



LEARNING
ACTIVITIES FOR
KS2/3

KAY'S MARVELLOUS MEDICINE

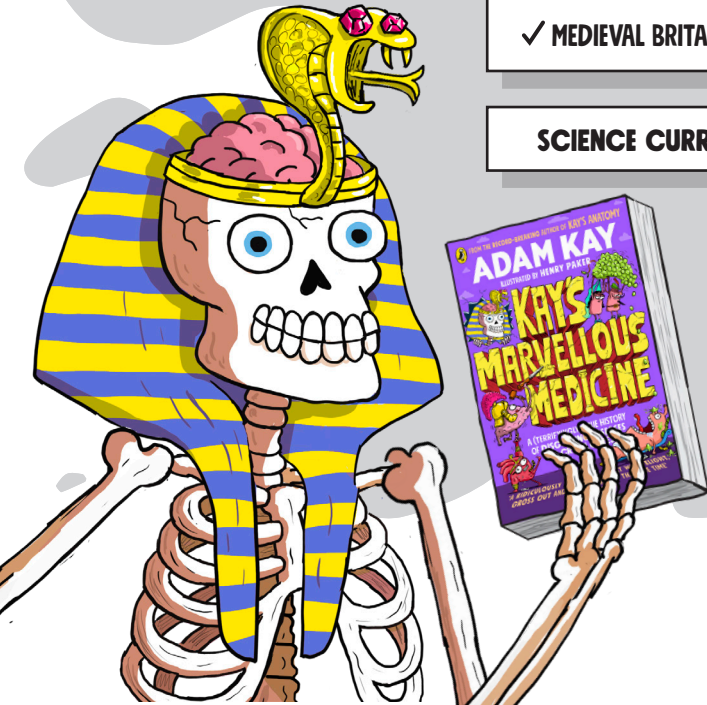
ADAM KAY



THESE FUN ACTIVITIES HAVE BEEN DESIGNED FOR CHILDREN AGES 8+ TO COMPLETE IN THE CLASSROOM OR AT HOME. THEY WILL HELP CHILDREN UNDERSTAND THE HISTORY OF MEDICINE (INCLUDING ALL THE GRUESOME, GORY BITS) FROM THE ANCIENT CIVILIZATIONS TO THE PRESENT DAY.

KS2 SCIENCE CURRICULUM LINKS: ✓ ANCIENT EGYPT ✓ ANCIENT GREECE ✓ ANCIENT ROME
✓ THE ACHIEVEMENTS OF THE EARLIEST CIVILIZATION ✓ THE ACHIEVEMENTS OF NON-EUROPEAN SOCIETIES
✓ MEDIEVAL BRITAIN ✓ BRITAIN SINCE 1066 ✓ FLORENCE NIGHTINGALE ✓ MARY SEACOLE ✓ THE HISTORY OF MEDICINE

SCIENCE CURRICULUM LINKS: ✓ KEY SCIENTIFIC DISCOVERIES ✓ INFLUENTIAL SCIENTISTS ✓ THE IMMUNE SYSTEM



A GROSS AND
GRUESOME HISTORY OF
THE HUMAN BODY

ILLUSTRATED BY HENRY PACKER

ABOUT THE BOOK

The olden days were pretty fun if you liked wearing chainmail or chopping people's heads off. But there was one **TINY LITTLE** problem back then . . . Doctors didn't have the slightest clue about how our bodies worked.

It's time to find out why Ancient Egyptians thought the brain was just a useless load of old stuffing that might as well be chucked in the bin, why teachers forced their pupils to smoke cigarettes, why hairdressers would cut off their customers' legs, and why people used to get paid for farting. (Unfortunately that's no longer a thing – sorry.)

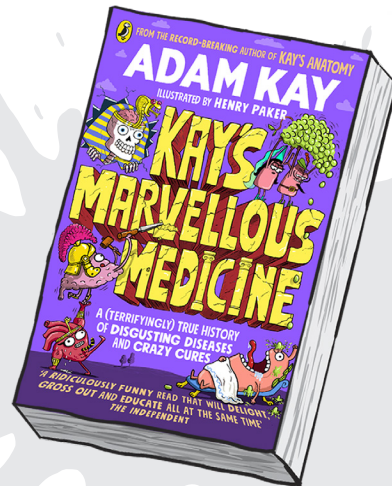
You'll get answers to questions like:

Why did patients gargle with wee?

How did a doctor save people's lives using a washing machine, a can of beans and some old sausages?

What was the Great Stink? (No, it's not what doctors call your bum.)

So, if you're ready, pop a peg on your nose (there was a lot of stinky pus back then), pull on your wellies (there was a lot of poo around too), wash your hands (because *they* certainly didn't) and explore this gross and gruesome history of the human body!



COLOUR THIS!



ACTIVITY ONE: MAJOR MEDICAL MOMENTS



Below are some important moments in the history of medicine.

Cut them out and put them in the order you think they happened.
Which do you think happened first? Which do you think happened recently?

Doctors discovered that smoking was dangerous. Before then, doctors thought smoking was good for you – I don't like to call people idiots, but . . .

