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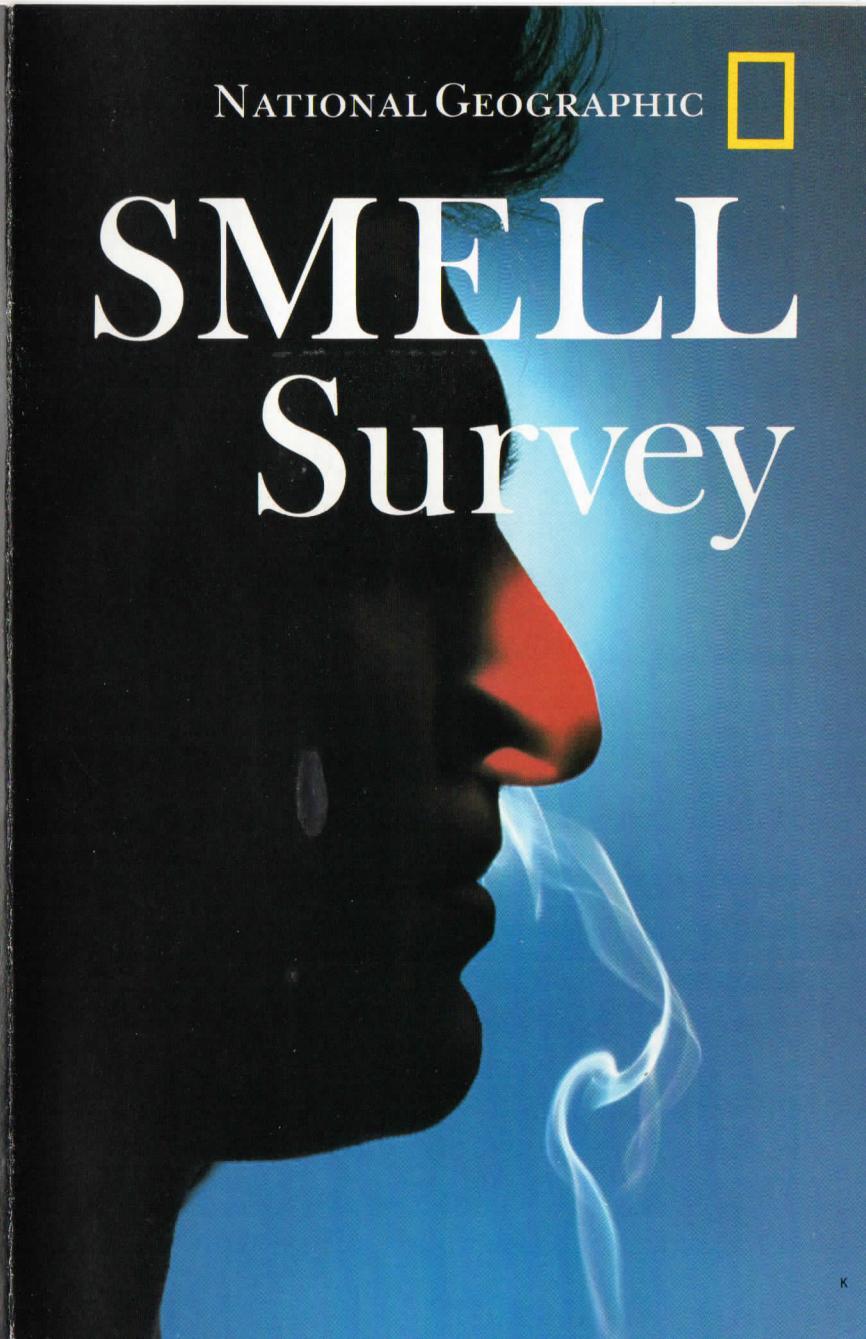
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NATIONAL GEOGRAPHIC



SMELL Survey



Welcome to NATIONAL GEOGRAPHIC's Smell Survey.
With your nose, you are about to participate in the largest
scientific survey ever undertaken of . . .

