



# Fascinating Felines — Bodies, Behaviors, and Beyond!

Feline Health History  
Questionnaire 2021

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# Fascinating Felines — Bodies, Behaviors, and Beyond!

***“What greater gift than the love of a cat.”***

– Charles Dickens

At Basepaws, we celebrate cats and the great love that the pet parents in our community have for them. While this love is impossible to measure, there are many intriguing aspects of cats and the lives that they share with us that are helpful and even fun to quantify.

For the past two years, we have compiled and analyzed the results of our Basepaws feline health history questionnaire, which is voluntarily filled out by pet parents like you who agree to include their cats’ DNA samples in one or more of our citizen science research programs. By the end of 2021, we had an amazing 17,820 pet parents fill out the questionnaire—nearly five times more than in 2020!

This most recent 2021 questionnaire included **95 questions\*** on different aspects of feline health and nutrition, physical features, habits, and behavioral characteristics, including temperament and personality. Question format was primarily multiple choice or check-box style (option to select more than one), though open-ended answers were also available to ensure that participants could provide their own written responses.

Basepaws’ mission is to provide pet parents like you with actionable knowledge for making empowered, proactive healthcare decisions. We harness the power of science to help you know your pets better—inside and out—and provide you with the resources you need to make informed choices that support their health, wellness, and longevity. With your help, cats are “doing science” as an integral part of this effort!

We are grateful to all of the pet parents who contributed to this survey. All of the responses provided help power many research projects in which we explore the genetics and oral microbiome factors associated with different feline conditions, such as chronic kidney disease. This survey benefits the entire Basepaws community because, while DNA affords us the opportunity to dive into different aspects of the feline genome, information from the questionnaire provides valuable insight into the lifestyles of cats and the environments in which they live. Each plays a role in feline health; together, they paint a vivid picture that offers even more insight into what makes a cat a cat.

We are pleased to share this summary of questionnaire results and key findings from our analysis and we hope that you enjoy diving into the **fascinating world of felines—bodies, behaviors, and beyond!**

\* **Note:** Figures with percentages that do not add up to 100% are a result of respondents being allowed to select multiple answers to a question. In some cases, it may also relate to a rounding error.

# Feline Characteristics

Let's begin with a summary of responses to a few introductory questions that we asked. We'll start with these basics, and then dive into even more fun and fascinating details in the sections that follow.

**Figure 1a** displays the breakdown of cats represented in the questionnaire by gender, with 54.4% cats reported as male and 45.6% as female. Nearly ninety-four percent of cats were reported as either neutered or spayed (**Figure 1b**). We were also curious about where pet parents allow their cats to roam. As shown in **Figure 1c**, the majority of pet parents have cats who live indoors only (88%), followed by cats who are allowed to split their time between indoor and outdoor environments (11.8%). Only a small percentage (0.2%) of cats were reported as living outdoors only.

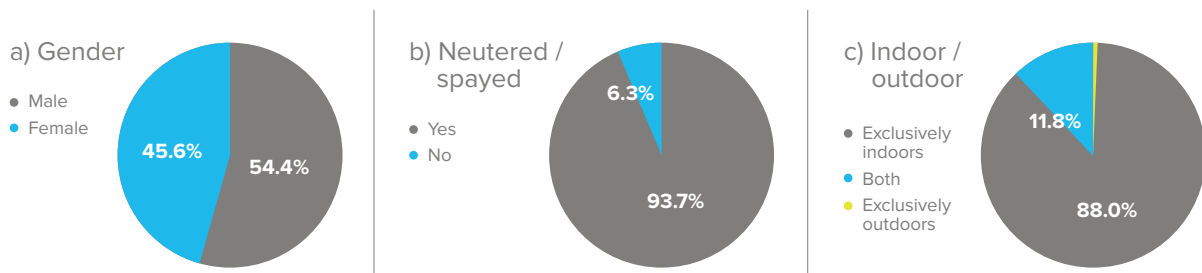
It's interesting to know where pet parents first connected with their cats, before they brought them home as permanent members of the family. The majority of cats were found at rescue organizations (74%). Fewer than 10% of cats were strays before becoming an official member of the family, and 7.8% were brought home from the humane society. Just over four percent were acquired from cat breeders. The remainder of cat parents who responded indicated that they acquired their cat from a friend, foster home, store, or farm.

***“One cat just leads to another.”***

—Ernest Hemingway

Many cat parents reported having additional pets in the home. This includes other cats (27.7%), cats along with smaller pets including fish, rodents, or reptiles (2.2%), or cats and dogs (11.7%). Just over 24% of pet parents reported to be one-cat only homes. We know that some cats prefer not to share the love and affection of their favorite humans!

**Figure 1.** Feline Characteristics

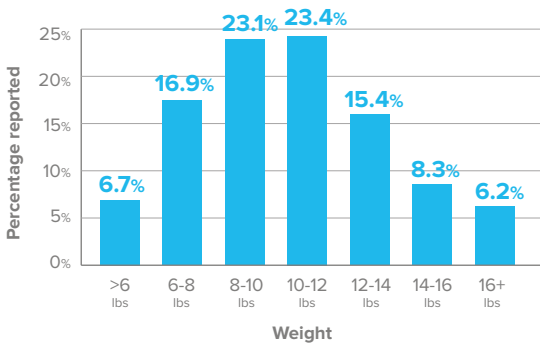


# Feline Health

## Weight and Body Shape

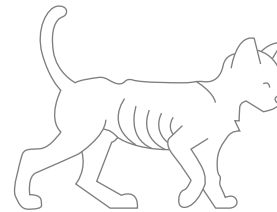
According to the Association for Pet Obesity Prevention (APOP), an estimated 60% of cats in the U.S. are overweight or obese<sup>1</sup>. The APOP also provides ideal cat weight ranges, which for domestic cats is 8-10 lbs, Persian cats 7-12 lbs, Siamese 5-10 lbs, and Maine Coons with the largest ideal weight range of between 10-25 lbs.