The microscope was invented and suddenly everything looked massive.

Antibiotics were discovered by Sir Alexander Antibiotic. I mean Sir Antibiotic Fleming. Sorry, Sir Alexander Fleming. That's better.

The first X-ray was performed. I've got no idea what the X stands for. Xylophone, maybe?

What medical discoveries might be made in the future?
Turn to page 174 of *Kay's Marvellous Medicine* for some predictions!

The first medical school was opened. Before that, presumably people just guessed how to be doctors?

The first kidney transplant took place, soon followed by liver transplants, heart transplants and bum transplants. (Maybe not bum transplants, actually.)

The coronavirus pandemic swept through the world.



Marie Curie discovered radiation and then everyone's houses were nice and warm. No, hang on, that's radiators. Radiation is a treatment for cancer.



Hippocrates realized that illnesses aren't caused by magic. Apologies if you thought that illnesses were caused by magic and this is a massive spoiler.



Adam Kay was born, the most handsome genius in all of medicine.



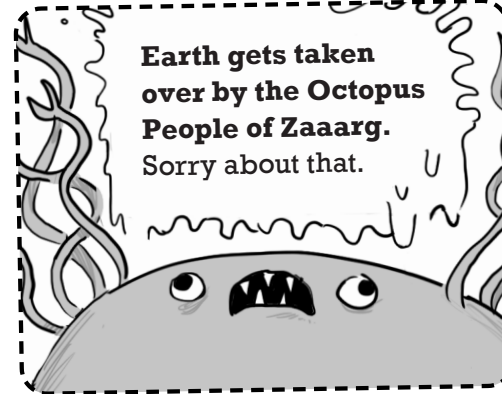
Doctors discovered that the heart pumps blood around the body. But then again, they also reckoned that poo flowed out of the heart . . .



The Romans used their brains and realized that the brain is in charge of thinking.



Earth gets taken over by the Octopus People of Zaaarg. Sorry about that.



FUN FACT!

The first records we have of doctors sewing up people's guts are in books from India about three thousand years ago. Did they use cotton thread? Bronze wire, maybe? Or did they get giant ants, make them clamp their jaws over the wound, then twist off their bodies, leaving a line of decapitated ant heads along the wound? Yep – you guessed it! They'd basically invented a kind of staple made from ants. Surgeons still use staples to stitch intestines today (although these days no ants get decapitated in the process).



The first anaesthetic was given, so patients could sleep during their operations instead of going 'AAAAAAAAGH! STOP!'

ACTIVITY TWO: NURSING IN THE 1800s

If you have to go into hospital for any reason these days, you know you're going to be looked after really well in totally clean surroundings – but two hundred years ago hospitals could actually make you sicker. They were so filthy that rich people would pay loads of money to be treated at home underneath their own duvet to avoid catching any nasties in hospital.

You know the bit under your bed that never gets hoovered? The bit with mountains of dirt and grime and snotty old tissues and the legs of dead insects? That's what a hospital looked like on a good day. Well, until an amazing nurse called Florence Nightingale decided to shake things up.

Florence was born in 1820 into a rich family – she described the holiday home her parents owned as 'a small house with only fifteen bedrooms'. She knew from a very young age that she wanted to help people. After she trained as a nurse, Flo went off to work in a hospital in what is now called Turkey, where British soldiers were fighting in the Crimean War.

She was shocked that nearly half of the patients in the hospital there were dying, mostly because of infection, and she was sure it was because of terrible hygiene. She arranged for a new hospital to be built that was much cleaner, and introduced extremely strict rules about hand-washing. And it worked! Previously, half of all the patients were dying, and suddenly only two out of a hundred were. **Pages 108 – 111**

1. Why did rich people two hundred years ago pay lots of money to be treated at home rather than in a hospital?

2. When was Florence Nightingale born?

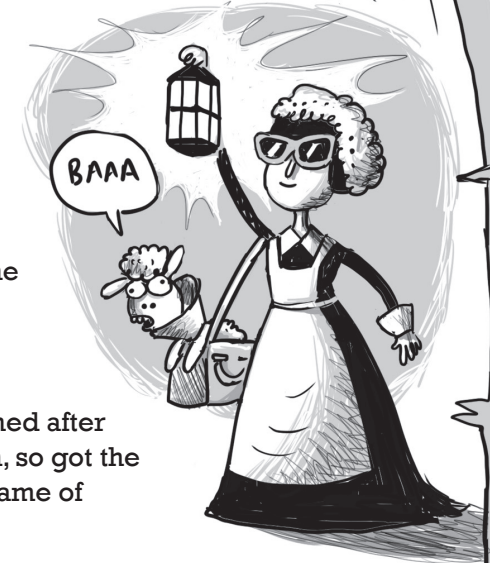
3. Where did Florence go after she'd trained as a nurse?