The Human Sense of SMELL

SMELLS arouse us. Fear, sadness, disgust, longing, love, passion—they're all buried deep in our subconscious, waiting to come rushing to the surface with a single sniff—as with the poet Baudelaire, scenting a woman's hair:

*Here at the downy roots
of every strand
I stupefy myself
on the mingled scent
of musk and tar and
coconut oil for hours . . .
from which I gulp
the wine of memory.*

Suppose you hear an alarm bell ringing. You're distracted, but you don't move from your chair. It keeps ringing. A fire? Probably a false alarm. You peek down the hall, still undecided, hesitating. Let's not look foolish,

you say to yourself.

But just get a whiff of smoke, and WHAM! Every fiber of your being screams FIRE! Without thinking, you're halfway down the stairs. You're gone.

Look at a pencil. Touch a book. Any emotional reaction? Probably not. But there's nothing quite like an odor to drive your emotions. Our sense of smell is tied directly and intimately to the part of our brain most involved with memory and emotion. Odors powerfully evoke in us the essence of our lives: our feelings.

BUT our reactions to an odor largely depend on our experience with it and what our brain remembers. You smell the odor of a varnished hall, and

suddenly the past returns, perhaps your high school, a feeling of dread and insecurity—the bully that day at your locker. To others that same aroma may conjure joy or anger, as their brains tap different memories and emotions.

But often we have difficulty putting words on odors. We don't so much describe a smell, as we express an emotion. "Oh! What is that smell? I know it . . . it's . . . it's Central High—it's that creep Taylor!"

Why are some odors, like the smell of rotten eggs, a universal stink and others, like the fragrance of jasmine, a pleasure to most people?

Why is it that young children are curious about how things smell and don't seem to have an adult's

aversion to stench?

Why do women seem better at identifying odors than do men?

Some people cannot smell certain odors. Is their loss caused by a genetic disability, like color blindness?

Since receptors in the nose constantly replace themselves, how do certain illnesses and injuries cause people to lose their sense of smell? Can it be regained, and how?

OF ALL our senses, smell is the least understood. You have probably seen all the colors you will ever see and heard all the tones you will ever hear. But smell (and flavor, which is mostly smell) seems to have no such limits. And how do you measure it?

Scientists have calibrated sound and light waves, so

that a piano tuner can make sure that your B-flat keys play B flat, and your ophthalmologist can measure the sensitivity of your retina to the color purple. "What happens," asks olfactory scientist Robert Gesteland, "when an odor molecule lands on the nerve receptors in our nose and the brain finally says, 'Ah, fried oysters?' We know practically nothing."

THIS SURVEY will help us learn more about smell. The data from your answers will be tabulated on computers and made available to the scientific community. NATIONAL GEOGRAPHIC reaches nearly 11 million members. With your cooperation we will be able to provide science with a sampling of unprecedented size.

The survey questions have been designed, and the scents selected, by scientists of the Monell Chemical Senses Center of Philadelphia, one of the leading institutes of smell and taste research in the world. In a later issue of this magazine they will report on the results of this survey.

Why should you participate in this survey?

- Science needs your help. Little is known about our sense of smell. By participating in this historic survey, you will make an essential contribution to scientific knowledge.
- You'll have fun. It's not a test you either pass or fail. You may not be able to identify or even to detect all the scents. That information is also important to the survey.
- Science will gain, and you will gain. A future NATIONAL GEOGRAPHIC will contain a report on the survey results and identification of the scents you have scratched and smelled.

How do you take this survey?

1. The survey consists of a questionnaire attached to six scratch-and-sniff panels.

The questionnaire is in two parts. The first part (which is on *both sides* of the questionnaire) asks for information about your age, sex, whether you are right- or left-handed, and, if you are a woman, whether you are pregnant. Please don't be offended. Our perception of odors may be influenced by our body chemistry, age, sex, and, of course, much more. Your answers will be anonymous.

