

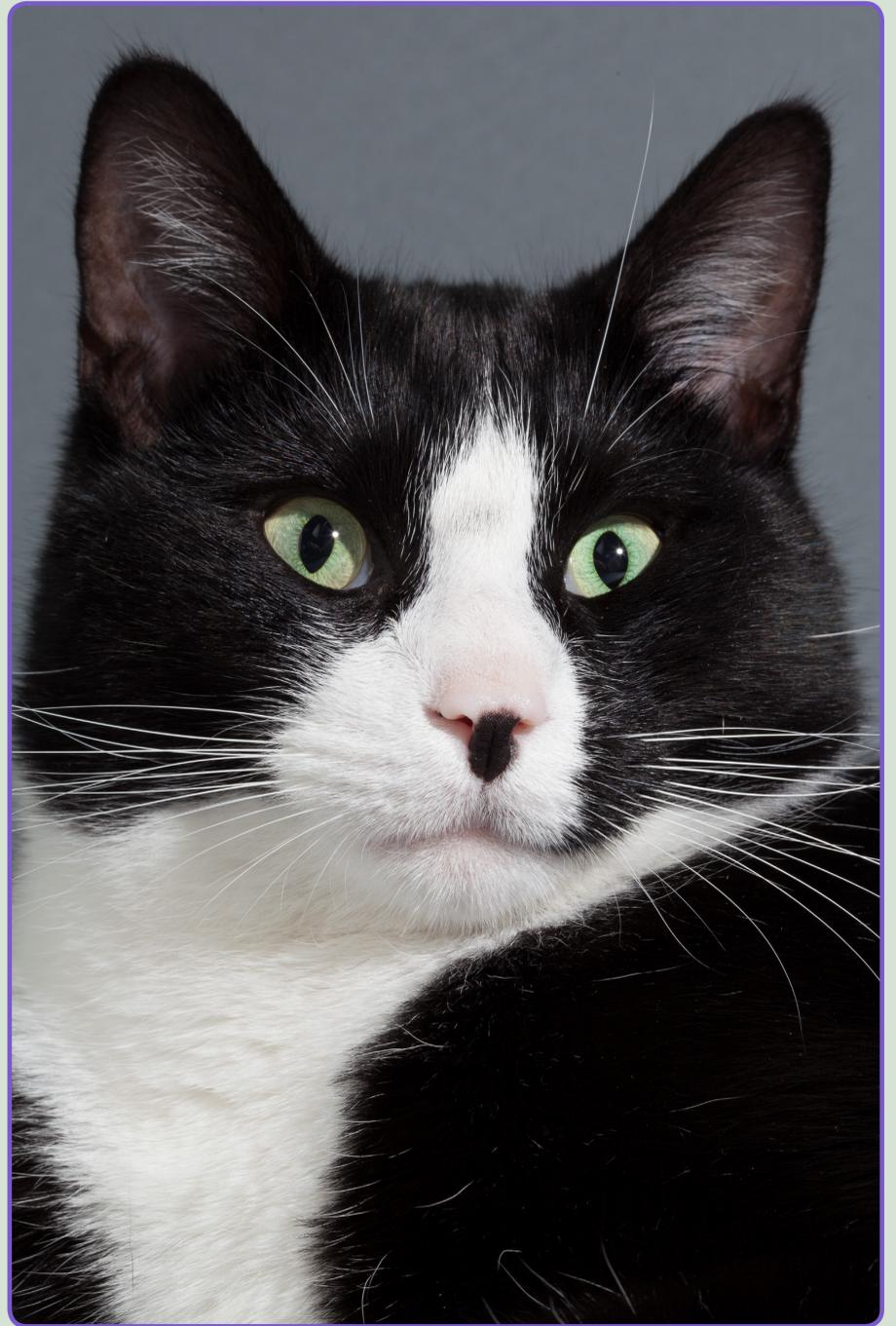
The Features of the Domestic American Short Hair Cat

The depicted cat is Sorpreso - a male, American shorthair cat with split black and white fur, and white whiskers. His coloration is considered bicolor.

Sorpreso was born in April 2011 in a litter of four kittens. That makes him about three years old in these illustrative photographs of cat form and function.

Although Sorpreso is an American cat, his name is Italian for surprise! He was named this for his constantly unpredictable attitude and his common expression of excitement or surprise. Specifically to Sorpreso's personality, he is independent, friendly, trusting of people, and very vocal. He spends about half his time outdoors. Sorpreso has all of his claws and (fortunately) uses them exclusively outside.

The American short hair cat is a domesticated breed of feline and a very common pet. The breed exhibits an extensive array of colors and patterns. This breed of cat is dynamic and can have a robust personality. They are generally intelligent, independent, and fairly friendly.



