



LAURENCE KING

Published in 2019 by
Laurence King Publishing Ltd
361–373 City Road
London EC1V 1LR
United Kingdom
Tel: + 44 (0)20 7841 6900
Fax: + 44 (0)20 7841 6910
Email: enquiries@laurenceking.com
www.laurenceking.com

Text © 2019 Clive Gifford
Illustrations © 2019 Pete Gamlen

Clive Gifford has asserted his right,
under the Copyright, Designs and Patents
Act 1988, to be identified as the author
of this work.

All rights reserved. No part of this
publication may be reproduced or
transmitted in any form or by any means,
electronic or mechanical, including
photocopy, recording or any information
storage and retrieval system, without prior
permission in writing from the publisher.

A catalogue record for this book is available
from the British Library.

ISBN: 978-1-78627-392-5

Commissioning editor: Chloë Pursey
Designer: Katerina Kerouli

Printed in China

Laurence King Publishing is committed to
ethical and sustainable production. We are
proud participants in The Book Chain Project®
bookchainproject.com



YOU SMELL!

**AND SO DOES
EVERYTHING
ELSE!**



CLIVE GIFFORD
ILLUSTRATED BY PETE GAMLEN

LAURENCE KING PUBLISHING

CONTENTS

ALL PEOPLE PONG

You Stink!	6
How Smell Works	8
What's the Whiff?	10
The Power of Smell	12
Don't Sweat It	14
Stinkiest Shoes	16
Gas Attack	18

THE NIFF OF NATURE

Animal Aromas	20
Plant Pongs	22
Staking a Claim	24
Saved by Smell	26

THE PUTRID PAST

Smell the Germs	28
Reeking Royals	30
Stink Bombs	32
Odour Beaters	34
City Stenches	36

WEIRD AND WONDERFUL ODOURS

Eu-reek-ah!	38
Scent-sational!	40
Planet Pong	42
Space Smells	44
You Stinker! Quiz	46
Whiffy Words	47
Index	48

SMELL (NOT TO BE SNIFFED AT)

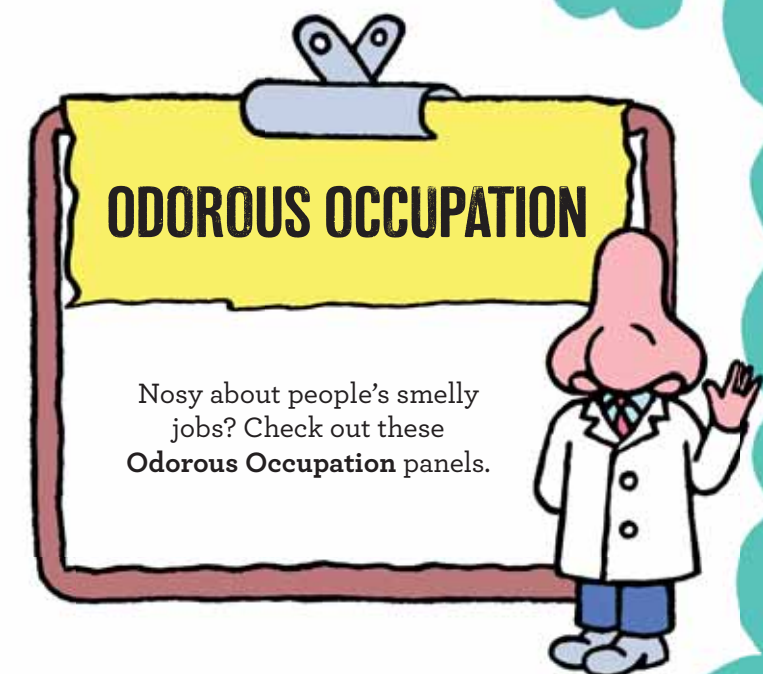
Smell is the Cinderella of senses. It does so much hard work, but it is often forgotten while your other showy senses – such as sight and hearing – take all the attention. Poor Cinder-smella.

Now it's time to put smell back in the spotlight and discover more about this amazing ability. Did you know that all sorts of animals rely on smell to survive? It's true – and you're one of those animals! Your sense of smell warns you of dangers as varied as fire, rotten food and the approach of a stinky school bully.

