

Cloned Canine



Getty Images

Snuppy is the first cloned dog.

When Snuppy was a puppy, he might have been the cutest Afghan puppy you'd ever seen. He had big, brown eyes and a shiny, brown-and-black coat—with just a hint of white—that bounced when he pranced about.

But there's something special about Snuppy. He was **cloned**, or genetically copied, from a 3-year-old male Afghan hound.

Although scientists had already cloned a barnyard of animals—sheep, horses, pigs, rats, cows, and even a cat—it was the first time researchers cloned a dog.

Difficult Procedure

To create Snuppy, South Korean scientists first took several cells from the ear of the 3-year-old Afghan. Scientists then removed the **DNA** (deoxyribonucleic acid) from those cells. DNA holds the genetic information that determines an animal's inherited characteristics, such as eye and hair color. The scientists then transferred the Afghan's DNA to eggs taken from other dogs.

With that accomplished, researchers used electricity to stimulate the eggs. Once the eggs were zapped, they started dividing. Eventually, the eggs developed into **embryos** (fertilized eggs). Scientists implanted the embryos in **surrogate**, or stand-in, mothers. Snuppy's surrogate was a yellow Labrador retriever.

As it turned out, dog cloning was tougher than a **rawhide**¹ bone. Researchers spent three years working 24 hours a day, seven days a week, to clone Snuppy. Scientists named the pooch for "Seoul National University puppy."

Why was cloning a dog so difficult? Scientists say the reproductive systems of dogs are more complicated than those of sheep, cats, and mice, all of which are easier to clone.

¹ **rawhide**: untanned cattle skin

Reading Passage

Scientists went through 1,095 eggs and 123 dogs. Three pregnancies resulted from the experiments. In the end, only one pup was born—Snuppy.

Why did the South Koreans clone a dog? Scientist Hwang Woo Suk says cloning genetically identical dogs can help scientists study human diseases, such as cancer. “[Dog clones] could be very valuable in finding technologies useful for curing human diseases,” he told news reporters.

Inhumane Experiments?

Although many people have **hailed**² the birth of Snuppy as a scientific breakthrough, others say scientists are barking up the wrong tree when they clone dogs. Critics say the procedure is **inhumane**.³

Specifically, opponents say, too many dog eggs are destroyed in the cloning process. Those eggs, critics argue, could become puppies. In addition, the dogs are confined to cages and used in experiments. Many of those animals undergo multiple surgeries.

Nigel Cameron, who teaches the ethics of biology, said dogs are members of the family and should be treated with respect. “My dog [Charlie] is now deceased,” he told *The New York Times*. “But I wouldn't want to clone Charlie. It would be disrespectful to Charlie and to Charlie II.”

² **hail**: greeted; expressed enthusiastic approval

³ **inhumane**: cruel or unkind

Question Sheet

Name: _____

Date: _____

“Cloned Canine” Questions

- ___ 1. “Zapped” in the sentence, “Once the eggs were zapped, they started dividing,” is a way of saying
 - a. stimulated in a strong way.
 - b. slammed into a wall.
 - c. hit with a thunderbolt.
 - d. punched with the knuckles.

- ___ 2. The sentence, “...dog cloning was tougher than a rawhide bone,” compares the problem of cloning to that of a dog’s chewing on a rawhide bone. The meaning is:
 - a. Dogs shouldn’t be given rawhide bones to chew.
 - b. Rawhide is good for a dog’s teeth.
 - c. Cloning is a difficult problem to solve.
 - d. A dog can quickly chew a rawhide bone.

- ___ 3. Snuppy is an acronym (word made up of the first letters of a series of words) for
 - a. super natural under puppy.
 - b. Seoul National University puppy.
 - c. some never undertaken puppy.
 - d. none of the above.

- ___ 4. “A barnyard of animals” means
 - a. only animals that live on farms.
 - b. a wide variety of animals.
 - c. a pen of animals beside a barn.
 - d. a farm area belonging to animals.

- ___ 5. List the steps necessary to clone a dog.