This breed can survive as an exclusively outdoor or indoor cat. Frequently, cat owners permit their pet to have a life inside and outside the house. They may enjoy their life indoors, but they love to pass time outside.

However, don't let these descriptions be misleading on just how capable and undomesticated these little cats can be if they are permitted to be outside. Their form is made for running, jumping, climbing, and hunting. The American domestic cat's legs are developed



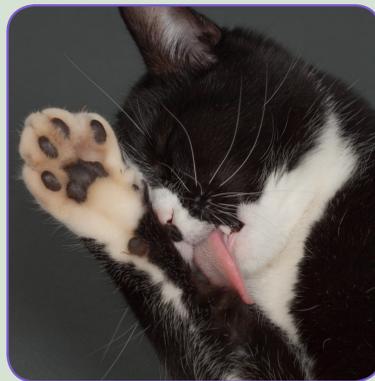
for bursts of speed and jumping. Although cats spend their life on four paws, they can comfortably sit or stand on their hind legs for short periods of time.

Historically, the American short hair breed comes from domestic, American cats which were used for rodent control. Those pest controllers were eventually cross bred with a British variation of the cat that now leads up to what is modernly know as the American short hair cat.



The American short hair cats can display a wide range of personalities, but they all express some specific behaviors by nature.

Cat owners do not frequently bathe their cats. Domestic cats clean themselves by auto grooming - a process in which the cat uses its textured tongue and paws to lick and wipe its fur.

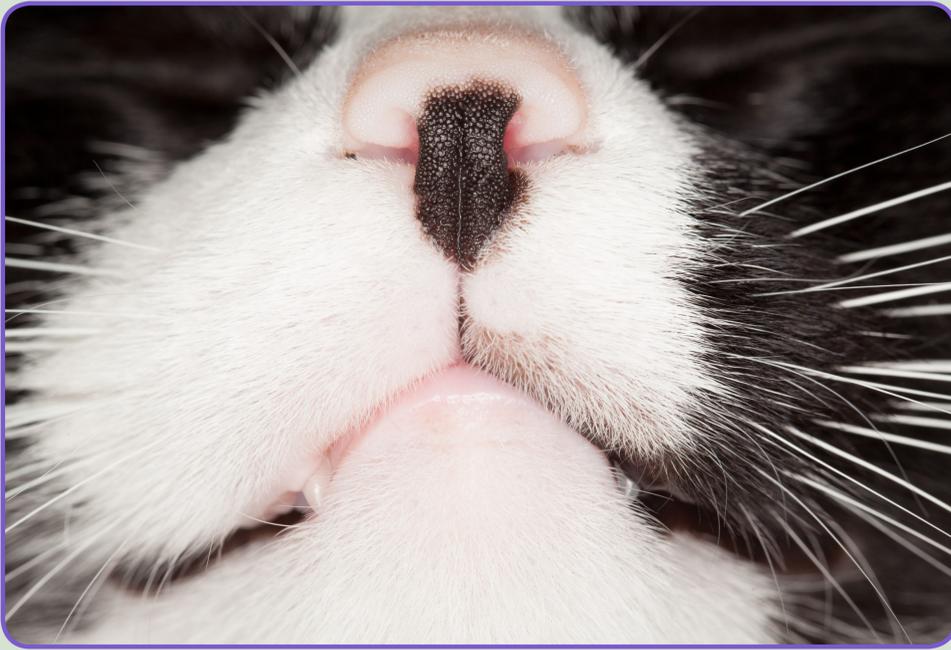


A cat with a healthy form is sleek. Their ribs should be felt but not seen. Their stomach should not sag. Cats are slinky and stealthy movers. They stalk, crouch low to the ground, or hide in tight spaces, waiting and watching silently before pouncing on toys or prey! Felines are well known to also have great balance and agility aided by their tail. Domestic cats are often seen tip toeing along high and narrow paths like tree branches or shelving. Given a tall enough height and the off chance a cat loses its balance, it will perform an automatic bodily response of midair twists to gracefully land on its feet.

Felines are born with four sets of claws. The forepaws have five toes and five claws. The hind paws have four toes and four claws. The claws extend off the bone and are controlled by ligaments. When at rest, the claws are sheathed inside the toes. At will, a cat may reveal and use its claws. The claws are often visible as a cat stretches.

Many domestic cat owners choose to remove the claws of an indoor kitten. The claws however serve as a powerful and important tool to those domestic cats who venture outside. The claws are used to aid in climbing trees, catching small animals, and for fighting or defense.





