Large-print book

Please do not remove from the gallery

Operation Ouch! Brains, Bogies and You

Contents

Introduction

Operation Ouch! Brains, Bogies and You is an interactive, family-friendly exhibition based on the hit CBBC TV show, Operation Ouch.

It explores how your brain and five familiar senses (hearing, touch, sight, taste and smell) help you experience and understand the world around you.

Accessible features

There is step-free access to the exhibition via a lift in stair C on Level 0 of the museum. You can reach the lift by going through the Textiles Gallery. The whole Operation Ouch exhibition is wheelchair accessible.

All gender toilets and a disabled toilet are available on the same level as the exhibition, accessed from the gallery foyer on the left of the ticket desk.

You can borrow access resources, including a sensory map, sensory toys and ear defenders, from the Access Hub in the foyer of the Special Exhibitions Gallery before you go into the exhibition. Please return these to the Access Hub before you leave.

There is bench seating without arms or backrests spaced throughout the exhibition.

Inside the exhibition there is a relaxed zone called Mind Boosters. You can reach this from the Brain HQ area.

All videos with spoken words contain closed captions and BSL interpretation.

If a video or interactive has sound, it is played by speakers or through headphones. All single ear headphones are fitted with hearing induction loops. The 'What's that noise?' interactive in the Hearing zone also has a hearing loop.

Audio descriptions of highlights of the exhibition will be available from April 2025. You can listen to this on your own device by scanning the QR codes in each zone and on the museum website. All the QR codes have NaviLens borders.

There is braille on the edge of the low wall bench seating and the feely box answer flaps in the Touch zone.

There are lots of tactile models and interactives, including a brain in the Brain HQ, a tactile image of a coin and Billy Bones in the Touch zone, and a texture wall in the Touch zone.

Gallery layout

The exhibition is in the Special Exhibitions Gallery, located on Level -1 of the New Warehouse. It can be accessed by stairs and lift from stair C on Level 0 of the museum.

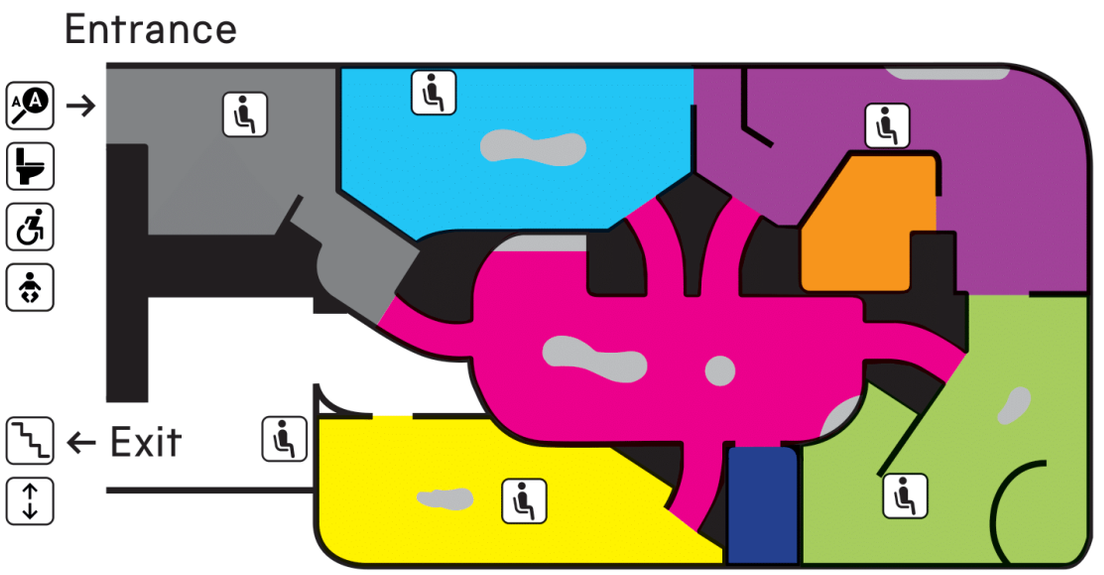
The entrance to the gallery is on the left-hand side of the front desk and the exit is on the right-hand side.