The second part of the questionnaire asks for your reactions to the six scent panels. Before beginning

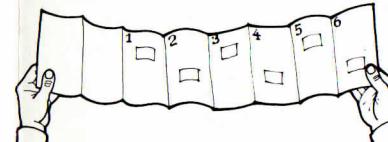
the survey, please be sure you are in a room free of strong odors.

2. Select only *one* member of your family to sniff the scents and answer the questionnaire. A returned questionnaire with reactions from more than one person is worthless. Ask others to wait until you have first scratched *all* the panels and recorded your answers *on the questionnaire*. Then they're free to try their

noses, but the questionnaire must record only *one* person's answers.

3. Using a coin, scratch panel 1, and sniff it. Then record your answers on the questionnaire. Do this with each of the remaining panels. Please answer all the questions in both parts of the questionnaire. (Remember, there are questions on both sides of the survey.)

4. After you have completed both parts of the questionnaire, tear it off at the perforation, fold it, and seal it, then mail it by October 1, 1986. Now please unfold the sheet and begin.



PLACE
STAMP
HERE

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NATIONAL GEOGRAPHIC

SMELL Survey

INSTRUCTIONS: Start here. Answer each of the questions by circling one number or writing in the information requested. Please ignore the computer code numbers in parentheses.

1. Which hand do you write with? LEFT..... 1 RIGHT..... 2 (8)

2. Which hand do you throw with? LEFT..... 1 RIGHT..... 2 (9)

3. How would you describe your work environment? (Circle one number.) (10)

HOME.. 1 FACTORY.. 2 OFFICE.. 3 OUTDOORS.. 4 OTHER.. 5 DO NOT WORK.. 6

4. How would you describe your sense of smell? (Circle one number.) (11)

1 2 3 4 5
POOR EXCELLENT

5. A. How many days a week do you use cologne, perfume, or aftershave? (12)

1-2 DAYS A WEEK.....	1	5-7 DAYS A WEEK.....	3
3-4 DAYS A WEEK.....	2	DO NOT USE ANY.....	4

B. Do you ever use it more than once daily? YES..... 1 No..... 2 (13)

6. A. Have you ever experienced a loss of smell due to the following? (Circle all numbers that apply) (14-20)

EXPOSURE TO CHEMICALS	1	ALLERGY ATTACK.....	1
PREGNANCY	1	UNKNOWN CAUSES	1
FLU, COMMON COLD, SINUS INFECTION.....	1	NO LOSS OF SMELL	1
HEAD INJURY.....	1	(If no, go to No. 7.)	

B. If yes, have you since regained your sense of smell? (21)

YES..... 1 NO 2

7. Have you ever spoken to a physician about your sense of smell? (22)

YES..... 1 NO 2

8. Have you been diagnosed by a physician as having any of the following types of allergies? (Circle all numbers that apply) (23-27)

ANIMALS	1	FOODS	1	NONE	1
POLLEN.....	1	DRUGS.....	1		

(Please start on previous page.)

9. Have you ever been diagnosed as having the following?
(Circle all numbers that apply.)

ARTHRITIS1 HYPERTENSION.....1
DIABETES1 ULCER.....1 NONE OF THE ABOVE.....1

10. Do you currently smoke tobacco? YES.....1 No2

11. What is your age?

(Continue to question No. 12.)

12. What is your zip/postal code? _____ Country? _____ (36-42)

13. A. Are you: MALE1
FEMALE2 B. Pregnant?.....1 (43-44)

14. How would you best describe yourself? (Circle one number.) (45)

BLACK1 WHITE.....2 ASIAN.....3 AMERICAN INDIAN.....4
HISPANIC ..5 OTHER6 PREFER NOT TO ANSWER.....7

15. What is your nationality? _____ (46-47)

INSTRUCTIONS: Please scratch and smell Sample 1 on the attached page. Then fill out this survey form by circling one number for each question.
Answer all the questions for Sample 1 before proceeding to the next sample.

Samples: 1. 2. 3. 4. 5. 6.