Smell can affect your mood and emotions, and trigger memories stored deep inside your brain. Oh, and if that wasn't enough, without smell your sense of taste is nothing.

In this book, you'll get up close and personal with the world's biggest stinkers, from peeing pandas to toxic-breathed kings. You'll learn how smells have helped to build empires and bring down entire cities, and how super-stinky inventions are still changing our world.

ALONG THE WAY, KEEP AN EYE OUT
FOR THESE SMELLY SYMBOLS:



YOU STINK!

But it's ok, we all do! Your body has all sorts of stinky systems, from your head right down to your toxic toes. Read on and reek on!

PERSONAL PERFUME

Every person has a natural scent of their own – their body odour. It comes from the gas released by the tiny mites and bacteria that live on your skin and eat your dead skin cells. So glamorous!

CHEESY, FISHY OR FRUITY?

Bad breath can sometimes be a sign of a problem elsewhere in the body. Cheesy breath is linked to nose and sinus problems, fishy breath to struggling kidneys, and fruity breath can be caused by blood sugar issues.

POUNDS AND SCENTS

Ever noticed a metallic smell on your skin after you hold coins? Your sweaty hand is to blame! The sweat reacts with the iron and copper in coins to create the metal pong.



BACTERIA BREATH

Bacteria living in your mouth steal tiny amounts of your chewed-up food – um, rude. Then they belch out foul-smelling gases that can give you stinky breath – double rude!

STINKING STONES

Tonsilloliths, or tonsil stones, are yellow or white clumps of bacteria, mucus and dead cells that gather in the little crevices around your tonsils. They're harmless but they smell disgusting!