There is a welcome film at the start of the exhibition. The main exhibition is split into five main zones: Brain, Hearing, Touch, Sight and Smell & Taste. You can visit the zones in any order.

In the Touch zone there is an area for children aged 4 and under called Mini Medics. The exhibition also has a quiet zone called Mind Boosters.

There is an interactive exit experience at the end of the exhibition.

Gallery map



- Wall
- Stairs
- Lift
- Seating
- All gender toilets
- Accessible toilets
- Baby changing
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- Brain
- Hearing
- Touch
- Mini Medics
- Sight
- Smell and Taste
- Mindboosters
- Exit
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Are you ready Ouchers?

Time to take part in a sense-sational Operation Ouch! experiment.

Join the Doctors to investigate how your brilliant brain and super senses help you explore everything around you

Brain

Your brain is like a headquarters.

It sorts signals from your senses, checks what's happening inside your body and around you and tells you what to do.

Dream team

Your brain teams up with your senses to help you explore and understand what’s happening around you.

What does my brain do?

Your brain is the boss of your body.

It controls almost everything you do, from moving muscles to doing a poo.

The different bits of your brain work together, but some parts have special jobs.

- **Thalamus** (THA-LUH-MUS)
  Egg-shaped area that organises signals sent from your senses.
- **Cortex** (KAW-TEKS)
  Wrinkly outer layer of your brain, which controls thinking and sensing.
- **Hippocampus** (HI-POH-KAM-PUS)
  Creates memories and puts them into storage.
- **Cerebellum** (SEH-RUH-BEH-LUM)
  Controls movement like running, waving or playing games.

- **Brain stem**
  In charge of breathing, swallowing and keeping your heart beating.
- **Amygdala** (UH-MIG-DUH-LUH)
  Helps you feel your emotions, like crying when you’re hurt and laughing when you’re happy.

Object: Tactile brain model

Mind map

Signals from your senses are sent to the cortex, the wrinkly outer layer of your brain.

Touch, taste, smell, sight and hearing all have their own zones.

Some signals from your secret senses, like feeling hungry or thirsty, are sent to areas deep inside your brain.

Making sense

Your brain is like a detective, sorting sensory clues and deciding what they mean.

Interactive: Signal sorter

Incoming delivery!

Signals sent from most of your senses are sorted by the thalamus, an area in your brain that works like a post office.

The thalamus decides where sensory information needs to go.

Can you sort the sensory signals by shape or colour?

Mind benders

Your brain uses sensory signals and your memories to create its own understanding of the world.

But things aren’t always what they seem.

Your brain can trick you and create illusions – sights, sounds, tastes and smells that aren’t really there.

Try this visual illusion. Do you see the faces or the vase?

What does my nervous system do?

Your nervous system carries signals sent to and from your brain.

Nifty neurons

Your nervous system has billions of nifty neurons that do different jobs.

- Sensory neurons send signals from your senses to your brain.
- Connection neurons pass messages between sensory neurons and movement nerve cells.
- Movement nerve cells carry messages from your brain to move muscles and parts of your body.

Interactive: Speedy signals

Sensory signals use electrical energy to send messages quickly along your nerves.

Signals pass between neurons in a chain reaction, a bit like falling dominoes.

Can you use the dominoes create a chain reaction?

Line up the dominoes between the start and finish lines. Knock over the first one and start a chain reaction.

Did you know?

Your nerve signals can travel faster than a Formula One race car. Vrooom!

Interactive: Nerve network

Your nervous system is your body’s information superhighway.

It carries electrical signals between your brain and the rest of your body.

Can you light up the nervous system?

Push the button.

Secret senses

As well as your five main senses, you also have secret senses that tell your brain what’s happening inside your body.

They can help you stay balanced, tell you when you need a wee and let you know when it’s time to sleep.