Basepaws asked pet parents how much their cats weigh, though we did not collect breed-related data in this question to match to any of the APOP ranges for different breeds. **Figure 2** shows the breakdown of responses, with the most commonly reported cat weight range of 10-12 lbs (23.4%), followed closely by 8-10 lbs (23.1%), and 12-14 lbs (15.4%). Our 2020 report had a similar distribution of cat weight ranges, with 10-12 lbs the most commonly reported range and 8-10 lbs as the second most reported.

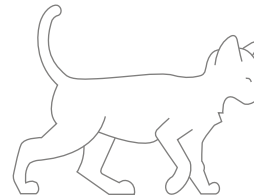


**Figure 2.** Average cat weight in pounds (lbs).

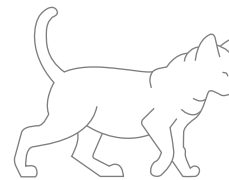
**Figure 3.** American Veterinary Medical Association (AVMA) body shape assessment images and the reported percentages of cats associated with each type.



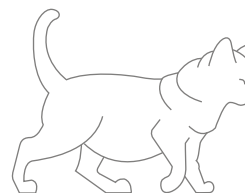
**a) Underweight**  
1.8% of cats



**b) Normal weight**  
60.2% of cats



**c) Overweight**  
31.6% of cats



**d) Obese**  
6.4% of cats

## Litter Box Usage and Behavior

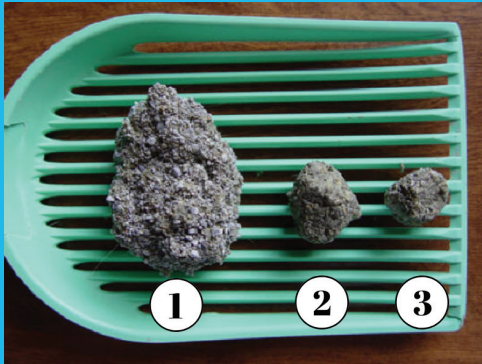
This section summarizes the results of several questions associated with cats' litter box usage and behaviors. These are important to monitor as abnormal or inappropriate behavior can be a sign of a potential health issue, such as urinary tract inflammation, or of an emotional stress response to something that's not working for a cat.

Pet parents were asked how often their cats use the litter box, to which 86.7% responded that their cats always do. Only 5.7% reported that their cats only occasionally use the litter box. For cats not using the litter box regularly, pet parents indicated that outdoors was the primary place of elimination for their cat. A very small percentage of respondents indicated that their cats eliminate improperly in places such as the carpet, bedding, hard flooring, or furniture. These abnormal elimination behaviors are subjects to discuss with a veterinarian so that the cat can be examined for any potential medical issues, as well as for implementing a course of action that guides the cat toward proper elimination habits.

Though any medical condition that interferes with a cat's normal urination or defecation behavior can cause litter box problems, house soiling can also be a result of more easily fixable issues such as the box itself, the type of litter, the location of the box, or even all three that may be considered unsavory to a cat<sup>2</sup>. It may also be that the litter box does not meet the cleanliness standards a cat may have or that there are not enough boxes per cat. It is recommended that pet parents provide as many boxes as there are cats in the house, plus one—this decreases competition and gives each cat a box of his or her own.

The most frequent value that parents reported is that they clean their cats' litter boxes at least daily/once per day (53.5%), while some reported twice per day (16%). The majority of pet parents have one litter box in their home (44.9%), though we do not have any data on the number of litter boxes per cat residing in the home. The primary type of cat litter used is clumping cat litter (71.3%), followed by a range of other litter options such as pine pellets (6.4%), silica gel (6.3%), and corn (4.2%).

**Figure 4.** Image of feline urine clump sizes in the litter box.



The majority of pet parents reported that they regularly scoop out large-sized urine clumps (74.3%) from the litter box, such as the example shown in score 1 on the far left side in **Figure 4**. Nearly 22% observe medium-sized clumps when cleaning the litter box, while only a small percentage (1.4%) of responses notice much smaller clumps or none at all—the latter due to using different litter media, such as non-clumping litter or crystal/silica gel-based litter.

Most cats in our survey were reported to urinate 2-4 times/day (56.5%) and 17.5% urinate at least once/day. Twenty-six percent of cat parents reported that they were unsure of how frequently their cat urinates. It is worth noting the importance of understanding how often your cat urinates and the quality of the elimination so that any changes, especially drastic ones, can be addressed immediately with the help of your veterinarian. Significant changes in a cat's normal urination frequency may be a sign of more serious issues such as diabetes, kidney, liver or bladder infections. The frequency of urination and/or the size of urine clumps in the litter box (especially small clumps) can also be indicative of a urinary tract problem, such as cystitis, infection, or a partial urethral blockage<sup>3</sup>.



## Fecal Elimination: Frequency, Quality, and Consistency

Diet and overall health are primary contributors to the amount, shape, and consistency of a cat's fecal output/stool. When provided with the fecal scoring image prompts shown in **Figure 5**, 67.3% of pet parents reported that their cats' stool consistency is firm, but not hard (score 2). The next category most frequently reported at 17.5% was log-shaped (score 3), followed by 6.8% of pet parents reporting a

consistency that is very moist, but has a distinct shape (score 5). The remaining reported percentage breakdown is as follows: 3.5% reported hard and dry associated with (score 1), very moist and soggy for 3.4% of cats (score 4), just under 1% with texture but no definite shape (score 6), and 0.3% of cats reported to have watery stools with no texture (score 7).



### Score 1

Very hard and dry; often expelled as individual pellets; requires much effort to expel from body; no residue left on ground when picked up.



### Score 2

Firm, but not hard; pliable; segmented in appearance; little or no residue on ground when picked up.