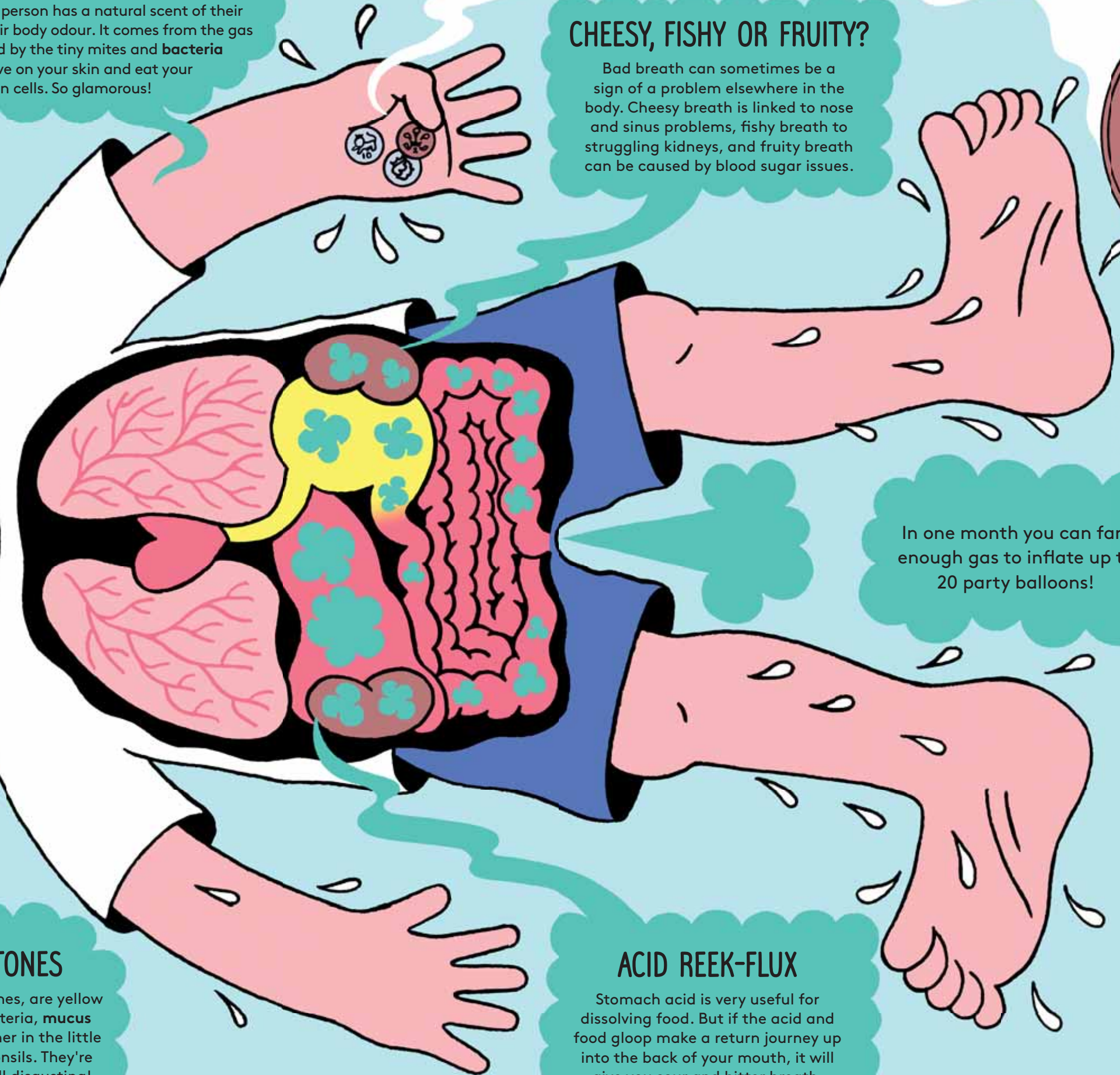
ACID REEK-FLUX

Stomach acid is very useful for dissolving food. But if the acid and food gloop make a return journey up into the back of your mouth, it will give you sour and bitter breath.

In one month you can fart enough gas to inflate up to 20 party balloons!



Your feet can produce up to two cups of sweat a day!



THE POWER OF SMELL

Smell fascinates scientists, not only because of how powerfully it can influence our tastes, memories and emotions, but also because every person experiences smell differently.

Does the whiff of cut grass remind you of playing in the garden when you were younger? Smells can act like keys in your brain, unlocking memories from the past.

SMELL MEMORIES

Long after a smell has faded away, your brain may hang on to the memory of it. But how?

Well, the olfactory bulb – the part of your brain that first receives smell signals from the nose – is linked directly to the hippocampus, a part of your brain that helps form memories.



POSITIVE SCENTS

Scientific studies have shown that certain scents can make some people feel calmer, more optimistic or more alert.

Companies have realized the money-making potential of this, designing and releasing fragrances in stores and hotels.

The aim is to encourage positive feelings that make customers stay longer and spend more.



In 2010 people in North Carolina, USA, were treated to a steak-scented billboard in the shape of a fork holding a piece of meat. A powerful fan wafted the smells of steak and charcoal at passers-by.