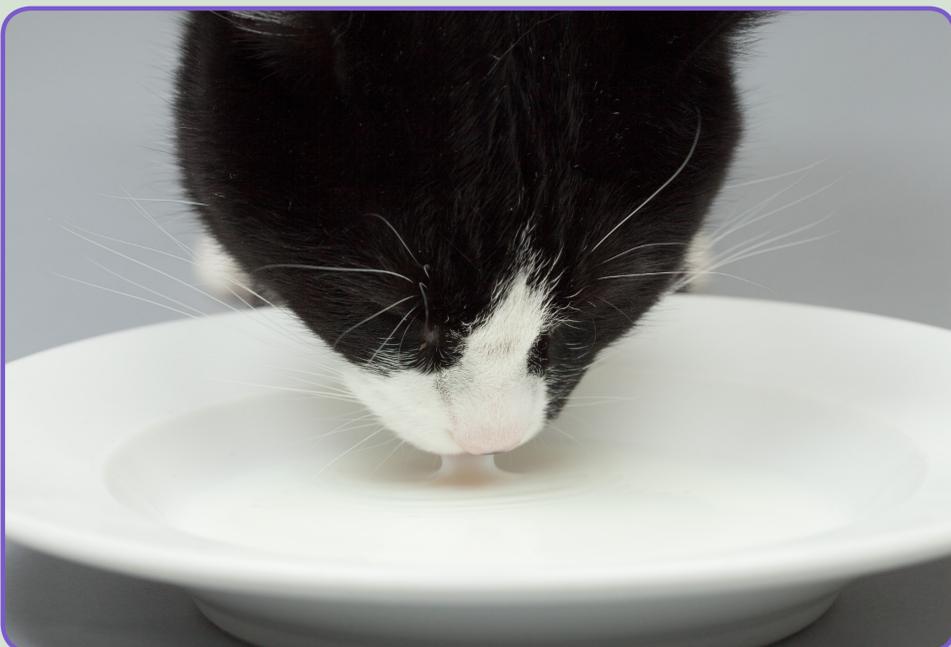
The adult, American short hair cat has four different types of teeth in its mouth and total about thirty of those teeth all together. The longest teeth in the front are the canine teeth. Canine teeth are used to grab hold of prey. Still in the front of the mouth and between the long canine teeth are the incisors. The incisor teeth aid in pulling apart and cutting food up. In the back of the mouth are the premolars and molars. The premolars and molars help grind up food in the final stages of chewing.



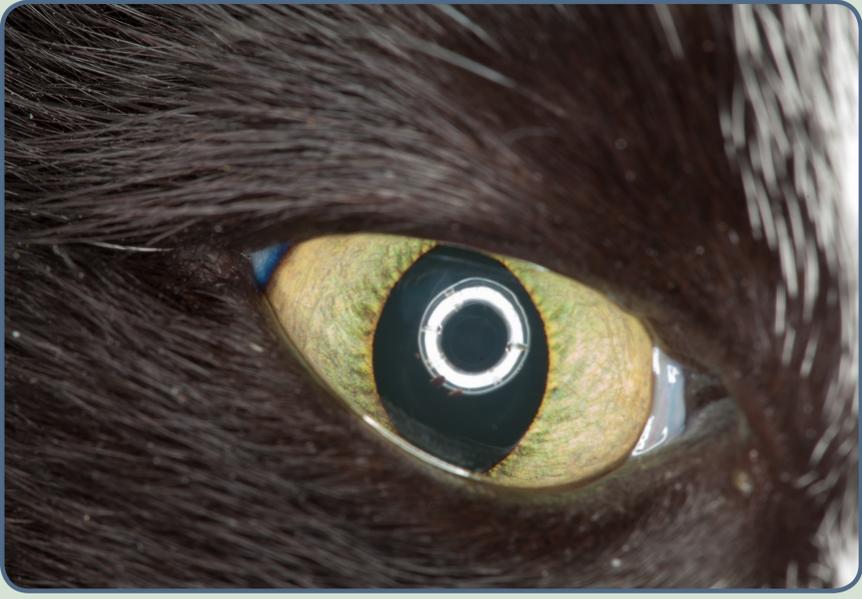
The feline tongue is rough because it is covered in papillae that curve inward towards the throat and are used to clean the cat's fur coat. Like many animals, the tongue bares the taste buds. It is occasionally used to lap up liquids for drinking.