### Score 3

Log-shaped; little or no visible segmentation; moist surface; leaves residue on ground, but holds form when picked up.



### Score 4

Very moist, soggy; log-shaped; leaves residue and loses form when picked up.



### Score 5

Very moist, but has a distinct shape; piles rather than distinct logs; leaves residue and loses form when picked up.



### Score 6

Has texture, but no defined shape; present as piles or spots; leaves residue when picked up.



### Score 7

Watery; no texture; flat puddles.

Fecal consistency is primarily a function of the amount of moisture in the stool and can be used to identify changes in colonic health and other problems. Ideally, in a healthy animal, stools should be firm but not hard, pliable and segmented, and easy to pick up (Score 2).

**Figure 5.** Feline fecal scoring image.



Most cats were reported to have bowel movements at least once per day (nearly 55%), and some pet parents reported that their cats have bowel movements 2-4 times per day (18%). Nearly 23% of pet parents did not know how often their cats have bowel movements per day. As a general rule, cats are expected to pass a bowel movement at least once a day, although frequency can vary depending on diet, water consumption, and activity levels<sup>5</sup>.



## Commonly Diagnosed Feline Health Conditions

We asked pet parents a range of questions about whether their cats have had any veterinarian-diagnosed health conditions. A summary of results for the most frequently reported health conditions can be found in **Table 1**.



**Table 1.** Reported diagnoses of common feline health conditions.

System	Condition	Cats with condition(s)
Respiratory	Asthma	2.4%
	Combined conditions: <ul style="list-style-type: none"> <li>• Allergic pneumonitis</li> <li>• Nasopharyngeal polyps</li> <li>• Brachycephalic airway syndrome</li> </ul>	0.6%
	<i>No respiratory conditions</i>	86.3%
Cardiovascular	Hypertrophic cardiomyopathy	0.9%
	Unclassified cardiomyopathy	0.5%
	Combined conditions: <ul style="list-style-type: none"> <li>• Chronic system hypertension</li> <li>• Portosystemic shunt</li> <li>• Dilated cardiomyopathy</li> </ul>	~ 0.2%
	<i>No cardiovascular conditions</i>	88.1%

System	Condition	Cats with condition(s)
Gastrointestinal	Constipation	2.3%
	Inflammatory bowel disease	2.0%
	Pancreatitis	~1.0%
	<i>No gastrointestinal conditions</i>	83.8%
Endocrine	Hyperthyroidism and hypothyroidism	1.2%
	Diabetes mellitus	0.9%
	<i>No endocrine conditions</i>	87.2%
Immune	Food allergies	3.0%
	Environmental allergies	1.8%
	Flea allergies and atopic dermatitis	1.1%
	Feline immunodeficiency virus (FIV)	0.9%
	<i>No immune system conditions</i>	82.3%
Urinary	Chronic kidney disease	1.3%
	Struvite urinary crystals or stones	1.3%
	Combined conditions: • Idiopathic cystitis • Cystine • Calcium oxalate	2.0%
	<i>No urinary conditions</i>	81.0%
Musculoskeletal	Osteoarthritis	1.6%
	Joint trauma	1.0%
	Hip or elbow dysplasia	0.5%
	<i>No musculoskeletal conditions</i>	86.7%

System	Condition	Cats with condition(s)
Oral/Dental	Gingivitis	8.2%
	Broken, lost, or abscessed teeth	6.4%
	Tooth resorption	3.1%
	Periodontal disease	3.5%
	Stomatitis	1.2%
	<i>No oral/dental conditions</i>	83.5%

## Oral Health and Proactive Care Practices

We asked pet parents whether they perform proactive oral health care routines with their cats. Over 56% of cats represented in our questionnaire are not receiving any kind of proactive oral health care at all. This is an unfortunate trend that continues to occur, particularly for cats.



Just as we need to brush our teeth everyday to protect against the accumulation of plaque and tartar to avoid dental disease, cats also need to have their teeth cared for on a daily basis to protect their oral health. At-home oral health care routines for daily plaque control is key to keeping gingivitis and the more advanced stages of periodontal disease at bay. Cats certainly can't brush their own teeth, and due to the aversion many cats have to having their mouths touched (especially if oral health practices aren't started when the cat is young), very few pet parents brush their cats' teeth. Basepaws provides resources on how to start or improve your cat's brushing routine; however, there are also oral health care products that can help keep cats' mouths healthy and clean, such as those recommended by the Veterinary Oral Health Council (VOHC). Below is the breakdown of pet parent responses regarding their cats' oral health care routine:

- Use of oral health toys: 22.7%
- Use of toothbrush and/or toothpaste: 15.1%
- Drinking water additives: 10.4%
- Oral rinses: 1.2%
- Other oral health practices (e.g., dental treats, dental powders for food): 6.5%
- No proactive oral care at home: 56.3%

Though the overwhelming majority of responses indicate no at-home proactive care regimen, it is encouraging to see that pet parents are trying out some of these oral health care approaches. At-home routines, combined with yearly or bi-yearly professional dental cleanings (depending on a cat's needs) at the veterinary clinic, are essential to supporting oral health as well as a cat's overall health.

## Veterinary Visits and Wellness Approach

The Basepaws pet parent community largely adheres to bi-annual or annual routines of bringing their cats to the veterinarian for wellness visits. Just over 73% of pet parents reported that they had brought their cat to the veterinarian for a wellness checkup within the past six months. Nearly 18% reported check-ups within the past year, and 9% reported that it was more than one year ago since they had taken their cat in for a wellness check. This is great news, since the American Animal Hospital Association (AAHA) recommends a minimum of once per year checkups, and checkups every six months as the rule of thumb for aging cats<sup>6</sup>.

