

# A New *Canis Familiaris*

Develop a New Dog Breed



## Learning Objectives:

Students learn how artificial selection can be used to develop new dog breeds with characteristics that make the dogs capable of performing a desirable task and they “create” a dog that could be bred for their purposes.

## National Science Teachers Association (NSTA) Standards:

Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals’ probability of surviving and reproducing in a specific environment. MS-LS4-4

## Materials:

- Computer with internet access
- *Canis Familiaris* sheet (included)
- AKC article (included)

## Vocabulary:

- Force: energy applied to move an object
  - Motion: an act of an object changing its location
  - Inertia: an object in motion stays in motion. An object at rest stays at rest. Inertia is related to mass.
  - Fulcrum: the support or point of rest on which a lever turns
  - Balanced forces: equal and opposite forces
  - Unbalanced forces: forces that cause a change in motion of an object
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## Lesson:

Introduction

- Have students read the AKC article [Beagle, Harrier, Foxhound: The Same But Different](#)
- Discuss with students how these three dogs are connected and why they are different.



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## Lesson:

### Explicit Instruction/Teacher Modeling

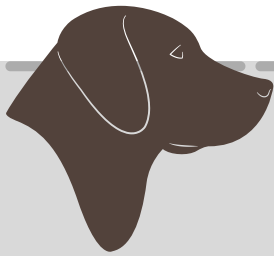
- Ask students to describe the features or abilities of dogs for which humans might breed.
- Point out that it is possible to select dogs to breed for particular traits because all dogs are from the same species, *Canis familiaris*.
- The various breeds can mate with each other to produce offspring.

### Independent Working Time

- Divide students into groups of 2-4.
- Explain that each group will be attempting to artificially select a new dog with certain traits by crossing two breeds.
- Students must determine the following:
  - What will we want our dog to be good at?
  - What physical features will he/she need?
  - What behavioral features will he/she need?
- Students should use the following resources for research:
  - [AKC Breeds](#)
  - [AKC Compare Breeds](#)
  - [AKC DNA Resource Center](#)
- Once students have collected the information, they will need to fill out the *Canis familiaris* sheet and introduce their new dog.

### Review and Closing

- Invite a few groups to share.
- Discuss why pure bred dogs are valuable to the community.



Name: \_\_\_\_\_

# CANIS FAMILIARIS: A NEW BREED

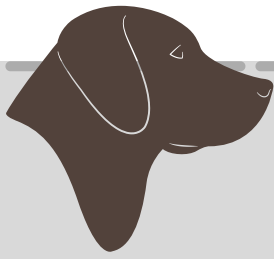
## PLANNING:

1. What will we want our dog to be good at?
2. What physical features will he/she need?
3. What behavioral features will he/she need?

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## BREEDING:

<b>Mother Dog</b>	<b>Father Dog</b>	<b>New Breed of Dog</b>
Breed:	Breed:	Breed:
Physical Characteristics:	Physical Characteristics:	Physical Characteristics:
Behavioral Characteristics:	Behavioral Characteristics:	Behavioral Characteristics:



Name: \_\_\_\_\_

# CANIS FAMILIARIS: A NEW BREED

## BREEDING:

4. Describe your new breed of dog. Be specific!
5. How will the traits it received from its parents help it to survive?
6. How will these traits help it to be successful with the task you chose?
7. If time allows, draw a picture of your new breed of dog in the space below.



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# Beagle, Harrier, Foxhound: The Same But Different

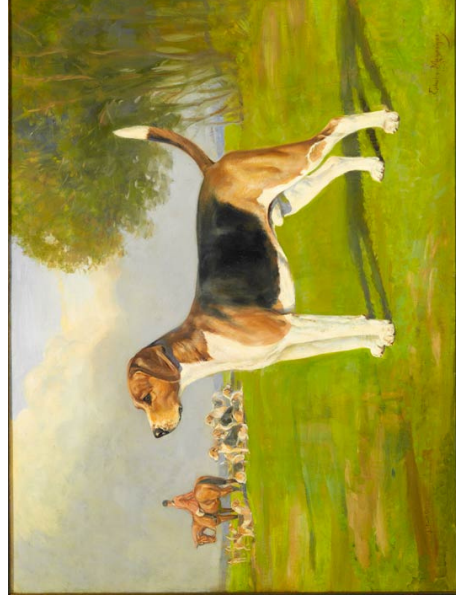
By AKC Staff Oct 07, 2015 | 2 Minutes



*"Ch. Windholme's Robino III," a Beagle painted by Gustav Muss-Arnolt, 1905 (AKC collection)*

Originally published in the AKC Gazette:

The Harrier, Beagle, and English Foxhound are all the same ancestrally, but were developed for different game. This resulted with the slower-moving, superby nosed Beagle at one extreme and the hard-running English Foxhound, who often overran its nose, at the other. The Harrier, as in most things, was right in the middle. The Harrier is the oldest of the three, since, even if one discounts its Greek origins, the Penistone Pack was formed in 1260 in England and lasted for more than five centuries.



*"Reynal's Monarch," a Harrier painted by Edwin Megargee, 1937 (AKC collection)*

Still, the Beagle became the most popular small hound in England during the Middle Ages. A small dog used to hunt hare and rabbit, the Beagle was well-known during the reign of Edward III in the 14th century, but the name came into use in the 15th century from the Old English word "begle," meaning small. And small they were: In fact, Queen Elizabeth I had a pack of six-inch Beagles. The criterion was set, and a pack was required to be well-matched and as small as possible, with voices that resulted in what has been described as "the exhilarating cry of the jovial pack."



# Beagle, Harrier, Foxhound: The Same But Different

By AKC Staff Oct 07, 2015 | 2 Minutes

Throughout the centuries, all three breeds have been selectively interbred. William Somerville (1675–1742) got some of his best Harriers by crossing Cotswold Beagles with Southern Hounds. As late as 1780, a dog named Trojan became one of the top foxhound studs; interestingly, he was a reject from a Harrier pack. Greyhound blood was also introduced to the English Foxhound gene pool to increase speed. Later, there was also interbreeding between the English Foxhound and the old Spanish Pointer to improve both breeds. The Spanish Pointer was heavy and cumbersome, but possessed a great nose. The English Foxhound gave the Spanish Pointer more mobility, and the English Foxhound gained scenting ability.

With the Beagle for small, foot-handled game and the English Foxhound for large game handled on horseback, the Harrier became somewhat out of fashion. The Quarmer Pack was perhaps the last of the typical and pure West County Harrier packs, as many packs had become a combination of Harriers and small English Foxhounds.

NAME \_\_\_\_\_

DATE \_\_\_\_\_



*"Hounds at Full Cry," by Thomas Blinks,  
courtesy William Secord Gallery*

The Beagle was first recorded in America in 1642, and the first pack of English Foxhounds was a black and tan pack owned by Robert Brooke in 1650. Brooke was the first master of foxhounds in America. His pack was used in the development of today's Black and Tan Coonhound.

An ardent admirer of foxhunting, George Washington, along with several other Virginia gentlemen, imported English packs in the 1770s. In 1785, Washington received some French staghounds from Lafayette, to which he added some hounds brought over from Ireland. The resulting Virginia hounds became the ancestors of today's American Foxhound, a breed specifically developed for the different terrain and hunting conditions of the New World. —D.M.

For more on the breeds discussed in this article, visit these AKC parent-club websites: American Foxhound Club, National Beagle Club, English Foxhound Club of America, and Harrier Club of America. For more columns by this author, visit the Gazette's "Ring and Field" pages.



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