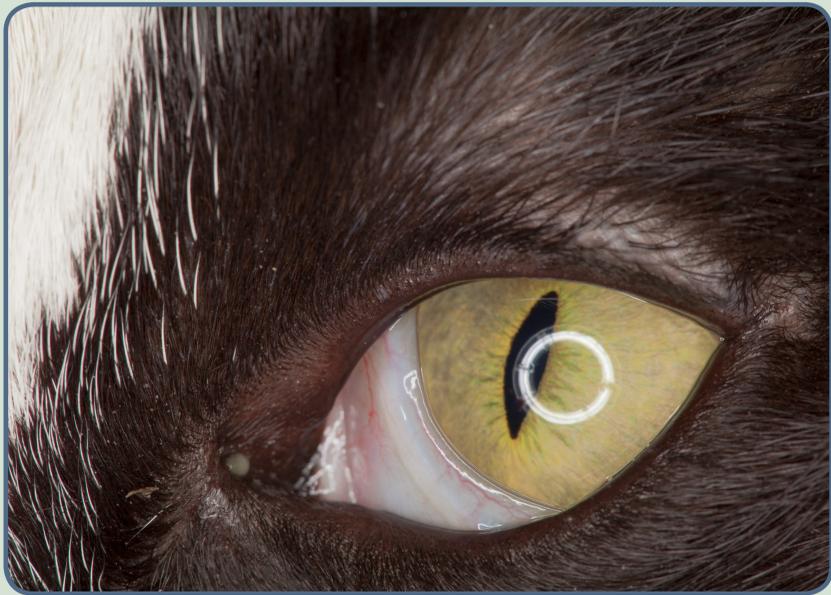
Felines are carnivores. Although many domestic cats are fed dry food consisting of plant and meat matter, they truly thrive on a meat only diet. A cat does not produce the appropriate enzymes needed to consume plant matter and therefore has no benefit to consuming plants.



Cats instinctually consume the majority of their water through their food source. This is because they are born hunters and their prey provide enough water content to supplement their dietary habits. Strictly indoor, domestic cats will most likely be well enough hydrated on a wet food diet. Cats can survive on a dry food diet, but they tend to stay dehydrated.



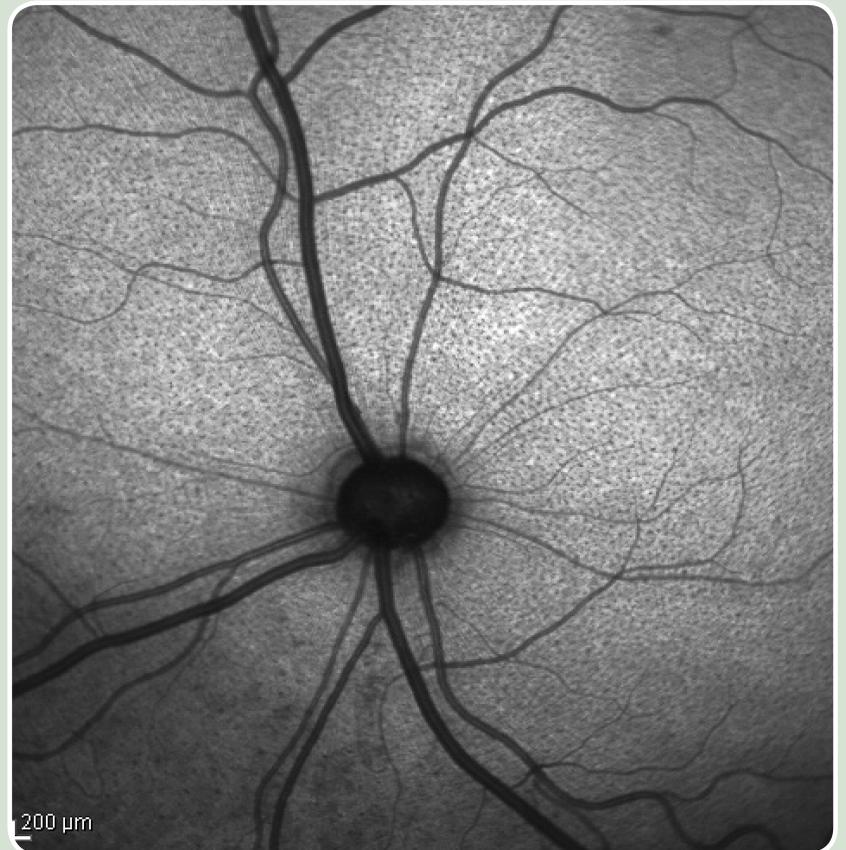
The domestic cat has very specialized vision that is designed for hunting at night. Their pupils are oblong - a characteristic that is indicative of nocturnal hunters. The pupils open wide for low light and shut to tiny little slivers in bright light. Their cornea has a steep curve.