A. Did you smell something?

YES1 No2

If no, go to Sample 2.

YES1 No2

If no, go to Sample 3.

YES1 No2

If no, go to Sample 4.

YES1 No2

If no, go to Sample 5.

YES1 No2

If no, go to Sample 6.

YES1 No2

(48-53)

B. How would you rate the quality of this odor?

1 2 3 4 5

UNPLEASANT PLEASANT

C. How intense is this odor?

1 2 3 4 5

WEAK STRONG

D. Did the odor evoke a vivid memory?

YES1 No2

E. Would you eat something that smelled like this?

YES1 No2

NO OPINION3

YES1 No2

NO OPINION ... 3

YES1 No2

NO OPINION3

F. Would you apply something that smelled like this to your body?

YES1 No2

NO OPINION3

G. Which word best describes this odor?
(Circle one number.)

NO ODOR.. 1 SPICY7

FLORAL....2 WOODY...8

MUSKY....3 FRUITY...9

URINE.....4 BURNT..10

FOUL.....5 SWEET...11

INK.....6 OTHER..12

NO ODOR.. 1 SPICY7

FLORAL....2 WOODY...8

MUSKY....3 FRUITY...9

URINE.....4 BURNT..10

FOUL.....5 SWEET...11

INK.....6 OTHER..12

NO ODOR.. 1 SPICY7

FLORAL....2 WOODY...8

MUSKY....3 FRUITY...9

URINE.....4 BURNT..10

FOUL.....5 SWEET...11

INK.....6 OTHER..12

NO ODOR.. 1 SPICY7

FLORAL....2 WOODY...8

MUSKY....3 FRUITY...9

URINE.....4 BURNT..10

FOUL.....5 SWEET...11

INK.....6 OTHER..12

NO ODOR.. 1 SPICY7

FLORAL....2 WOODY...8

MUSKY....3 FRUITY...9

URINE.....4 BURNT..10

FOUL.....5 SWEET...11

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FLORAL....2 WOODY...8

MUSKY....3 FRUITY...9

URINE.....4 BURNT..10

FOUL.....5 SWEET...11

INK.....6 OTHER..12

DETACH, MOISTEN, FOLD, AND SEAL

SAMPLE

1.



- Using a coin, scratch the white square, and smell it closely.
- Answer questions A through G on the survey form for Sample 1.
- Please answer all the questions for Sample 1 before proceeding to the next sample.

SAMPLE

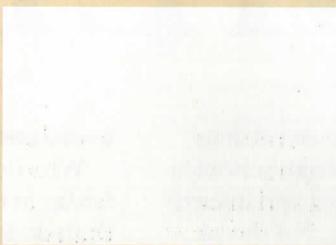
2.

- Using a coin, scratch the white square, and smell it closely.
- Answer questions A through G on the survey form for Sample 2.
- Please answer all the questions for Sample 2 before proceeding to the next sample.



SAMPLE

3.



- Using a coin, scratch the white square, and smell it closely.
- Answer questions A through G on the survey form for Sample 3.
- Please answer all the questions for Sample 3 before proceeding to the next sample.

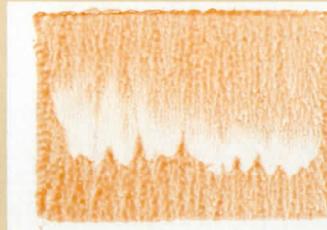
SAMPLE

4.

- Using a coin, scratch the white square, and smell it closely.

- Answer questions A through G on the survey form for Sample 4.

- Please answer all the questions for Sample 4 before proceeding to the next sample.



SAMPLE

5.



- Using a coin, scratch the white square, and smell it closely.
- Answer questions A through G on the survey form for Sample 5.
- Please answer all the questions for Sample 5 before proceeding to the next sample.

SAMPLE

6.

- Using a coin, scratch the white square, and smell it closely.
- Answer questions A through G on the survey form for Sample 6.
- Look through the survey. Have you answered all the questions?

