



# Weapons of Mass Destruction - Part I

## What can be learned?

**B**irds of prey use several methods to catch their prey. Their weapons include beaks and claws, their eyes and ears, and their flight (stealth or swift).

## Speed vs stealth

**S**ome birds of prey use stealth to catch their prey. For example, Southern Boobook Owls are nocturnal and hunt by stealth at night. They have muffling on their wing feathers to ensure their prey do not hear them, having silent flight. They are dark coloured so cannot be seen in the dark. They have keen eyesight and hearing to detect their prey. Australian Kestrels and Brown Falcons will often sit on exposed perches waiting for prey to come close. The Australian Kestrel also has a distinctive, motionless hover. They drop close to the ground, hovering with rapid wing beats until prey is close enough to pounce on rather than relying on speed.

**O**thers use speed and manoeuvrability. The Peregrine Falcon is the fastest animal on earth reaching up to 320 km per hour. They nest at great heights to ensure they can see their prey and use speed to catch it on the wing. The Australian Hobby is a great aerial acrobat and can outmanoeuvre a swallow or swift in midair. Their long narrow wings make them remarkably agile and able to change direction with ease and travel at great speeds. They often shadow slower raptors such as the Collared Sparrowhawk and snatch their prey.

## Activity - stealth

**C**hoose one student to be the nocturnal bird of prey (Owl). Blindfold all other students and tell them to use their hearing to work out where the owl is. Make students form a circle around the owl. On the word "go" have the owl take single steps towards its prey. If the prey hears it they can take a single step back. After 5 steps prey can no longer move. Once the "owl" has touched the prey they have been caught and must sit down.

## Activity - speed

**G**et all students to line up in the playground. Choose your diurnal bird of prey from one of the students. All other students must rush across to a chosen line to be safe on the word go. The bird of prey must chase and tag a student to seize its prey.

## Specialised weapons

**R**aptors are birds of prey that have talons and or a hooked beak for tearing meat. Raptors can kill their prey in one of two ways. Eagles and kites have a clutching mechanism in their talons which allow them to kill prey. Their powerful and heavily taloned feet act as a tool to capture and overpower their prey. The sharp talons provide an anchor in order to

crush and kill prey. The toes exert tremendous pressure. They have three claws facing forward and one backward.

Falcons lack this clutching mechanism, instead they have specialized teeth (tomial) and notches in their beaks which allow them to sever their prey's spine. All raptors have curved beaks to allow them to kill and tear their prey.

**M**ost owls have powerful curved talons which they use to kill their prey. The Tawny Frogmouth lacks these talons as although they look like owls they are actually more closely related to night jays. They mostly feed on nocturnal insects such as moths and rely on stealth, wing muffling and dark camouflage to hunt their prey. They also pounce on small mammals, frogs and reptiles from their hidden roost low down in trees.



Grey Hawk, photo by, xxxxx

## A range of weapons

**T**he Collared Sparrowhawk has very long legs and toes, especially the middle toe. They use this to clutch their prey, usually small birds, which they catch by ambushing from the cover of a tree or bush.

**S**wamp Harriers hunt by systematically gliding low over the ground and then swooping on prey using their powerful talons. Brown Goshawks are secretive birds with a fast and flexible flight. They most often hunt from low concealed perches, pouncing on their prey. Grey Goshawks will also ambush prey but will also pursue birds in flight striking with powerful talons.

Peregrines are the most impressive of the raptors. They soar at great height watching for prey, then swoop at speeds of over 300km/hour with half closed wings.

Sea eagles actually belong to the kite family. They have bare legs and feet which are heavily scaled as armour. The soles of their feet have tiny spikes to aid in grasping slippery prey such as fish which they snatch from the water. They have a large, hooked beak and extremely acute eyesight. They can carry prey, up to half their own body weight. Wedge-tailed Eagles rely on their acute eyesight, powerful talons and great strength and speed and can kill small wallabies and other animals.

#### Eyesight is also important

**B**irds of prey have incredible eye sight. Hawks have vision that is 8X better than humans. They are able to adjust their focus rapidly so they can still see prey even when approaching at very high speeds. Their hearing is also very sharp and most raptors use a combination of hearing and eyesight in pursuit of prey. The Australian Kestrel has large eyes that can see ultraviolet light. This allows them to spot urine and scent trails of their prey. Rather than relying on speed like most raptors, kestrels hover motionless waiting for prey to come close. Like all falcons they have a short notched bill, powerful feet and are quick and agile.

#### Activity - Weapon adaption

**E**ach student should choose its own weapon of mass destruction. They can only choose one weapon. If it is a claw, eyesight, stealth – hunting at night, camouflage – hiding in plain sight, speed – able to move fast, talon to fight off snake or catch prey etc. Once chosen they cannot change. Get students to pair up without knowing what their predator has. One student is then the bird of prey, second is the prey and must choose a prey animal. Once they have said the prey animal, the bird of prey can only catch it if they have the right weapons. Switch roles after 2 minutes.

#### Activity - How eagle-eyed are you?

**H**ave each student secretly write down five short sentences making sure all letters are capital and 5cm high. Put students in pairs. Draw line on ground and have one student stay at that place. Second student takes 5 big steps away and then shows first student the sentence. If student can read it take a further step away each time and show new sentence. When first student cannot read last sentence measure out

the distance and record it for last read sentence. Swap and repeat. Have students compare their longest reading distance. Did you know some raptors can see their prey from 100s of meters away?

#### Activity - Clutching talons

**E**ach student will need two salad servers or a pair of tongs. Scatter 50 tennis balls between two lines. Put students in teams with a bucket at each end of line. On the word go one member from each team must run to the far line collecting as



Brown goshawk. Photo P.Tonelli

many balls with their new claws as they can and putting them in bucket. Once they have reached line second member can go and so on until all have reached the line, then repeat for return trip. Once all balls are collected, teams count up their score and see who collected the most.



Wedge-tailed eagle. Photo P.Tonelli