In connection to wellness check-ups and other veterinary services, pet parents reported on how much they spend annually on veterinary care for their cats. Thirty-four percent of pet parents spend between \$100-199 (USD), 17.9% spend \$200-299, and 21.9% spend over \$300. Nearly 26% of pet parents spend under \$100 per year on veterinary care for their cat(s).

Regarding overall approach to medical care for their cats, 53.3% of pet parents who responded choose a conventional only approach to care that includes conventional veterinary treatment. An integrative approach that mixes conventional and alternative/holistic therapies was reported by 45% of respondents, while less than two percent reported a holistic-only approach with natural supplements and diets, and a general avoidance of drugs and vaccines. Pet parents were also asked whether or not their cat is currently taking any medications or supplements, to which nearly 19% answered yes and just over 81% answered no.



## Feline Nutrition

***“When Rome burned, the emperor’s cats still expected to be fed on time.”***

– Seanan McGuire

### Diet

We asked pet parents to tell us about their cats’ diets. Feline members of the Basepaws community exhibit a range of tastes and preferences regarding what, how, and when they like to eat, which we summarize for you in these sections on nutrition!



When it comes to what type of food cats primarily eat, nearly 30% of pet parents reported that they feed their cat a combination of wet commercial food with dry food. This was followed by just shy of 27% who feed dry commercial food only and eight percent eat a wet food only diet. Some cats are on a veterinarian-prescribed diet (8.8%). Other pet parents elect to feed their cats a diet of raw commercial food or a combined wet/dry homemade food diet, as well as a range of personalized diets that were described in free-form text responses.



The main protein source represented in cats' diets is chicken (26.5%). The remainder of pet parents tend to change up protein options in their cats' diets to keep their favorite felines' palates happy, which includes a combination of chicken, salmon, turkey, and/or seafood and freshwater fish.

We were also curious about what pet food brands are of interest to the Basepaws feline community. The most popular pet food brands that cats represented in the Basepaws questionnaire eat is summarized in Table 2. Some of the "other" open-ended responses (19.3%) from pet parents include brands such as Weruva, Natural Balance, and 9Lives.

**Table 2.** Popular cat food brands enjoyed by cats represented in the Basepaws questionnaire.

Brand	Pet parent responses
Purina	22.8%
Hill's	11.2%
Royal Canin	8.4%
Blue Buffalo	7.0%
Iams	3.6%
Wellness	1.9%
Tiki Cat	1.5%
Meow Mix	1.4%
Other	19.3%



We couldn't possibly forget to mention treats! When asked about their cats' favorite treats, pet parents shared that the brands Temptations and Greenies are the top choices (40.4% and 24.2%, respectively). Friskies, Inaba, and Delectables are other brands that Basepaws cats seem to enjoy (combined 15%). Open-ended responses (20.5%) indicated cats' preference for other treats, such as freeze-dried salmon or natural dried treats.



## Feeding Mode and Schedule

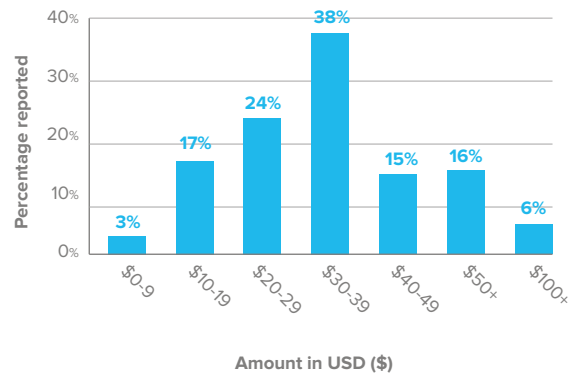
The primary method reported for feeding charismatic feline companions is scheduled meal feeding (47.1%). Nearly 44% of pet parents elect to free-feed their cats with food readily available throughout the day, while others perform some combination of scheduled and free feeding, such as leaving kibble out but only feeding wet food at certain times of the day. Others choose interactive feeding practices with puzzle boxes and toys (0.7%), or use a timed feeder when necessary (7.7%).



## Nutrition Expenses

We asked pet parents how much they spend, on average, for their cats' pet food each month. **Figure 6** displays the breakdown of responses. The two most highly reported responses were an average monthly spend on cat food of **\$30-39 (38%)** and **\$20-29 (24%)**.

**Figure 6:** Average monthly spend on cat food



# Feline Physical Characteristics

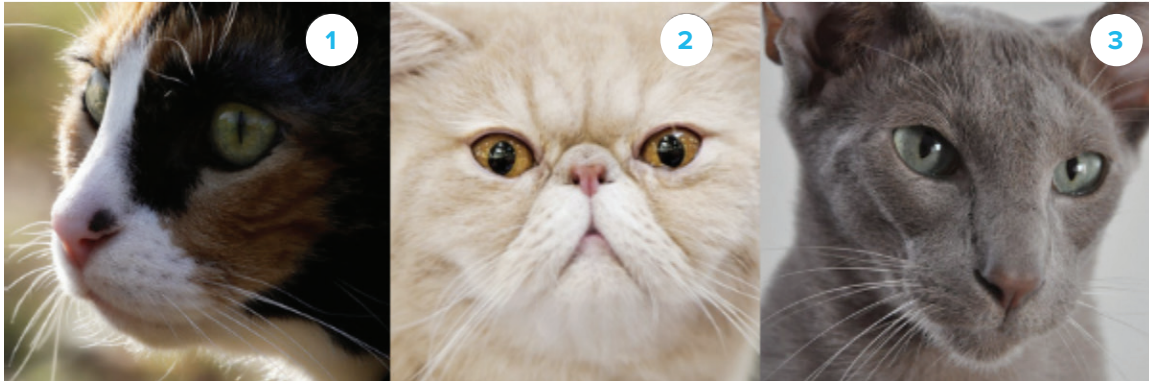
***“There are no ordinary cats.”***

– Colette

We couldn't agree more! Every cat is unique and extraordinary. So what else makes for a fascinating feline? The delightful array of shapes, colors, and coats that they display, of course! In this section, we summarize a range of feline physical characteristics reported by pet parents in our questionnaire.



