

## Evolution of the Dog



Dogs of today, known as “**Canis Familiaris**”, are all direct descendents of the gray **wolf**, “**Canis Lupus**” (see image below). In other words, dogs as we know them, are domesticated **wolves**. However, dogs’ behaviour is different (which is a good thing!) from wolves as well as their physical forms. Most dogs are smaller than wolves and have shorter muzzles and smaller teeth. From Pekingese to St. Bernard, there are many different sizes and colours of dogs - it's easy to forget that they belong to the same species. The proliferation of different breeds (at least 150) reflects an intense **interbreeding** of dogs over the past 150 years. Interbreeding was done to create **breeds** with unique characteristics. However, a consequence of this is that many disease-causing genes are concentrated in these breeds. Because of this growing problem, and the recently available methods to study genes, scientists are working on the "Dog Genome Project". Similar to the “Human Genome Project”, the objective is to locate and map all canine genes, identifying those that cause diseases. Genes that influence **behaviour** are also of great interest to the scientists. Darwin was wrong about dogs. He thought their diversity must reflect interbreeding with different types of wild dogs. But DNA studies show that all modern dogs are descendants of wolves. How and when domestication happened is unknown. It was thought, until very recently, that dogs were wild until about 12,000 years ago. But a DNA study, published in 1997, suggested that wolves were transformed to dogs about 130,000 years ago. This means that wolves adapted to human society a long time before humans created towns and practiced agriculture. This destroys the myth that humans domesticated dogs to serve as guards and companions. Some experts say that dogs **exploited** humans for easy food and protection from the cold.

### Vocabulary:

- **wolf / wolves** lobo / lobos
- **to interbreed** cruzar raças diferentes, gerar híbridos
- **breed** raça
- **behaviour** comportamento
- **to exploit** explorar, aproveitar



# Dogs vs Cats

The difference in behavior between domestic dogs and domestic cats, specifically dogs being more obedient and subservient while cats tend to be more independent and sometimes haughty, stems from their evolutionary history, domestication processes, and natural instincts.

## 1. Evolutionary Origins

Dogs evolved from wolves, which are pack animals. In a pack, cooperation and a social hierarchy are crucial for survival, with individuals looking to a leader (the alpha) for guidance. As a result, dogs have a natural tendency to follow a leader, which makes them more likely to be obedient and responsive to human commands. Over time, through selective breeding, humans have reinforced traits like loyalty, trainability and obedience.

Cats, on the other hand, descended from solitary hunters like the African Wildcat. Their ancestors were not pack animals and didn't rely on a social structure for survival. This led to the development of a more independent nature, with an emphasis on self-reliance. Cats hunt alone, mark their territory, and generally prefer to manage their own space. They were domesticated later than dogs and primarily for their utility in controlling pests rather than for companionship or labor. As a result, selective breeding did not focus on obedience, but instead focused on color or ability to hunt.

## 2. Domestication

Dogs were domesticated approximately 20,000 to 40,000 years ago. Humans bred dogs for specific purposes like herding, hunting, and guarding. Dogs that were cooperative and easy to train were more likely to thrive in human communities, so selective breeding over millennia emphasized traits such as loyalty, trainability and submission to human leadership.

Cats were domesticated much later, about 9,000 years ago, primarily in ancient Egypt and the Middle East. Their primary function was to control rodents in agricultural societies. They didn't need to be trained to do this, because they hunt by instinct. Because they didn't need to follow human commands to fulfill their role, there was less selective pressure to make cats obedient or subservient.

## 3. Social Behavior and Bonding

Dogs have a high level of social intelligence. They see humans as part of their pack and are more likely to bond closely, seeking approval and recognition. This need for social interaction makes dogs more obedient and eager to please their owners.

Cats, being solitary creatures in the wild, are less dependent on social interaction. While they can bond with humans and show affection, they do so on their own terms. Their independent nature makes them less likely to respond to commands or seek approval from their owners.

## 4. Communication and Trainability

Dogs are highly trainable because of their willingness to follow leaders, their ability to read human cues, and their evolutionary history in collaborative roles with humans. Over time, dogs have also developed an ability to understand human gestures, expressions, and tones.

Cats are more difficult to train, as they lack the same hierarchical social structure and don't naturally look to humans for guidance. While they can learn certain behaviors (especially if there's a reward involved), they are motivated by self-interest and not interested in pleasing humans.

