

PET FOOD TASTE

TEST

You won't believe what your pet is secretly craving!

BONUS SKILLS SHEET
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HINT: IT'S NOT THIS! Strong smells, like that of fried bacon, can overwhelm dogs' sensitive noses.

A basset hound named Roscoe investigates two bowls. Each is filled with a different brand of dog food. Roscoe sniffs the food. Then he chooses one to eat. Meanwhile, a scientist in a white lab coat carefully notes Roscoe's every move.

Roscoe is a canine taste tester at a pet food science lab. The lab, AFB International in St. Charles, Missouri, is one of dozens around the world. Here, scientists study how to create healthy foods that dogs and cats would like to eat. But there's a catch. The food must appeal to pet owners too. After all, the humans do the buying.

"It's a challenging job," says Angele Thompson. She's a pet nutritionist who works with the Pet Food Institute in Washington, D.C. She and other scientists have observed that what pets like to eat is often very different from what their owners find appetizing.

Multiple Menus

If a cat and a dog went out to eat, they would require different menus. Each species needs a specific set of **nutrients** to stay healthy.

Cats are **carnivores**. They require nutrients found only in meat to survive. Dogs are **scavengers** and **omnivores**. They naturally eat any fruit, vegetables, grain, and meat they can find. This difference may explain why most dogs eat almost anything, while cats are often picky.

The first goal of pet food scientists is to ensure that each type of food has the right nutrients. Then they have to make sure the food tastes good to the animals. Finally, they have to make sure the food doesn't gross out pet owners.

Different Tastes

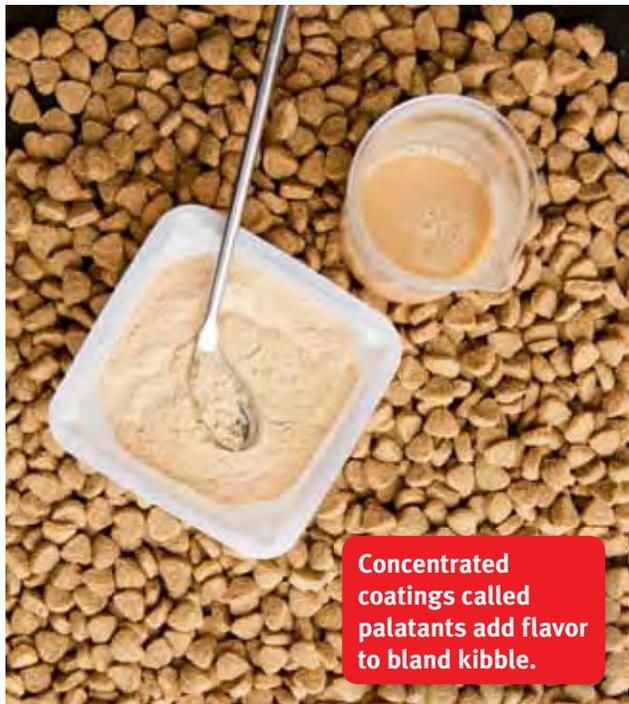
When buying pet food, humans choose smells and

flavors that *they* like. But what people want is often different from what their pets like and need, says Thompson. For example, many people love the smell of bacon. Dog owners want to buy dog food that smells like bacon, because they think their dogs will like it too. But dogs have supersensitive noses, so the

words to know

- nutrient**—a substance that a living thing must take in from its surroundings to be healthy
- carnivore**—an animal that eats only meat
- scavenger**—an animal that eats dead plants and animals
- omnivore**—an animal that eats both plants and animals

PAGE 10: SAM KAPLAN; PAGE 11: ISTOCKPHOTO.COM



A dog's reaction during a taste test indicates its preference.



strong smell of bacon may be overwhelming to them.

In fact, the smells that dogs like best are often disgusting to people. One of dogs' favorite scents is the smell of rotting meat. Dogs' tough digestive system allows them

to eat it without getting sick. But humans won't buy pet food that smells like that.

Cats, on the other hand, prefer food to be mostly odorless. Fresh meat, their natural diet, has almost no smell. But cat owners often assume their felines want

chow with strong meaty or fishy aromas. They don't realize that to a cat, those smells signal that the food might be rotten.

From Yuck to Yum

To make dry pet food, pet food companies blend

grains, meats, fats, vitamins, and minerals. They cook the mixture and form it into dried pellets called kibble. Kibble is nutritious but bland. To make it appetizing, pet food makers coat the kibble with flavorful powders called palatants.

So which flavors will pets like best? That's where taste testers like Roscoe the dog come in. In the two-bowl test, researchers give a dog or cat two dishes of kibble with different kinds of palatants. They note which one the animal sniffs first, which one it eats first, and which one it eats more of. This behavior tells scientists which flavor the animal prefers.

After many trials, the winning flavors go into production. Then, when you fill up your pet's dish, it's *bon appétit* for both of you!

—Stephanie Warren

Talented Tongue

A dog's tongue helps it swallow, taste, groom itself, and regulate its temperature. Taste buds cover the tongue's surface. Each taste bud can detect five flavors: sweet, sour, bitter, fruity, and umami (meaty).



Tiny bumps called papillae cover a tongue's surface. They contain taste buds and help with gripping food.



Each taste bud detects chemicals in food. The taste bud sends a signal to the brain, telling it what flavors are being tasted.

JOHN FEDELE (TOP PHOTOS), BOTTOM FROM LEFT TO RIGHT: ISTOCKPHOTO.COM; © SPL/SCIENCE SOURCE; © OMIKRON/SCIENCE SOURCE

AIMEE HERRING PHOTOGRAPHY

Taste Shifter

Can scents affect taste?

hands-on science

Observe: "Our pets live in a world of smells," says scientist John Bradshaw. He studies cats and dogs at the University of Bristol in Great Britain. With their superpowered noses, dogs and cats use scent to determine if certain foods are fit for eating.

Ask a Research Question: Can smells influence the way humans taste food?

Form a Hypothesis Based on This Question: What happens if we taste one food while smelling another?

Materials: two apple slices • plate • vanilla extract • eyedropper • cotton ball • paper and pencil

Procedure:

1. Place the apple slices on the plate.
2. Bite into a slice of apple. Note how it tastes.

3. Fill the eyedropper halfway with vanilla extract. Squeeze two to three drops on the cotton ball.

4. Hold the scented cotton ball near your nose as you bite into the second apple slice.

5. Chew the apple while holding the cotton ball close to your nose. Note how this slice tastes.

Results: Did you detect any differences in taste between the first and second apple slices? Record your observations.

Conclusions:

1. How did the taste of the apple slices differ between your first and second trial?
2. What do you think would happen if you were to use a different type of extract, such as raspberry, on the cotton ball?
3. When you have a stuffy nose, what do you think happens to your sense of taste? Why?

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