Hidden helper

Your secret sense of interoception is your hidden helper.

It can let your brain know what’s happening to the most important organs inside your body.

Think of it as that feeling you might get when you’re hungry, tired or need to cough to clear your throat.

Oucher story: Hamza

My name is Hamza,

I have sensory processing difficulties and I'm autistic.

I'm always climbing and bouncing around. This helps me with my body awareness.

I also love playing with water and slime.

I would like people to know that even though I don't speak much, I understand everything that is going on around me.

I only need some little extra time to process it.

Favourite food: Bubble gum ice-cream

Likes: Climbing and jumping

Interactive: Rapid response

Your brain quickly sends messages telling you how to react to sensory signals, like stopping you falling when you trip.

How fast are your reactions?

Choose a sound or light signal.

Hit the big button when you see the light or hear the beep.

Oucher story: Indigo

My name is Indigo,

I have synaesthesia, which means some of my senses are super connected.

I associate numbers with colours. Some of them even have personalities.

Number ‘6’ is saturated cyan. ‘8’ is a maroon-pink colour.

Synaesthesia also means that I can taste some words. Monday tastes like mashed potatoes!

Favourite food: All foods!

Likes: To listen to all kinds of music.

Object: Jedi Helmet

Jedi mind tricks

This Jedi helmet isn’t from *Star Wars*, but it can see inside your head!

Children wore this helmet around 40 years ago inside the first brain scanners.

Doctors gave it this galactic name to make the test more fun.

The curly copper pipes boosted signals, making the brain scan clearer.

Science Museum Group.
Object no. 1993-1003/2 pt 9

Hearing

Your brain and sense of hearing can help you explore the world of sound around you and keep you safe.

How do I hear sounds?

Your incredible ears turn vibrations in the air into sounds you can hear.

Vibrating sounds

All sounds are vibrations.

When you clap your hands, you move the air, creating a sound wave.

Sound waves travel to your ear, where they vibrate your eardrum. These vibrations are turned into sensory signals for your brain.

Your brain sorts the signals and tells you the sound was clapping hands by comparing it with sounds it has heard before.

Interactive: I’m all ears

Your outer ear is called a pinna.

It’s special dish-like shape helps it catch sound waves and directs them to your ear canal, towards your brain.

Send a message through the sound tube.

Where does the sound come out?

Interactive: High or low

Different sensors inside your cochleae detect high pitches, like a whistle, and low pitches, like grandpa’s snoring.

As you grow older, some of the high-pitch sensors get broken, and they can’t pick up sounds as well as before.

Turn the dial to change the pitch.

What’s the highest sound you can hear?

Object: Cochlear implant

Sensational signals

Cochlear implants change sound waves into signals, like a cochlea, but use wires to send signals to the brain.

This can help some people who are deaf or hard of hearing to hear sounds.

Object no. E2024.0297.1
Credit: Cochlear UK

Interactive: Hairy hearing

Your cochleae are spiral-shaped tubes inside your inner ears. They are filled with fluid and tiny hair-like sensors.

Vibrations from sound waves slosh the fluid, which activates the sensors, sending signals to your brain.

Can you make the hair cells move?

Spin the cochlea.

Did you know?

The name cochlea comes from the ancient Greek word for snail, because of its spiral shape.

Cochlea (KOK-LEE-UH)

Interactive: Good vibrations

Your eardrums are thin, stretchy and strong, like the skin of a musical drum.

They vibrate when sound waves hit them. Your inner ears turn these vibrations into messages for your brain.

Hit the eardrum to make it vibrate.

Interactive: What’s that noise?

Your ears are always alert to what’s going on around you.

Whether it’s a buzzing bee or the beat of a drum, your brain tells you if you need to be careful or dance to the beat.

Can you make Dr Chris react to these silly sounds?

Objects: Ear trumpets

Terrific trumpets

For hundreds of years, before hearing aids were invented, people used ear trumpets to hear better.