SMELL LAB

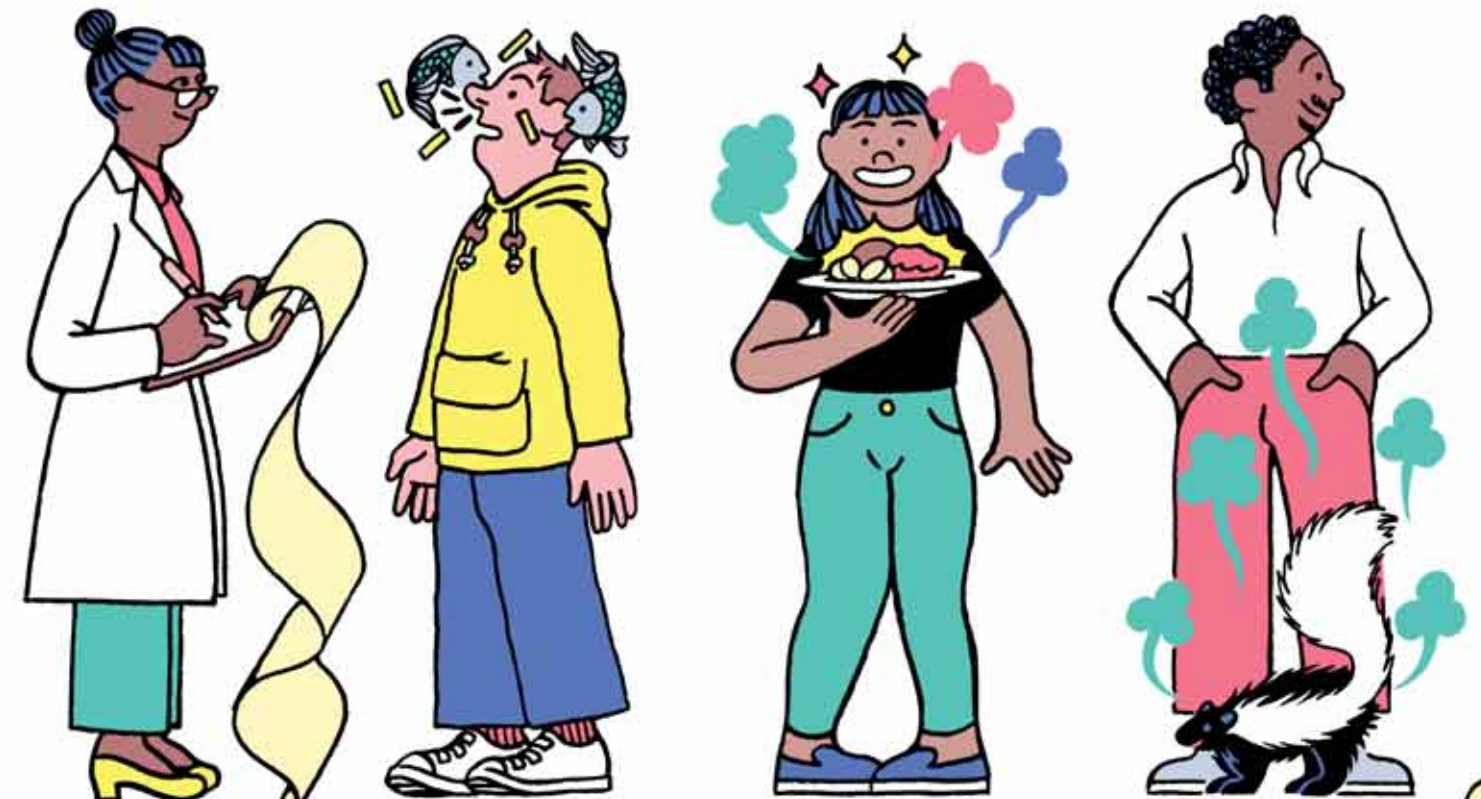
TASTING WITHOUT SMELLING

When you chew food, it releases odour molecules that travel from your mouth up into your nose. If you have a cold and your sense of smell isn't working well, you'll notice your food tastes dull and samey. Ask someone to grate some pear, carrot, onion and apple into four identical bowls. Put on a blindfold, hold your nose tightly and taste a little from each bowl. Can you figure out which is which without your sense of smell?



STRANGE SMELLING

Everyone has a slightly different mix of odour receptors up their nose, which means that each person smells things a little differently. And some people have very strange senses of smell...



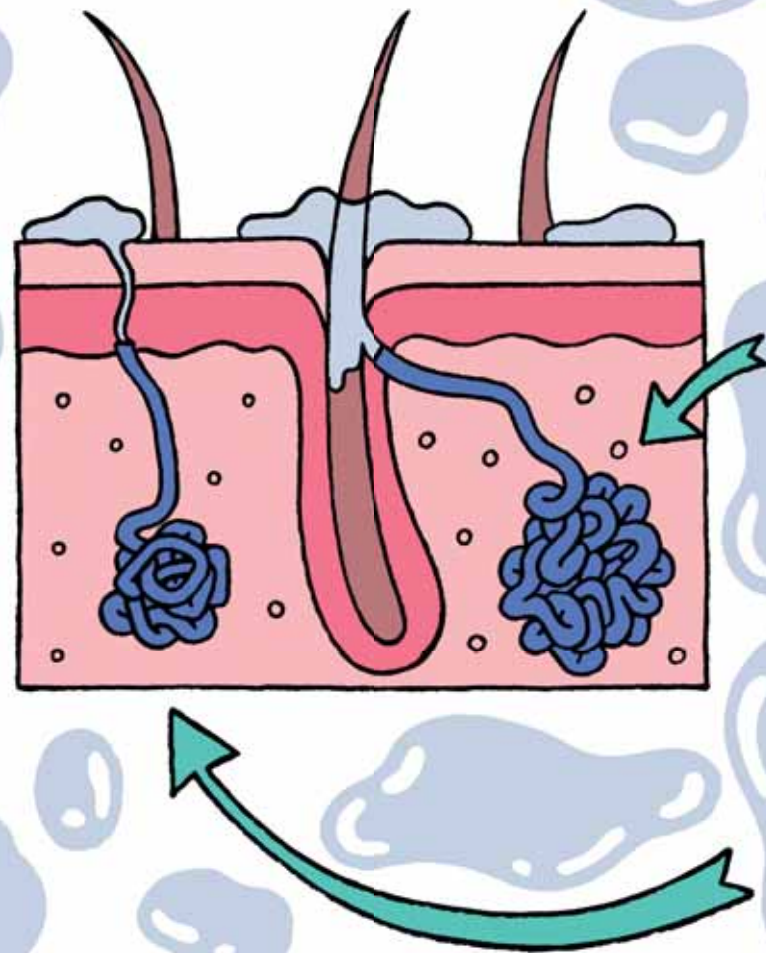
People with Phantosmia can smell odours that aren't actually there, such as fish-and-chip-shop batter and burned toast when neither a chippy nor a toaster is nearby.