Domestic cats have three eye lids - the upper and lower are always visible. Their third eyelid is located on the inner corner by the nose and below the outer lids, and it is not generally showing. This third eye lid is called the membrana nictitans, and is simply a third layer of protection to the eyeball.

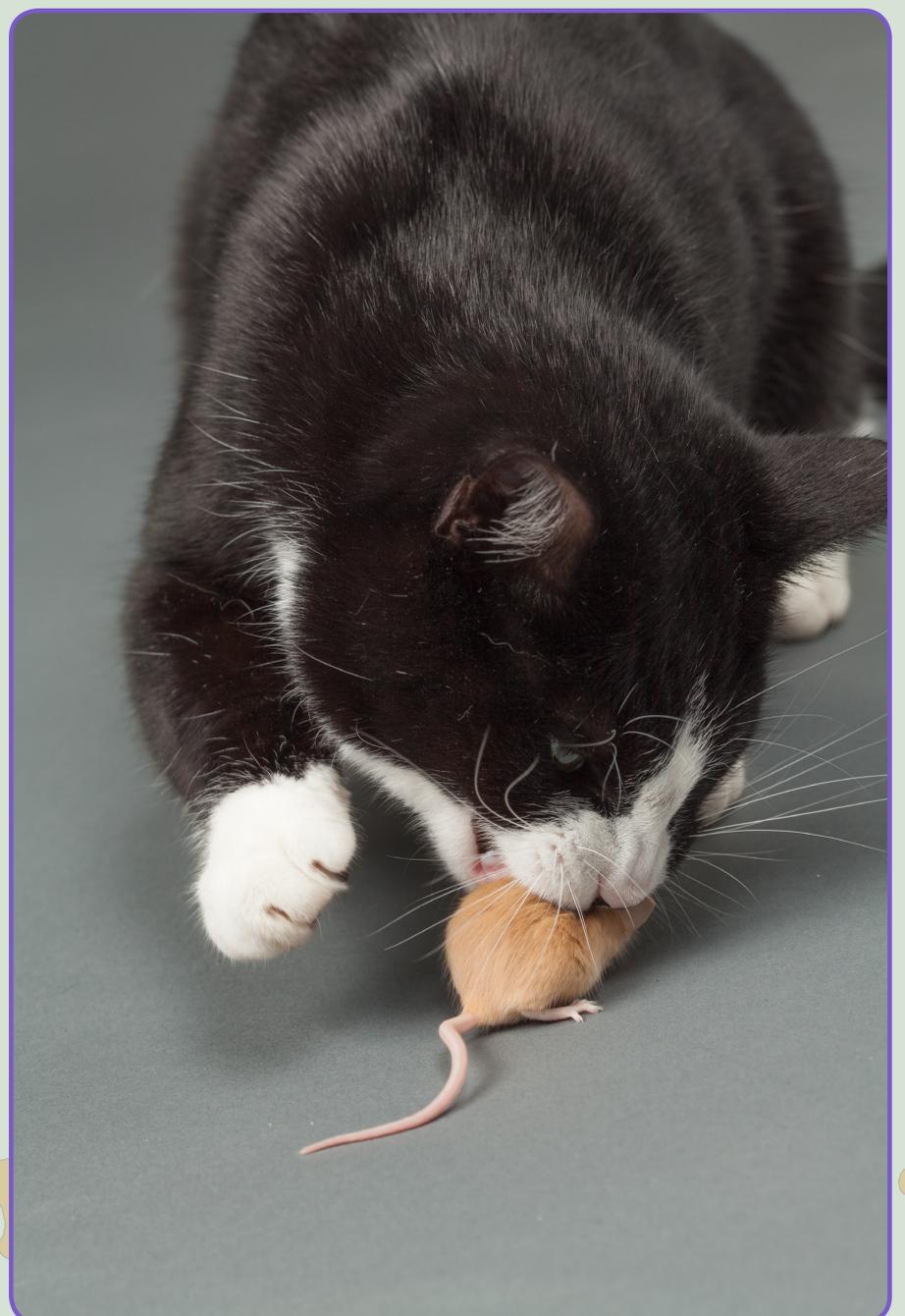
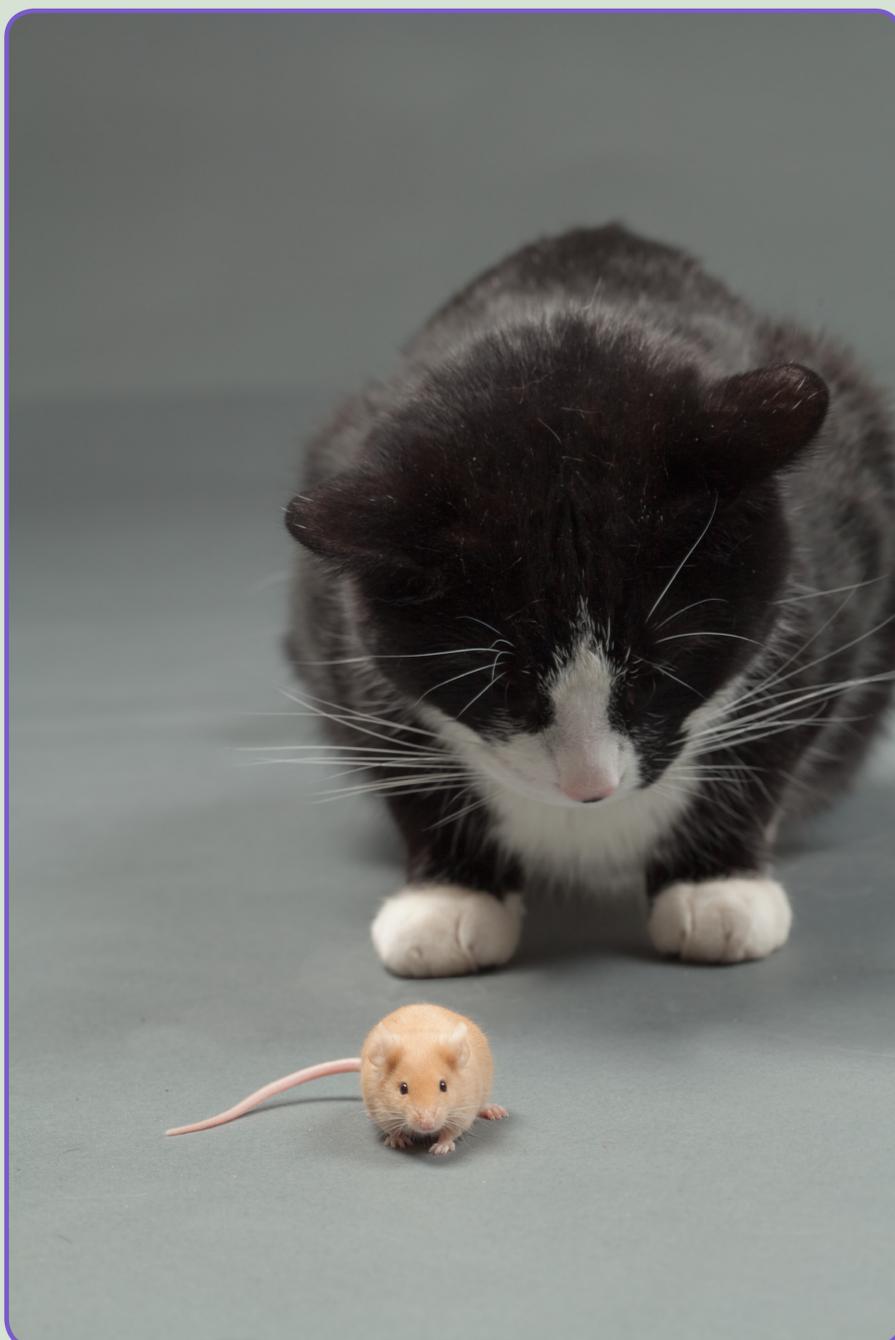