Their funnel shape collects sounds, sending them into the ear.

Can you find anything nearby that catches sound like an ear trumpet?

Science Museum Group.
Object nos. A166615, A602547, A602625

Interactive: Best guess

If you hear the clip-clop of hooves, do you think of horses or zebras? What about coconuts?

When you hear a sound, your brain predicts what you're hearing based on past experiences.

But sometimes sounds aren't what they seem.

Can you guess what made these sounds?

Listen then lift the flap to see the answer.

What’s that sound?

Your brain turns signals into sounds you know.

Like the voices of your friends or the ding-dong of a doorbell.

Interactive: Joy of sound

Delightful, spooky, friendly or silly. Sometimes boring but often surprising. Sounds are all around you.

They let you know what’s going on, and make you feel different emotions.

Listen to these sounds.

Spin to choose a picture that matches how the sounds make you feel.

Put your hands on

All sounds are made of vibrations.

Can you feel the music?

Touch to feel the beat.

Sounds all around

With your sense of hearing, you can listen to a crackling fire or the rumble of thunder.

Oucher story: Alfie

My name is Alfie,

I was born blind, but I have learned how to use my sense of hearing to move around.

When I walk, I tap my cane and listen to the sound it makes. Different surfaces make different sounds.

My amazing sense of hearing also means, I hear the ice cream van before everybody else!

Favourite food: Pepperoni pizza

Likes: Playing the piano and technology

Interactive: Balance beam

Can you cross the balance beam?

Brilliant balance

What can stop you from falling over?

Your secret sense of equilibrioception.

Tiny sensors inside your ears send signals to your brain that can keep you balanced.

They detect the position of your head and tell your brain if you’re sitting up, spinning or hanging upside down.

Why do I hear?

Your sense of hearing can let you enjoy music and warn you if danger is near.

Interactive: Boogie bones

Whether you tap your feet or swing your arms, your brain loves to make you dance.

Most people move to a beat because music activates the cerebellum, the part of your brain that controls movement and balance.

Move and dance to the rhythm of the music.

Touch

Your brain and sense of touch let you feel things, like when something is hot or cold, smooth or sharp.

Why do I feel touch?

From creepy-crawlies to a thorny bush, sensors in your skin tell your brain when something is touching you.

Interactive: Sensitive skin

From the top of your head to the tip of your toes, your skin is full of touch sensors.

Some areas, like your fingers have more sensors than others, making them more sensitive to touch.

Can you push the pins with your body?

What do they feel like?

Hilarious homunculus

This funny-looking homunculus shows the areas of your skin where you have the most touch sensors.

Your hands, feet, lips and tongue are more sensitive than other places, like your back and legs.

Happy hugs

Do you feel better after a hug? You have both emotional and practical touch sensors.

Emotional sensors work when you are hugged or cuddled. They help you feel happy and safe.

Practical sensors help you to do everyday things, like drawing and colouring.

How do I feel touch?

Your touch sensors send signals to your brain about everything you touch, from smooth glass to soft grass.

Oucher story: Dan

Dan’s parents say,

When Dan is feeling stressed, human touch helps him.

After a stroke, Dan became non-verbal and unable to move parts of his body. This makes it hard for him to communicate how he’s feeling.

Holding or squeezing his hand makes him feel calmer.

Favourite music: Fleetwood Mac’s ‘Peacekeeper’

Likes: Manchester City

Did you know?

Your skin is only a few millimetres thick, but it’s actually the largest and heaviest organ in your body.

Terrific textures

Fuzzy peaches, crumbly sand, hard rocks. Your skin helps you feel all sorts of textures.

Interactive: Magic hands

Your sensitive hands can feel vibrations and pressure. This helps you to work out if you're touching a slimy worm or a spiky hedgehog.

But your sense of touch can be tricked.

Gently rub your hands on both sides of the mesh.

Do you feel hard metal or soft velvet?

Did you know?

The skin renews itself every 28 days.