**Figure 7.** Feline face shape image reference.



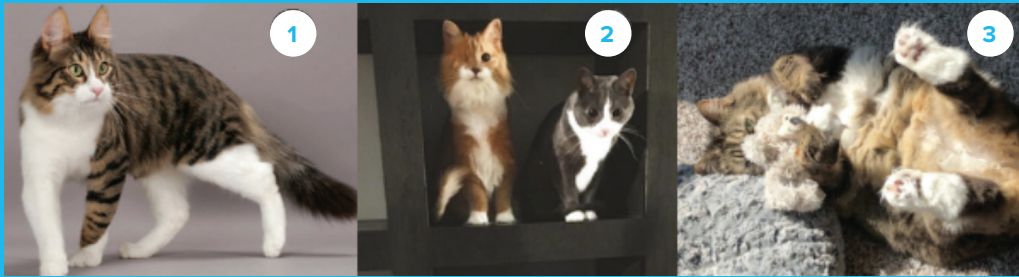
## Face Shape and Structure

The majority of cats represented in our questionnaire are reported to have square face shapes (82%, image 1). This was followed by triangle face shapes (14.6%, image 3) and then round shapes (3.4%, image 2). See **Figure 7** for the three face shape examples that pet parents reviewed before responding to the “what best describes your cat’s face shape?” question.

When asked, “what is your cat’s face structure?” 93.4% of pet parents reported that their cats have a wild type face structure, whereas only 1.5% reported a brachycephalic or “pushed in” face structure such as displayed in the first/front cat in **Figure 8**. Common brachycephalic feline breeds include the Exotic Shorthair, Burmese, Persian, Himalayan, and British Shorthair.



**Figure 8.** Feline face structure image reference.



**Figure 9.** White legs, feet, or paws image reference.

## Legs, Feet, and Paws

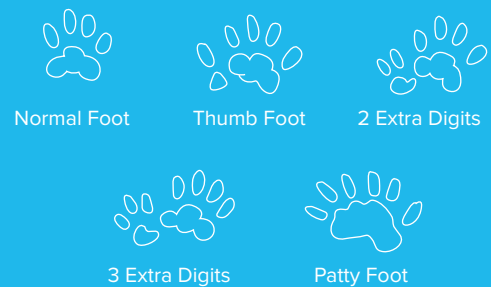
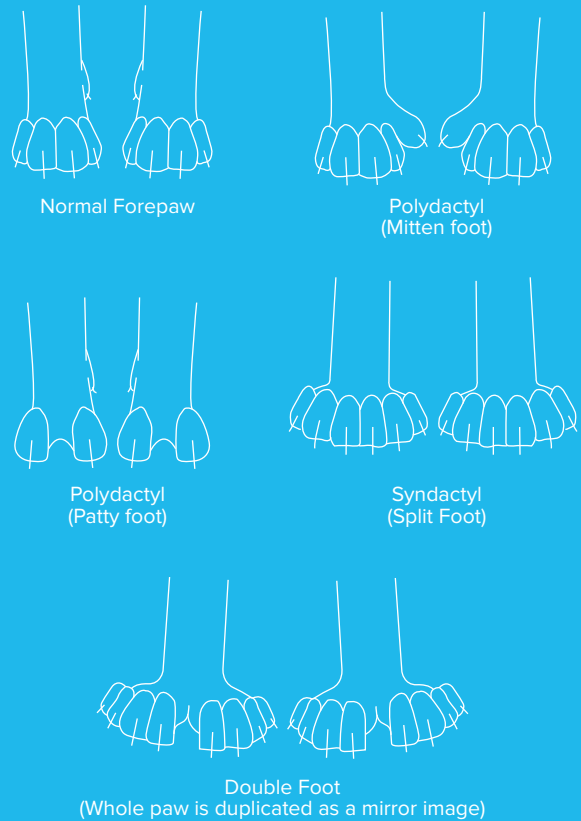
We asked pet parents whether or not their cat has white legs, feet, and/or paws. They were provided with the images as shown in **Figure 9** and asked to respond regarding which image best illustrates their cats' legs, feet, or paws. **Table 3** provides the percentages associated with cats represented in the Basepaws questionnaire.

Feature	Cats reported with feature (%)
White front & back legs	74.8%
White front paws	17.2%
White back paws	8%

**Table 3.** Responses to white fur features on legs, feet, and paws.

Pet parents were also asked “what do your cat’s paws look like?” using the image in Figure 10 as a reference for their response. Nearly 96% responded that their cats had normal paws with four toes. Polydactyl feet were reported as follows: thumb foot/one digit (3.1%), two extra digits (0.8%), patty foot (0.2%), and polydactyl with three extra digits (0.2%). There were no responses associated with double foot or syndactyl.

## Feet and Toes



**Figure 10.** Image provided for assessing feline feet and toes.

Typically, cats have four toes and one dewclaw (thumb) on each front paw and four toes on each hind paw. Polydactyl cats have a higher number of toes than this in one or more paws. Polydactyl cats are often referred to as **Hemingway cats**, as they have gained their popularity thanks to the famous American writer Ernest Hemingway. Maine Coons are known to be predisposed to this genetic feature<sup>7</sup>.

## Tails

Nearly 77% of the cats represented in our survey have a long and straight tail (**Figure 11a**). The second highest reported tail conformation was a mid-length straight tail, followed by a mid-length curved out tail.