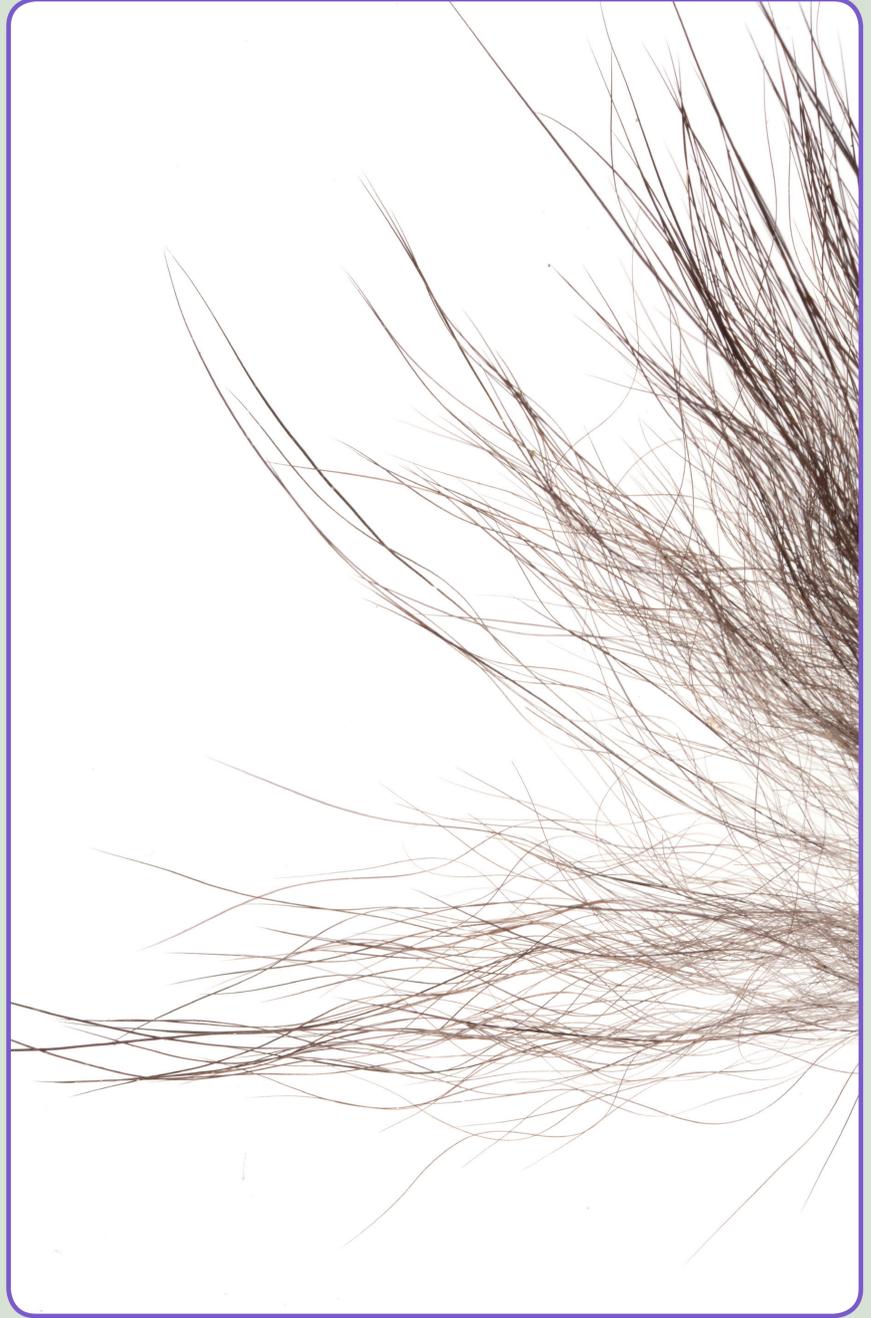
Along the eye's fundus is a reflective membrane called the tapetum lucidum. This reflective surface helps the cat maximize low light. The eye contains mostly rod cells. These vision cells detect motion and work well in low light.