Objects: Touchpiece

Lucky charms

Five hundred years ago people believed that the ill could be cured by the touch of a king or queen.

Henry VIII gave coins he had touched to sick people in the street.

They thought these coins would heal them.

Touch the coin. How does it feel?

Science Museum Group
Object nos. A125611, A641050, A641051

Interactive: Fabulous fingertips

Your super-sensitive skin sensors detect temperature, pressure and vibration.

They are so sensitive that you can tell what something is without even looking at it.

Can you guess what’s hidden inside the boxes?

Interactive: Joy of touch

Soft, rough, crumbly or slimy.

Sometimes gross and other times nice.

The world is full of textures and exciting things to touch.

Get hands-on!

What’s the softest texture you can find?

Too hot or too cold?

To make sure bath time is perfect, sensors in your skin help you detect temperature.

They tell you if your bath is icy cold, scalding hot or just right.

What is your body doing?

Your secret sense of proprioception helps you know where all your body parts are – even with your eyes closed.

Limb location

Tiny springy sensors in your muscles, joints and tendons tell your brain where your different body parts are.

When you move your arm to catch a ball or cross your legs, your muscles send a signal to your brain, telling you what your arms and legs are doing. Amazing!

Interactive: Move your muscles

Close your eyes and move your arm to the side.

Sweep it round to touch the tip of your nose.

Without your sense of proprioception you wouldn’t be able to do this.

Ouch!

Pain has special sensors. Without them you wouldn’t know if you were hurt and when to ask for help.

- **Physical**
  Sharp needles, pointy rocks, thorny roses. All of these can cause you pain.
- **Temperature**
  From freezing ice to burning fire, some temperatures can hurt.
- **Chemical**
  Poisons, acids and even garlic trigger your chemical pain receptors.

Why do I laugh when I’m tickled?

You can feel two types of tickle.

One is soft and gentle, like an ant crawling up your arm. The other one is full-on and can make you laugh or squirm.

Interactive: Tickle monster

Tickling activates the part of your brain that deals with emotions.

You laugh because it’s surprising.

But did you know that you can’t tickle yourself? It’s because your brain already knows what’s coming. Smart!

Can you use the feather to tickle Dr Chris’ foot?

Mini Medics

Babies and toddlers use their senses to discover the world around them.

As they explore, their brain and senses develop.

This area is a space for children aged 4 and under to play safely.

Inside the womb

Barely the size of a kidney bean, you could already feel your surroundings.

As you grew to the size of a lemon, you were able to taste when mum ate something sweet.

By the time you were the size of a banana your eyes could sense light and your ears might have heard sounds.

Growing brains

When you are born, you have most of the brain cells and neurons that you will ever need.

As you play and explore new connections form between neurons in different areas of your brain.

These new pathways and connections make a kid’s brain grow.

- At two years, you have twice as many brain connections, as grownups.
- The brain trims and tidies connections as you grow, so it can work more efficiently.
- When you are at pre-school age, your brain is four times bigger than when you were born.

Touch

Babies learn by touch.

They have extra-sensitive touch sensors in their mouth and lips, which is one of the reasons they like to chew things.

Sight

When babies are born their sight is still developing.

They can mainly see about 30cm from their face, and only in black and white.

This is why they like to look at bold patterns.

Taste

Children have more taste buds than adults, and are programmed to reject bitter tastes.

This is why some kids don’t like foods such as broccoli or Brussels sprouts.

Smell

Babies smell... and it’s not just their stinky nappies!

They have an excellent sense of smell that helps them recognise the scent of milk.

Hearing

Babies can hear sounds in the womb.

By 18 months, some toddlers can copy animal sounds and move rhythmically to music.

Sight

Your brain and sense of sight create a picture of everything you can see around you, from tiny bugs to great big mountains.

Spectacular sights

Your sense of sight can help you see the colours of a beautiful painting and the sparkle of the stars.

Interactive: What makes bananas yellow?

Light is made up of many colours, like a rainbow.