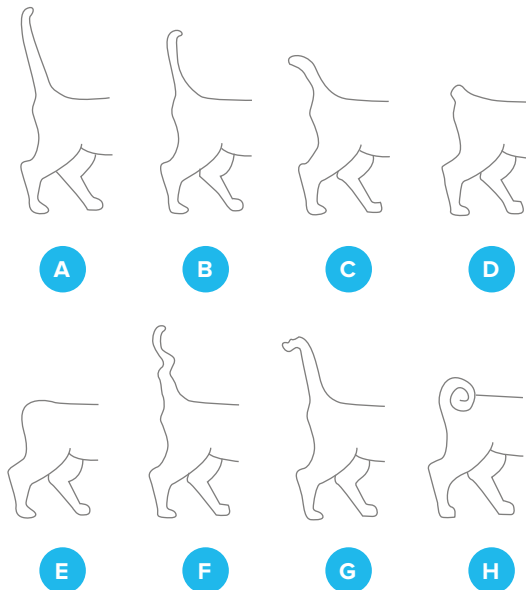
***“This latter was a remarkably large and beautiful animal, entirely black, and sagacious to an astonishing degree.”***

– Edgar Allan Poe, The Black Cat

## Coat Characteristics

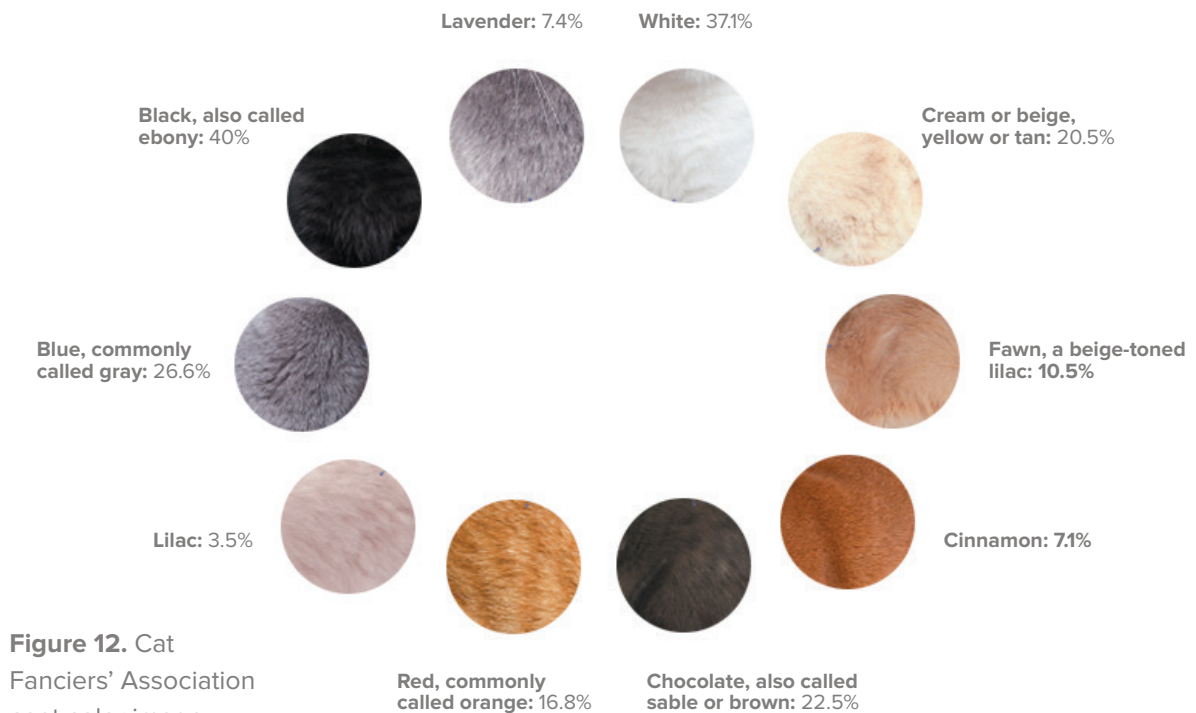
Similar to our 2020’s report on cats’ coat length and texture, short-haired cats remain the most widely represented in our questionnaire, accounting for 51.4% of all cats. The next highest groups reported were longhair (23.7%) and semi-long-haired cats (24.2%). Hairless, sparse-haired, and curly-coated cats combined represent just over half of a percent of reported results.

**Figure 11.** Image provided to pet parents for assessing feline tails. Percentages indicate cats reported with a particular tail conformation.



The top cat coat color reported was black (also called ebony) at 40%. While some negative superstitions about black cats remain today, there have been many throughout history that see these raven-hued kitties as bearers of good fortune and luck. Did you know that in Japan it is believed that black cats can bring prosperity, bless a marriage, and ensure good harvests<sup>8</sup>? And of course we can’t forget about one of the most beloved black-coated cartoon characters in film history, Felix the Cat!

The second and third highest reported coat color responses were white and blue (commonly called gray), respectively. The remaining percentages associated with responses on cat coat colors can be found in **Figure 12**.



**Figure 12.** Cat Fanciers' Association coat color image provided to pet parents for assessing their cats' coat color.

The most common coat pattern reported was tabby, seen in 33.2% of cats. The tabby pattern can be further broken down into mackerel (64.2%), ticked (12.9%), classic (12.6%), and spotted (10.3%). The second most prevalent coat pattern is tuxedo (20.8%), followed by a solid color with no pattern (20%).

The colorpoint coat pattern was also represented in our questionnaire (6.5%) along with the tortoiseshell (5.7%). Cats with shaded coat patterns were reported at 4.7%, as were those with a calico pattern.

The Bicolor Van pattern was reported at 4.3%. This pattern is characterized by an almost entirely white body, with color only on the tail and sometimes a spot or two on the head or body.

The majority of cat owners (23.4%) reported that their cat has a medium level of coat shedding, which is classified as "easy to manage". Nearly 11% of pet parents reported excessive shedding, while just over nine percent observe almost no shedding with their cats.