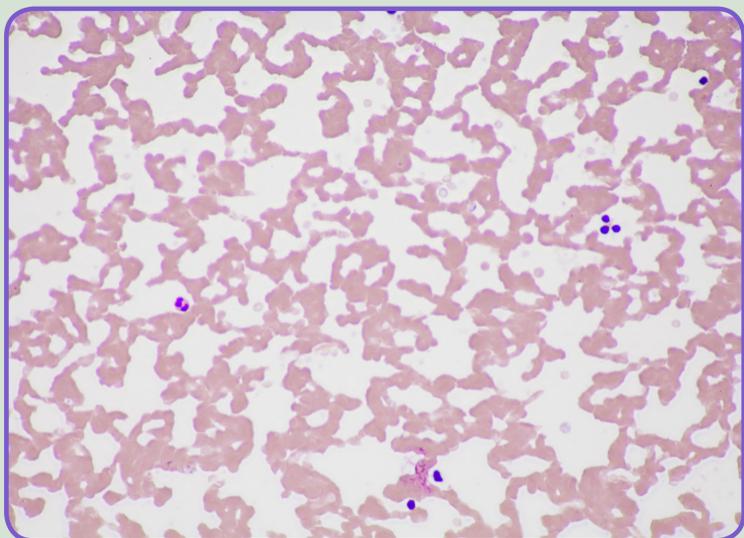


Domestic cats are phenomenal hunters when let loose outside. They hunt, play, and eat animals like birds, mice, chipmunks, squirrels, and rabbits. An interesting characteristic of specifically the domestic cats' feeding habits is that the cat will play with an animal for extended periods of time before killing it. This often times results in the loss of prey. As opposed to undomesticated felines, the domestic house cat does not truly need to hunt for survival. The domestic cat does not have the same stress to survive in the wild as a hungry lion does. A domestic cat will lose prey, play with prey, and offer prey as a gift - all features that a wild feline would never do.