When light hits a ripe banana, yellow light bounces off it, hitting the light-sensitive retinas at the back of your eyes.

Your retinas send signals to your brain, which tells you the banana is yellow.

Can you make a rainbow?

Move the spinners to play with light.

Confusing colours

Lots of people are colour-blind and see colour in their own way.

The sensors in some people’s eyes make their brains detect some colours differently. What looks like red and green to some, might appear blue or purple to others.

Red–green colour blindness can make it hard to see the colours in traffic lights.

How do I see?

Your remarkable retinas turn light into electrical signals, which your brain turns into pictures.

Object: Bionic eye

Bionic eye

This amazing invention restores some of the sight of completely blind people who have broken retinas.

Special glasses and a tiny chip placed in the eye send light signals to a patient’s brain without using the retina.

Groundbreaking!

Object no. E2024.0292.1
Credit: Moorfields Eye Hospital

Interactive: Upside down

Waves of light go through your pupils. They are bent by the curved lenses at the front of your eyes.

As the picture hits the back of your eyes it turns upside down like in this big mirror.

But don’t worry – your brain is smart enough to flip them the right way round.

What do you look like in this mirror?

Rods and cones

Your retinas have two types of sensors that send signals to your brain: rods and cones.

Rods let you see in black and white and work better in the dark.

Cones let you see in colour and work best in daylight.

Interactive: Light writing

The back of each eye is covered by the light-sensitive retina.

Your retinas are like cameras. They capture the light and send signals to your brain, which turns them into pictures.

Draw with the light pens on the retina.

What signals can you send?

Why do I see?

Your sense of sight can help you read a book or cross the road safely.

Did you know?

The muscles you use to blink are the fastest in your body.

Object: Illusion plates

Who is taller?

It looks like Fritz is taller than Paul, but they are actually the same size.

We don’t know why your brain gets confused. Scientists think it’s because the long side of Fritz is next to the short side of Paul.

Are these models the same size?

Science Museum Group
Object no. A680017/1

Interactive: Trick of the eye

Many of us rely on our eyes to make sense of the world.

But beware: your sight can be tricked!

What you see is the brain’s best guess, but sometimes your brain gets it wrong. Oops!

Sneaky spirals

Are these spirals or circles?

Trace one of them with your finger. They are actually perfect circles.

Tricky tiles

Are these tiles straight or wonky?

You might not believe it, but each horizontal line is perfectly straight.

Devious dots

Can you see the ghostly dots?

The dots are just a trick of the eye, they’re not actually there. Weird!

Curious circles

Is the middle circle on the left smaller?

Both middle circles are actually the same size. But the large circles around the outside of the circle on the left make the it look smaller.

Lying lines

Which line is longer?

They are both the same size. The direction of the arrows makes them look different.

Interactive: Side eye

What's behind you?!

You have central and peripheral vision. Central vision is what you see in front of you.

Peripheral vision is anything you see out of the corner of your eyes. It lets you notice things without moving your head.

Look straight ahead.

Stretch your arm in front of you and move it slowly to the side.

How far can you move it before you can't see it any more?

Why do I feel sleepy?

You know when it’s time to wake up or to go to bed thanks to a sensor in your retinas.

Zzz-leepy eyes

Your retinas have a special sensor called melanopsin that detects changes in light.

It helps you feel sleepy at bedtime.

Everyone has this sense, even if they can’t see.

Oucher story: Nate

My name is Nate,

I am Deaf and I wear a cochlear implant, which helps me hear better.

I use both British Sign Language (BSL) and English, which makes me bilingual.

My mum and dad taught me to sign when I was born. I was only seven months old when I did my first sign.

I love running and football. I would like people to know that Deaf people can do anything!

Favourite food: Margherita pizza

Likes: Manchester city

Interactive: Talking hands

Some people, like those belonging to the Deaf community, use their sense of sight to communicate.

British Sign Language is expressed through hand and body movements.

Can you sign this word?

Interactive: You’ve been shrunk!

