American Kestrel – *falco sparverius*

This falcon is the smallest in North America and one of the most common and most colorful of our raptors. Formally called the "Sparrow Hawk", it is about the size of a robin. Kestrels are cavity nesters and are found in open areas along highways and near farm buildings. He has a perch and pounce hunting style, but will create his own perch by hovering over a promising site before diving into the grass. Falcons are some of the fastest birds in the world. Built for speed, many snatch their prey right out of the air, while others swoop so rapidly that their quarry does not even see them coming.

Plumage: This small falcon with slender body, long tail and sleek tapered wings has a total length of 9 inches and a wingspan of 21 inches. They have a very streamlined body, with long wings and a long tail, which helps them twist and turn in the air at lightning speeds. Adult and juvenile plumage is similar, but male plumage differs from the female plumage (sexually dimorphic).

Male kestrel has a blue-grey crown, usually with a variably sized rufous crown patch. White cheeks and throat separated by two black mustache marks, one below the eye and the other on the side of neck.

Rufous back is narrowly barred black on lower half and the upper-wing coverts are slate blue with small black spots. Upper side of the wing is black with a row of white spots noticeable on the trailing edge of the outer wing. Whitish to deep rufous breast is usually unmarked or finely streaked. Typical tail is rufous with a wide black sub terminal band. Cere and legs are yellow.

Female kestrels head is similar to the males. She sports a full rufous back and tail with fine barring. Creamy breast is finely streaked with reddish brown.

Buff to rufous nape with black spots forming false eyes. Similar to the eye spots on the tiger's ears. The false pair of eyes on the falcon's nape is thought to be protective coloration in that the watching "eyes" will deter potential predators.

Length of wing – Wingspread – Male 52-57 cm 20-22 inches
Female 54-61 cm or 21-24 inches
Long, tapered wings of falcons distinguish them from other birds of prey and add to their speed by reducing drag, friction with the air, as they fly.

Active flight is light and buoyant, soars on flat wings, often with tail fanned. It is a fast flyer at speeds of 36 mph, while Merlins can attain speeds of 45 mph in horizontal flight. It is the only North American falcon to hunt regularly by hovering (wing flapping) or in strong winds, by kitting (wings held steady). Wing feathers do not separate in flight; this distinguishes falcons from other birds of prey. Wings do not have spread "fingers" of feathers at the tip. Their wings have a smooth outline, and tails appear long.

Kestrel's streamlined shape helps them reach amazing speeds in flight. A torpedo-shaped body with smooth contours provided by the flattened outer feathers offers minimum resistance to the air as the falcon moves through it. The falcons can spread or close its tail feathers to slow down or speed up. By spreading and twisting its tail feathers it can turn at great speed, the tail acting like a rudder of a boat.

Hovering – Kestrels do most of their hunting by hovering above the ground, then swooping down the moment they spot prey moving below. The bird partly spreads its tail and bends it down at a steep angle, at the same time beating its wings at a steep angle, generating lift on both the upstroke and the down stroke. Any forward propulsion generated by the down stroke is exactly cancelled out by the upstroke, so the bird remains in the same place.

Weight: Females are slightly larger and heavier than the males, but there is considerable overlap in size. Males 97-120 grams or 3.4-4.5 oz. Female 102-150 grams or 3.6-5.3 oz.

Vocalization: Very vocal with an easily recognized call of killy-killy-killy.
Hearing – Falcons use calls to communicate with each other. There are different calls for threats, courtship, bringing food to the nest, or announcing a breeding territory or a preditor.

Diet: Usually found in open areas where they hunt for rodents, insects, small birds, lizards and snakes. The American Kestrel needs to eat 21% of its body weight in food each day. Like owls, falcons cough up pellets of undigested material, such as fur, feathers, insect skeletons. By analyzing the pellets, we can find out what the birds are eating. Kestrels will regularly store or cache food in holes in trees, rock crevices and even in utility pole boxes. When prey is plentiful, they stock up for leaner times.

Courtship: Spectacular aerial displays when courting. This probably helps the prospective partners to judge each other's fitness. Once they are paired, falcons remain faithful to their mates for life, migrating and then returning to the same nesting site for breeding with the same mate. The males put on a display for the females. The male flies overhead with his wingtips quivering, calling to the female and from time to time makes dramatic dives toward her. Courtship also involves the male bringing food to the female.

She may solicit food from him by adopting a crouching position and begging calls of a young falcon. The amount of food she is given also helps her to decide whether her prospective mate is a good hunter and can provide for the family.