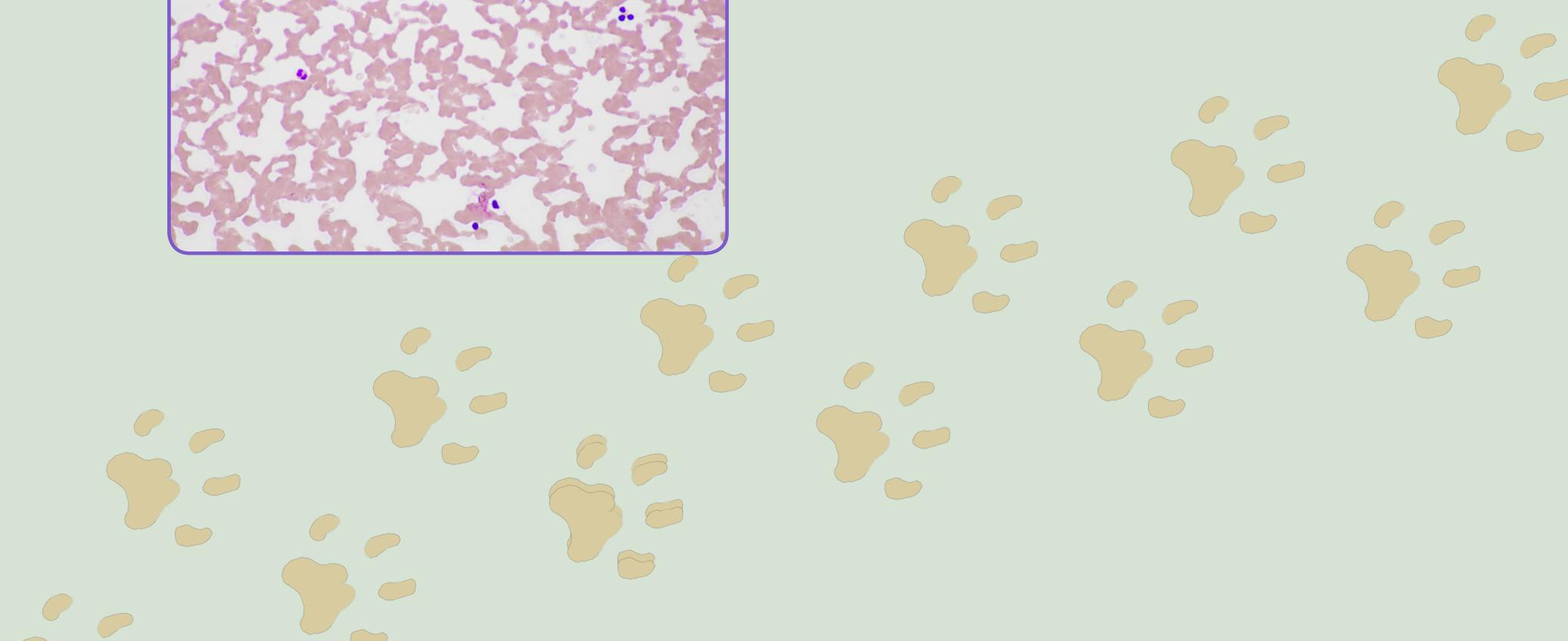




The domestic cat's coat consists of four different types of hairs. The down hairs are short, crinkly, and insulatory. The awn hairs narrow near the tip. They also insulate as well as protect. The guard hairs are long, thick, and the most protective. The vibrissae hairs are thick and sensitive to the touch - like the cat's whiskers.



Domestic cats are warm blooded mammals with a healthy heart rate of about 100 beats per minute.



About This Project



Various forms of photography are demonstrated in this project including photomacrography, photomicrography, and optical coherence tomography.

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Special thanks to Lindsey Weidenborner for cat handling and to Sorpreso for being a compliant cat model. Portrait to the left of Sammy and Sorpreso by Lia DiRico.

References

Chester, Jo. "What Color Are Cats' Eyes When Light Shines on Them in the Dark?" *Pets Demand Media*, 2013. Web. 09 Dec. 2013.

Page, Susie. *The Complete Cat Owner's Manual*. New York: Broadway, 1997. Print.

Pearson, Lisa A., Dr. "Feeding Your Cat Cat: Know the Basics of Feline Nutrition." *Feeding Your Cat: Know the Basics of Feline Nutrition*. N.p., 1 Feb. 2013. Web. 09 Dec. 2013.

Pond, Grace. *The Complete Cat Encyclopedia*. New York: Crown, 1972. Print.