## Eye Color

***“An animal’s eyes have the power to speak a great language.”***

— Martin Buber

The beautiful greenish-yellow that is characteristic of many cats’ eyes came in first place in our questionnaire at 29%, followed by green (28.5%). Gold ranked third in responses (13.8%), and yellow, copper, and orange were also reported (combined 16.8%). Blue eyes were reported at 10.3% and just under one percent of pet parents reported that they don’t know the color of their cats’ eyes.

Two different-colored eyes, a trait known as heterochromia iridum, is a condition most commonly seen among white-coated felines, though it may appear in other cats who carry what is called the “white spotting gene”. Less than one percent of pet parents reported having cats with heterochromia in our questionnaire. The varied colors of cats’ eyes are indeed captivating, and certainly among the many qualities that lend to their expressiveness.

## Nose Color

Pink is in! Nearly 47% of cats represented in our questionnaire have pink noses and 10% have liver-colored ones. Did you know that the color of a cat’s nose is related to their fur color? Pink noses are associated with lighter fur colors, liver-colored noses with reds and oranges, gray noses with gray fur, and black noses—which was our second most prevalent reported nose color (30.5%)—are associated with black fur color.

## Ears

Ninety-four percent of pet parents who answered the question “What best describes your cat’s ear conformation?” have cats with straight ears. The remaining smaller percentage of responses represented a mix of cats with curled, floppy, folded (a signature trait of the Scottish Fold cat), or loosely folded.

**Figure 13.** Image of a “fascinating feline” that reflects the most common feline physical features of cats from our questionnaire.



## Most Common Features Reported

At the beginning of this physical characteristics section of this report, we acknowledged the fact that no fabulous feline could ever really be described as “ordinary”. Yet there are some identifiable patterns across the data we collected in our questionnaire related to the physical features that most of the cats reported on by the Basepaws pet parent community share (**Figure 13**). These features include:

- Square faces
- Straight ears
- Short-haired coats
- Coats black in color with a mackerel tabby pattern
- No white on legs, feet, or paws
- Green or greenish- yellow eyes
- Pink noses
- Four-toed paws (non-polydactyl)

# Feline Behavior and Temperament

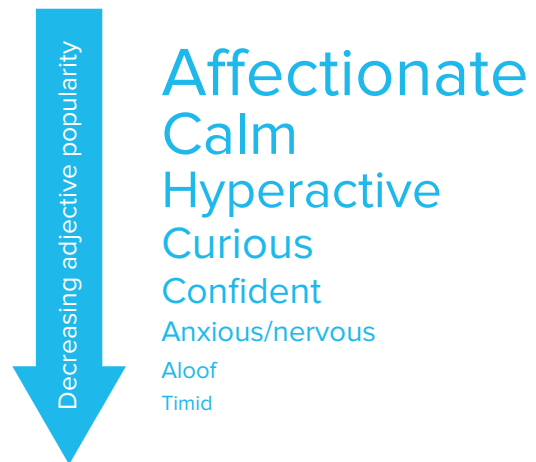
***“The cat wrinkled its nose and managed to look unimpressed. “Calling cats,” it confided, “tends to be a rather overrated activity. Might as well call a whirlwind.”***

– Neil Gaiman

## General Disposition

Pet parents were asked, “which of the following best describes your cat’s temperament?” and given a list of adjectives from which to choose. The two most frequent responses were affectionate (88.4%) and calm (39.9%), followed by hyperactive (33.6%), anxious/nervous (23.4%), aloof (21.4%), shy and timid (36.8%), or clever, moody, and playful (combined 2.2%). **Figure 14** displays a visual ranking of the adjectives describing temperament, including “other” open-ended responses, reported by pet parents in order of decreasing popularity.

**Figure 14.** Ranked popularity of adjectives used to describe the temperament of cats represented in the Basepaws questionnaire.



Keeping temperament in mind, we also asked a range of questions about how cats react to certain stimuli, such as visitors in the home, toys, and human-assisted health/grooming routines. **Table 4** and **table 5** display a breakdown of positive and negative responses to stimuli, respectively.

**Table 4.** Reaction to stimulus with excitement, happiness, and love.

Stimulus	Percentage of cats with active reaction
Cat toys	71.5%
Canned cat food	65.6%
Scratching posts/ pads	53.2%
Laser lights	52.6%
Perch towers/ high places	51.9%
Dry cat food	48.3%
Hunting (indoor with toys, or outdoors)	47.2%

Other reported activities that elicit excitement, happiness, and love reactions from cats included rough-housing/play (34.5%), going outdoors (26.5%), and playing fetch (26%).

**Table 5.** Reaction to stimulus with resistance or aggression.

Stimulus	Percentage of cats with active reaction
Nail trimming	48%
Bathing	43.3%
Receiving medication	34.2%
Restrained on lap	30.6%
Brushing teeth	29.3%
Belly rubs and other petting	37.3%
Being lifted or carried	20%

Other reported activities that elicit reactions of resistance or aggression from cats included being brushed (16.6%) or being hugged/kissed (12%). Many cats were reported to exhibit calm, friendly, and playful behavior with familiar cats in the home (57%) or when visitors enter the home (58%). Reactions of fear were reported for car rides (52%), thunderstorms or fireworks (32.8%), or loud noises heard or unfamiliar cats visible outside the home (35.1% and 24.3%, respectively).



## Grooming Behavior

Grooming behavior is known as one of the most frequent feline behaviors performed on a daily basis. Pet parents were able to select more than one response to the question, “Does your cat lick or groom?”, which means that responses for this question do not add up to 100. It’s probably no surprise that the majority of pet parents (92.9%) reported that they witness their cats grooming themselves every day and that 47.9% of cats were reported to groom their humans! The remaining responses were a combination of cats reported to also groom other animals (42.7%), such as another cat in the household, or objects such as a toy or blanket (12%).