Nest sites: Nests in tree cavities but will readily use holes in cliffs, crevices in barns and buildings or nest boxes. Falcons will return each year to a favorite nesting site, often for generations. The female American kestrel may produce more that 1/2 of her body weight in eggs in a single week. Lays 3 to 7 eggs in a clutch, small falcons laying more eggs than larger falcons. Eggs are a round oval shape, usually reddish or buff brown in color and often speckled. The inside of the shell is ocher-colored. The female lays an egg every two or three days until the clutch is complete. Females incubate the eggs with the male taking over for short periods of time while she feeds. Females develop a "brood patch" which is an area of bare skin on their breasts that is filled with fluids. This comes in contact with the eggs to keep them warm. Incubation lasts for around three weeks. Chicks start calling to their parents before they hatch. Hatching can be difficult and chicks have extra-strong neck muscles and a tooth-like projection (egg tooth) on the tip of their bill to help it break through the shell. It can take more than a day to break through the shell to hatch. The egg tooth falls off the tip of the bill shortly after hatching. When first hatched, the eyes are partly open and the yare covered in a warm, fluffy down. They can barely lift their heads to feed. Once the eggs have hatched, the male continues to bring food for his mate and offspring, while the female stays to keep the young warm or shade them from the sun. Eventually the young require so much food that the female must join the male to hunt. After about a week they develop a second coat of down that is thicker and they can start to regulate their body temperatures. By the time they begin to grow true feathers, they are eating as much as an adult. Fledging or leaving the nest takes place at about four weeks.

Migration: American Kestrels are widespread and common throughout North America south of the arctic treelike in most habitats. Northern populations migrate with some moving as far south as Central America.

1/4 of all birds of prey migrate between breeding season and wintering or dry season feeding areas each year. Most falcons are thought to migrate during the daylight hours.

Territories- Most falcons defend an area of land, their "home range" against other falcons of the same species. The size of the territory reflects the area of land needed to provide sufficient food for the bird and its mate. During breeding season, the birds will defend a larger "breeding territory" that can provide enough food for themselves and their growing family. During the breeding season, Kestrels will chase off all potential predators to the nest and young.

Longevity Record: The American Kestrel is one of the longest-lived falcons with a lifespan of over 12 years in the wild, longevity record of 14 years 8 months in the wild. And up to 17 years in captivity. Mortality rate the first year is around 51%.

The peregrine falcon has the widest distribution of any falcon, from the Artic tundra to the deserts of North America, Africa and Australia. A stooping peregrine falcon strikes its prey in mid-air at over 150 miles per hour, killing it instantly. In 1940 the British Navy analyzed file of a peregrine stoop and estimated it at a top speed of 273 miles per hour, more recent research suggests 175 mph, still impressive. The peregrine folds its wings and dives steeply down head first, forming a streamlined bullet-shape that offers very little resistance to the air as it plummets toward the earth. Even though it slows as it reaches it quarry, the peregrine may still strike at 100 mph, killing the prey outright.

The largest falcon in the world is the gyrfalcon, which can measure up to 24 inches in length and can weigh as much as 9 lbs. (4kg). The gyrfalcon is the fastest falcon in level flight, even faster than the peregrine. It hunts low over the ground and may pursue its prey for miles.

Falcons Tooth – Falcons are unique in the way they kill their prey. A special notch in the upper bill allows falcon's beak to close between the prey's neck vertebrae (small neck bones) and deliver a bite that severs its neck and spinal cord, causing instant death.

Falcons can turn their heads to survey their surroundings over an angle of 340 degrees, almost a full circle.

Sight - While hovering so high that a human can't spot the falcon, it is able to spot a mouse on the ground. Most falcons rely mainly on sight to detect and capture their prey. They have exceptionally large eyes for their body size. The eye is fixed in its socket and can't move much in either direction, nature makes up for this by giving the falcon a very flexible neck, so it can swivel its head around to look to the sides and behind. The eyes face directly forward, which gives the bird their very direct, penetrating stare. The fields of view of the two eyes overlap, so they have good binocular vision. This allows them to accurately judge distance and speed – a great advantage in chasing prey.

The human eye has a pit, called the fovea, at the back in which the light receiving cells are highly concentrated, giving very acute vision. Birds of prey have even sharper sight because the light-sensitive cells in their eyes are even more densely packed. They have two foveas, one providing acute vision straight ahead and the other providing detailed sideway vision. Their eyes are often proportionally larger than ours so the image that enters the eye is bigger.

Falcons have played key roles in legends, myths and religions for thousands of years. In ancient Egyptian hieroglyphics, the symbol of a falcon was used to represent a king. The god, Horus, who took the form of a falcon was a very important deity. Some 800,000 mummified falcons, mostly kestrels, were found in chambers under some of the Egyptian temples.

Sparverius in Latin means, "pertaining to a sparrow".

Sky Hunters Environmental Education – PO Box 3026, Los Altos, CA 94024-0026