Synaesthesia is a condition that makes a person's senses mingle together. They might experience sudden smells when they read words, or see strong colours when they pick up certain scents.

If you can't smell a particular odour, you might have Specific Asnomia. For instance, around 1 in 1,000 people can't smell butyl mercaptan – luckily, because it smells like a skunk!

DON'T SWEAT IT

Sweat can be stinky but it's crucial for stopping your body overheating. If you do an energetic sport, you can easily lose one litre of sweat every hour.



COOL STUFF

When you're too hot, your sweat glands produce perspiration, which leaks out of the 2-4 million holes in your skin, known as pores.

As the liquid evaporates off your body, you cool down. Did you know you have two different types of sweat and sweat gland?

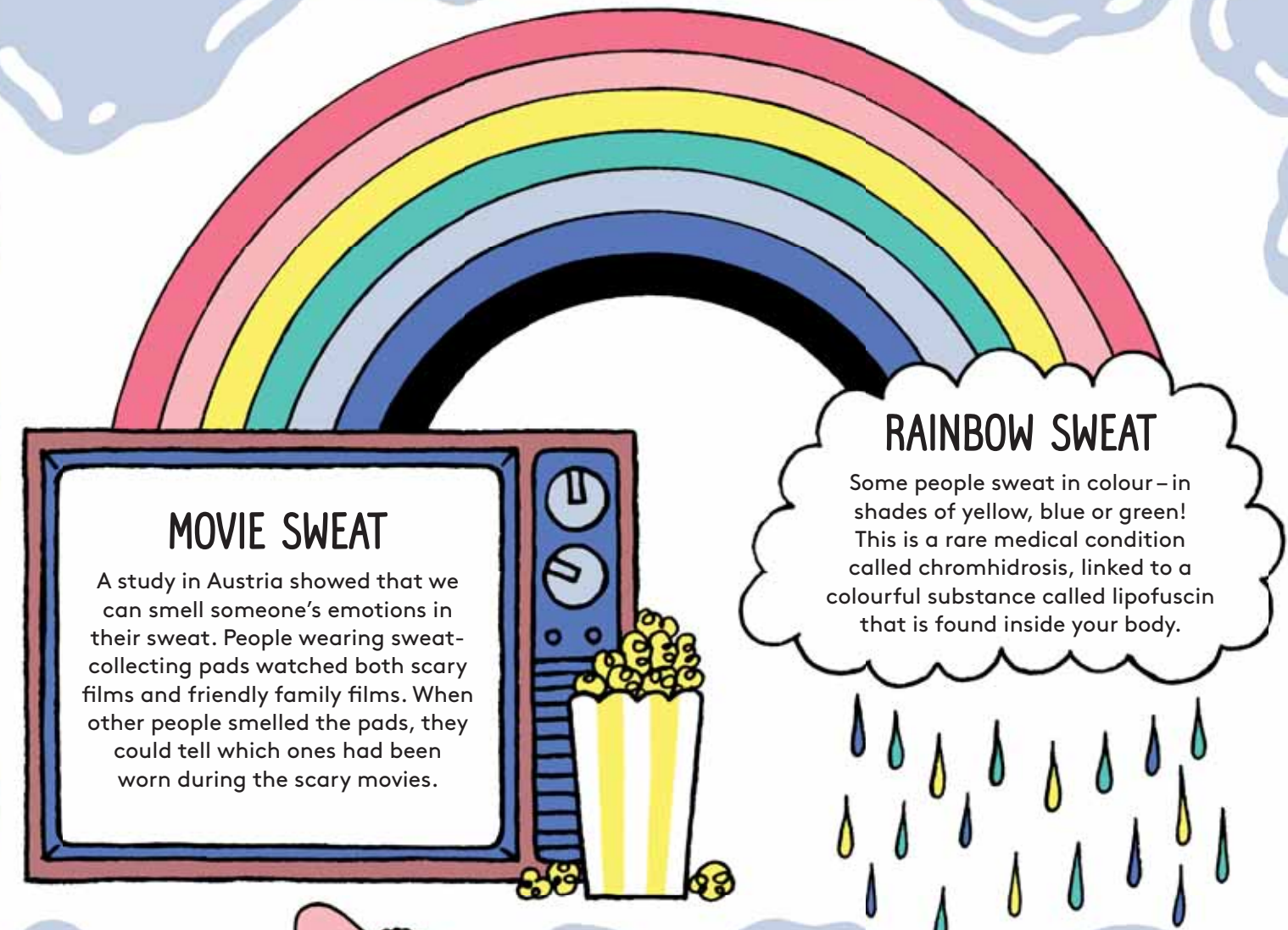
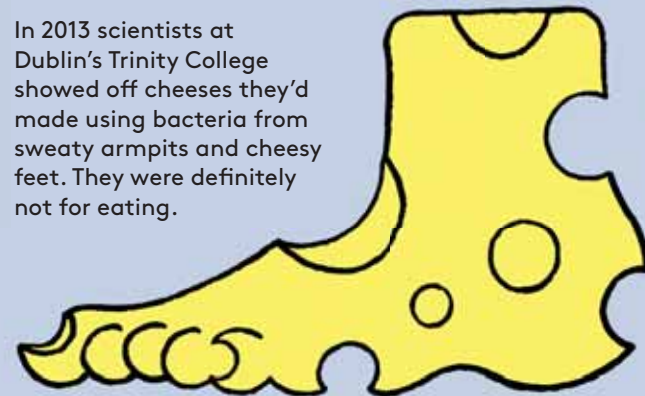
Apocrine glands are found only in certain, usually hairy, places on your body. They release a small amount of thick, oily sweat that contains proteins and fatty acids. This liquid really smells – and the substances created when it is feasted on by the millions of bacteria that live on your skin stink!

Eccrine glands produce clear, thin sweat that is 99% water – with tiny amounts of salts and other substances. This liquid doesn't smell at all when it sits on your skin, which is a good job because you have these sweat glands all over your body.

STINKY FEET

Bacteria love to wallow in the damp, warm nooks and crannies of your sweaty feet. They feast on your dead skin cells and skin oils, then pump out smelly acid waste as they digest their delicious meal. That's what makes your feet all stinky – blame them!

In 2013 scientists at Dublin's Trinity College showed off cheeses they'd made using bacteria from sweaty armpits and cheesy feet. They were definitely not for eating.



MOVIE SWEAT

A study in Austria showed that we can smell someone's emotions in their sweat. People wearing sweat-collecting pads watched both scary films and friendly family films. When other people smelled the pads, they could tell which ones had been worn during the scary movies.

RAINBOW SWEAT

Some people sweat in colour – in shades of yellow, blue or green! This is a rare medical condition called chromhidrosis, linked to a colourful substance called lipofuscin that is found inside your body.



ODOROUS OCCUPATION

ODOUR JUDGE

Deodorants tackle smelly sweat with chemicals that kill off bacteria. But how to know if they are really working? You need an odour judge.

Odour judges work for research and cosmetics companies. Their smell-testing work includes sniffing people's sweaty underarms to test the freshness of a deodorant hours after it was applied.