Did you know that beyond their desire to look their best, cats groom themselves to remove smells, such as from food residue, that might make predators (real or imagined) aware of them? This reflects some of their more “wild” instincts that even the most domesticated of cats haven’t abandoned. Cats who no longer groom themselves are cats who need the attention of their veterinarians. Lack of grooming is a sign that something is wrong and that the kitty is likely feeling unwell, so it’s always a good idea to keep tabs on any drastic changes in your cat’s grooming behavior.

## Kneading Behavior

Over 77% of cats represented in our questionnaire were reported to exhibit kneading behaviors (14.6% do not). This behavior is considered a carryover from kittenhood and the process of massaging the mother to stimulate milk production. Out of the cats who were reported as kneaders, the primary kneading targets are blankets (65.9%) or humans (31.8%). A very small percentage of cats were reported to knead other items such as toys or furniture.

Cats were reported to mostly exhibit kneading behavior when they are happy (nearly 30%) or sleepy (around 25%). Some pet parents reported that their cats knead when they want attention (5.4%).

## Hunting Behavior

Pet parents report that their cats enjoy hunting insects (46.8%), rodents (9%), and birds (10%). These hunting behaviors reported largely result in the killing and eating of prey, whereas only a small percentage of cats capture and then release prey. Thirty-five percent of cats were reported to exhibit no hunting behavior at all. Other pet parents reported that they do not let their cats hunt outdoors (34.2%).

## Gifting Behavior

We asked pet parents the question, “Does your cat bring you gifts and carry toys/objects around the house or “mother” other animals or objects?” Nearly 54% of cats represented in the survey do not “gift” presents to their humans. Perhaps it is because these felines think that the “gift” of their presence is quite enough! Thirty-one percent of cats do exhibit gifting behavior, just over 10% exhibit mothering behavior, and 5.5% of cats were reported to do both!



## Catnip Behavior

Seventy-six percent of pet parents reported giving their cats catnip, whereas 24% of pet parents indicated that they do not. When it comes to how cats react to catnip, the majority of responses indicate that cats become playful and love to roll around and/or rub their face in it. That sounds about right! Nearly 30% of kitties get super hyper, while others mellow (20.1%) or calm (14.6%). Interestingly, 6.7% of cats get aggressive and 5.1% have no reaction at all.

We also asked pet parents about the type(s) of catnip treats that they give to their cats. **Table 6** provides a breakdown of responses. We can see that the majority of cat parents are unsure of the type of catnip that they give to their cats.



**Table 6.** Type of catnip that pet parents report giving to their cats.

Type of catnip	Percentage of cats reported
Unsure	74.4%
Silver vine	10.8%
Catmint	10.3%
Camphor, Lemon, Persian, or Greek catnip	2.1%
Valerian or Tatarian honeysuckle	1.5%
Other (e.g., catnip spray or treats)	1%

# Conclusion

We hope you've enjoyed diving into the world of **fascinating felines—bodies, behaviors, and beyond!** Basepaws truly values the contributions of pet parents like you and the support of all those who participate in our citizen science programs that aim to improve the lives of cats everywhere.

This report highlights the value of many different pet parents' knowledge of their cats, which can help us all get to know our own cats even better. As far as we know, our analysis continues to be the most comprehensive and widely available data on a citizen science perspective of feline physical characteristics, nutrition, health, routines and habits, and temperament and behavior. We believe that these details and often longer-term perspectives strengthen our understanding of pets and complement the veterinary records, clinical studies, and peer-reviewed scientific literature on pet health and behavior.

We leave you with a brief summary of key findings from this report:

- Similar to our last report, the majority of pet parents in the Basepaws community are keeping up with regular visits to the veterinarian. Most cats have seen a vet at least once per year.
- In a change from last year's report, over half of the cats represented in the questionnaire are at a normal weight. Keep up the good work!
- The range of Purina pet food products remain a favorite among the felines of the Basepaws community.
- Though you already knew this, the overwhelming majority of fabulous felines in the survey are loving and affectionate toward their pet parents.
- Black cats really are in style! Forty percent of pet parents reported having beautiful, black-coated kitties, some solid in color and the majority with a tabby coat pattern.
- The most common coat length is still short-haired.

Proactive oral health care to keep cats' mouths happy and healthy is still an area where there is much room for improvement. We understand that it can be daunting to implement an at-home routine, but Basepaws is here to help with a variety of actionable resources and an at-home oral health screening test that empowers you to be more in control and make decisions that are proactive, instead of reactive. We also offer regular webinars at no cost to you that are led by veterinarians who are experts in feline oral health. In addition to getting the chance to directly ask vets questions about your cat's oral health during these events, you get connected with a wonderful community of pet parents like you who discuss successful strategies for keeping their cats' teeth in good condition. Together, we can truly change the future of feline oral health!

# Acknowledgements

Basepaws would like to thank all 17,820 pet parents who took the time to participate in this survey and support this citizen science research effort. You have made a valuable contribution that is adding to our collective knowledge about the lives of cats and how we can better collaborate to make them healthier, happier, and longer.

## About Basepaws

Basepaws' mission is to provide pet parents with actionable knowledge for making empowered, proactive healthcare decisions.

In 2016, we became pioneers in feline genetics, an historically understudied and underfunded field. Since then, we launched the world's first at-home oral health test for cats and built the world's largest feline genomic and oral microbiome database. We've become a trusted leader in pet health and our flagship Basepaws Cat DNA test is the most advanced and comprehensive of its kind. This work in feline health has become the solid foundation upon which we are building and launching our canine research and development program to help even more pet parents and their beloved pet families. Stay tuned in 2022 for more announcements on our upcoming canine research programs and products as well as for new updates about all things feline here at Basepaws!

We are proud to collaborate with our valued community of pet parents, veterinary professionals, and industry partners on groundbreaking research that supports the development of affordable, easy to use screening tools for the early recognition and treatment of disease. Together, we are ushering in a new era of pet health!

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Thank you.