Place yourself on the green square and another person on the triangle.

Ask your grown-up to snap a photo from the circle.

Illusion designer: Olivier Redon and Chloe Redon

Interactive: Face flip

Is there something strange going on with Dr Chris's face?

His eyes and lips have been turned upside down, but when his whole face is upside down you can't tell!

Turn the wheel to find out.

Shades of grey

Is this picture of Dr Ronx in black and white or colour?

It is actually black and white! It has a colourful grid over the top that makes it seem like it's in full colour.

Negative image

Stare at the dots in the middle of Dr Xand's face for 20 seconds, then look at the wall. What do you see?

This effect is called an after image, the image you get after you've stopped seeing something.

Did you know?

You blink 20 times a minute.

That’s over 10 million times a year. Wow!

Mindboosters

This mind-boosting room is a relaxing space.

Here you can use your senses to help you feel calm.

Taking a break to reset can help when your brain gets too many signals and you feel stressed or overwhelmed.

Oucher story: Annabelle

My name is Annabelle,

I have autism and sensory processing difficulties.

I get overwhelmed with loud sounds and crowded places.

Smells, tastes and touch can sometimes feel like too much.

Despite this, I'm very brave and I don't let anything stop me.

Ear defenders, fidget toys, my fluffy pyjamas, and sensory lights all help me calm down.

Favourite sport: Field hockey

Likes: The Mandalorian

Interactive: Sensory stress busters

Sometimes your feelings can pile up on top of one another, making you feel overwhelmed.

Relaxation techniques, like mindfulness and meditation, can help you work out what you’re feeling and why.

Relax and take a break to reset.

Smell and Taste

Your brain and senses of smell and taste help you decide what’s safe to eat.

They warn you of danger and give your food flavour.

Sticky snot

Snot might be gross but you need it to smell.

When you breathe in, a layer of sticky snot catches odour molecules that enter your nose.

These trapped tiny molecules touch your smell receptors and signals to your brain.

Did you know?

You make enough snot to fill two bathtubs every year.

Interactive: Lock and key

Smell and taste work like a key fitting in a lock.

When the shape of a tiny smell or taste molecule matches with a receptor in your nose and mouth, your brain knows if it’s stinky socks or a sweet strawberry.

Can you match the shape of a molecule with the right receptor?

Oucher story: Joshua and Rocky

I’m Joshua and this is Rocky,

I suffer from sudden changes in my blood sugar.

When my blood sugar is too low it can trigger epilepsy.

Rocky’s amazing nose detects when my sugar levels drop and alerts my mum.

He is very persistent, his nose won’t stop twitching until mum checks in on me.

My dog’s powerful nose has kept me out of hospital.

Favourite food: Margherita pizza

Likes: Football, cricket and golf

Rocky’s favourite treat: Sausages

Did you know?

Dogs can detect scents up to 12 miles away.

That’s the same distance between this museum and Bolton!

Why can I taste?

Your taste buds help you to enjoy food and keep you safe by telling you to spit things out when they’re not good to eat.

Fabulous flavour

Did you know that you taste with your nose?

When you chew, food releases chemicals that travel to your nose.

The combination of smell and taste gives you flavour. Yum!

Interactive: Trick your taste buds

Your brain trusts your eyes more than your taste buds.

It connects flavours with colours. If food changes to another colour, does it change the flavour?

Spin the wheel.

What would a blue carrot taste like?

Tasty tastes

Your mouth has five different taste sensors that help you detect the food you need to stay healthy.

- Sweet taste buds for honey.
- Sour taste buds for lemons.
- Bitter taste buds for broccoli.
- Umami taste buds for mushrooms.
- Salty taste buds for table salt.

Interactive: Play with your food

Eating involves using different senses.

Taste, smell, texture, how it looks and even how it sounds when you chew - they all help your brain decide if you like something new.

Can you use the food items to make a funny face?

Interactive: Scented memories

Do smells remind you of a person or a place?

