

KPI 1: Describe the factors effecting the abundance and distribution of organisms

Adaptation

- An animal must be able to find food, breed and navigate its way around its habitat if it is to survive.
- Every animal has evolved gradually over millions of years to become well suited, or adapted, to its habitat.
- These adaptations are specific to the environment of the animal and are essential for survival.
- Here are some examples:

Snow Leopard

- Big paws to evenly spread weight and help with walking through snow
- Thick fur for insulation



Siamang Gibbon

- Long arms and fingers for swinging through trees and gripping branches
- Forward facing eyes for judging distances



Bactrian Camel

- Fat stored in humps to convert to water
- Wide feet to even spread weight and prevent sinking into the sand



Humboldt Penguin

- Streamlined bodies to help with swimming
- Serrated beaks to help with catching and swallowing slippery fish



Key Terms	Definitions
Adaptation	Something which helps an organism to survive in their environment, e.g, humps for storing water
Habitat	The environment that an organism lives in
Competition	When animals or plants compete for limited resources
Intraspecific competition	Competition between individuals of the same species
Interspecific competition	Competition between individuals of different species

Competition

- Animals and plants have to compete for the limited resources available to them
- The animals that are best adapted will win and survive
- There are two types of competition
 - Interspecific – between individuals of different species
 - Intraspecific – between individuals of the same species

Competition in animals

- Animals compete for:



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Competition in plants

- Plants compete for:

Nutrients

Water

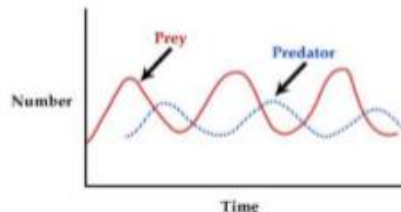


Space

Sunlight

Predator-prey relationships

- Numbers of predators and prey are interdependent on each other
- If the numbers of prey drop then the numbers of predators will also drop after a while



Key Terms	Definitions
Interdependent species	If the number of one species changes it will affect the numbers of the other species
Variation	Differences between living organisms of the same species
Continuous variation	Differences that can take any value, e.g. height
Discontinuous variation	Differences that can only take set values, e.g. blood groups
Inherited variation	Variation in an individual that is caused by genetics
Environmental variation	Variation in an individual that is caused by the environment

KPI 2: Explain how characteristics can be inherited by individuals

Causes of variation

- The differences between living things of the same species is known as variation.
- Variation can be caused by differences in genes (inherited variation) e.g. eye colour, or differences in the environment e.g. language.
- Some variation is caused by a mixture of both genes and environment (e.g. weight and height).

Types of variation

- Continuous variation is variation that can take any value (e.g. height or weight)
- Continuous variation should always be shown on a line graph
- Discontinuous variation is variation that can only take set values (e.g. shoe size or blood group)
- Discontinuous variation should always be shown on a bar chart