Smells are sorted in the amygdala, the part of your brain that deals with emotions and memories.

Did you know?

The planet Mars smells like farts.

Who knew space was so stinky?

Interactive: Nasty or nice?

Your nose has over 400 smell receptors that can detect up to a trillion smells, from stinky farts to freshly cut grass or a home-made cake.

Can you get Dr Chris to react to these smells?

Does he find them nasty or nice?

Objects: Vinaigrettes

Deadly whiffs

For hundreds of years, people believed illnesses were caused by stinky smells.

To avoid getting ill, they would wear little pendants filled with different scents – like vinegar, musk or sandalwood – and sniff them to hide bad smells.

Take a sniff and go back in time.

Science Museum Group
Object nos. A642124, A642134, A642156

Why can I smell?

Is your toast burning? Have you stepped in poo?

Your sense of smell can tell you about what's happening around you.

Time to go?

This is the exit.

Have you visited each of Dr Chris's senses?

Put on your bogie hat and let's get snotted!

Head over to BBC iPlayer for more Operation Ouch!

From sneezes and snot to pimples and poo, nothing escapes the Doctors' crazy experiments.

Scan the QR code to watch.

Oucher story: Kiyomi

My name is Kiyomi,

I like this to be neat and I struggle when I make mistakes. This means that sometimes I can get very upset.

With the help of school, I have learned tools to regulate my emotions.

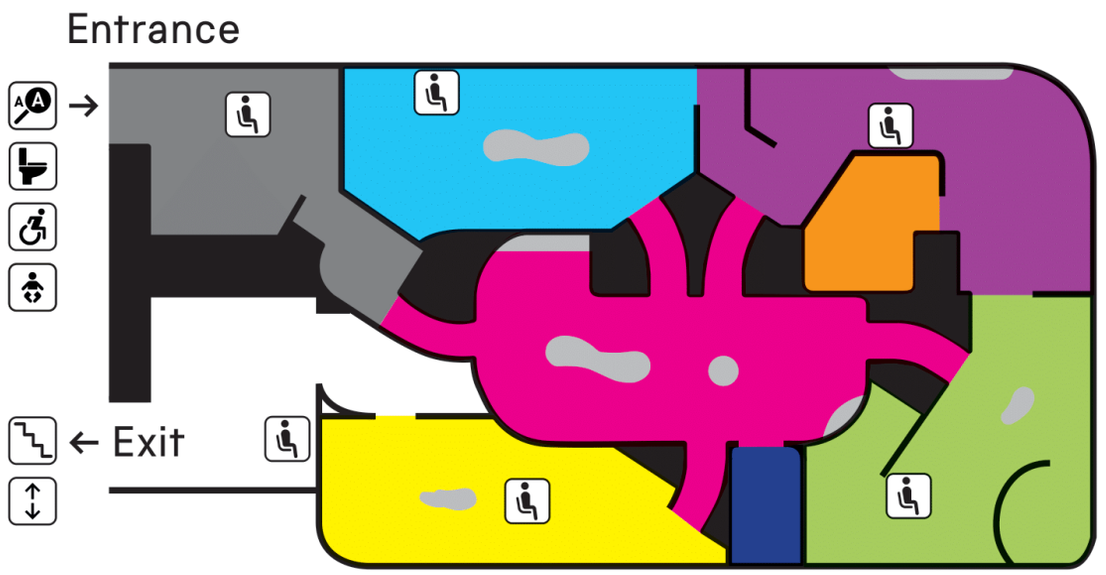
Breathing exercises, colouring and a little extra time all help me feel calmer.

I love dancing and taking selfies, and despite struggling sometimes, I am getting better every day.

Favourite food: Jollof rice

Likes: Dancing

Gallery map



- Wall
- Stairs
- Lift
- Seating
- All gender toilets
- Accessible toilets
- Baby changing
- Large print book

- Brain
- Hearing
- Touch
- Mini Medics
- Sight
- Smell and Taste
- Mindboosters
- Exit
- Entrance