4. Why was she shocked when she arrived at the hospital?

5. What changes did Florence make and what impact did they have?

FLORENCE NIGHTINGALE: FIVE FACTS AND A LIE

1. She was known as the Lady with the Lamb because of an injured baby sheep she would always carry around with her.
2. She was named after the city she was born in – Florence in Italy.
3. Her sister was also named after the city she was born in, so got the slightly more unusual name of Parthenope.
4. She was the first woman (other than the queen) to have her picture on a UK banknote.
5. She hated having her photograph taken, and there are only a couple of photographs of her in existence. (She definitely wouldn't have used Instagram.)
6. She was a major maths whizz and developed a new type of pie chart. (That's a way to show data using pictures, not a poster with loads of different pies on it, by the way.)



1. Cute as that sounds, she was actually known as the Lady with the Lamp because she would walk around the hospital at night when the other staff had gone to bed, holding a lamp and checking up on all her patients.

TASK: HAVE A GO AT WRITING FIVE FACTS AND A LIE ABOUT MARY SEACOLE. SHOW THEM TO A FRIEND OR FAMILY MEMBER. CAN THEY GUESS WHICH ONE IS A LIE?

FUN FACT!

Another nurse who saved hundreds of lives in the Crimean War was Mary Seacole. Mary was born in Jamaica in 1805, before moving to London and volunteering to help in the war. She was an expert in treating infections like cholera and yellow fever, and was famous for riding out into battlefields to help wounded soldiers, so they could get treated as soon as possible. She cared for so many soldiers that she became known as Mother Seacole. (This is a bit unfair, because when I was a doctor, my patients never called me Daddy Adam.)

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**MARY SEACOLE:
FIVE FACTS AND A LIE**

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2.
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3.
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4.
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5.
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ACTIVITY THREE: BEAUTY TREATMENTS IN ANCIENT ROME



The Romans thought that being ‘beautiful’ on the outside meant being healthy on the inside. This is obviously total codswallop. First of all, whatever you look like, you’re beautiful – it’s nothing to do with a random list of features that some idiots have decided you should have. Secondly, the shape of your nose or the colour of your hair isn’t related to your health at all! I can prove it: I get so out of breath when I run for a bus that I have to sit down for half an hour – and I’m the most handsome man in the world.

If people had any blemishes, they’d plaster on tons of make-up to hide them. Make-up was made from things like sheep’s sweat, horses’ urine, vinegar, eggs and onions – I’d much rather have zits than wear that. I’ve got no idea if this gross cure worked, but it must have made people smell like the inside of a rubbish truck. If you were really rich, you might have used a kind of make-up that was very expensive, very dangerous to get hold of and just as smelly. Yep, you’d dab your face with some delightful crocodile poo.

If you wanted to get rid of wrinkles, you might treat yourself to a bath full of . . . nope, not bubbles; nope, not rose petals . . . asses’ milk. Don’t panic – it’s nothing to do with bums – it means milk from a donkey. It didn’t work, and it doesn’t sound particularly fun either. I’d much rather have a bath in a huge tub of hot chocolate, with extra marshmallows.

A lot of people dyed in Ancient Rome. No, that’s not a spelling mistake - this book doesn’t have any spelling mistakes – they dyed their hair. If you wanted lighter hair, then you’d dip it in vinegar and maybe even sprinkle it with gold dust. If you wanted your hair to look darker, then you’d slather it in a mixture of rotting leeches and red wine. Your locks would end up lovely and dark, but you’d smell like a zombie’s underpants. **Pages 158 – 159**

**1. What was make-up made from in Ancient Rome?
Can you name five ingredients?**

2. What kind of person might have put crocodile poo on their face?

3. Why did the Romans bathe in asses’ milk?

4. What did the Romans do if they wanted to lighten their hair?

5. Why might somebody in Ancient Rome put rotting leeches and red wine in their hair?



TASK: ROMAN SHAMPOO

If someone's hair fell out in Ancient Rome, they thought it was caused by wearing heavy helmets all day, which is total drivel. Julius Caesar was really worried about losing his hair, so to make it grow back he invented a shampoo made out of horses' teeth, ground-up mice and the fat from under a bear's skin. It didn't work at all, so that treatment was abandoned very quickly (which the horses, mice and bears will be very pleased to hear). **Pages 160 – 161**

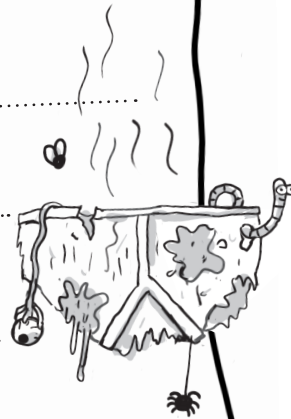
DESIGN A SHAMPOO BOTTLE FOR YOUR LOVELY ROMAN-STYLE SHAMPOO!

What will you call your shampoo? What is the purpose of your shampoo? (Perhaps it's to cure baldness, make hair shiny or treat dandruff?) Why not make up a slogan to persuade your fellow Romans to buy your shampoo? Draw your shampoo bottle design on the template on the right.

INVENT YOUR OWN ROMAN-STYLE SHAMPOO!

What ingredients will your shampoo be made from?
(They can be as strange or repulsive as you like!)

1.
2.
3.
4.
5.

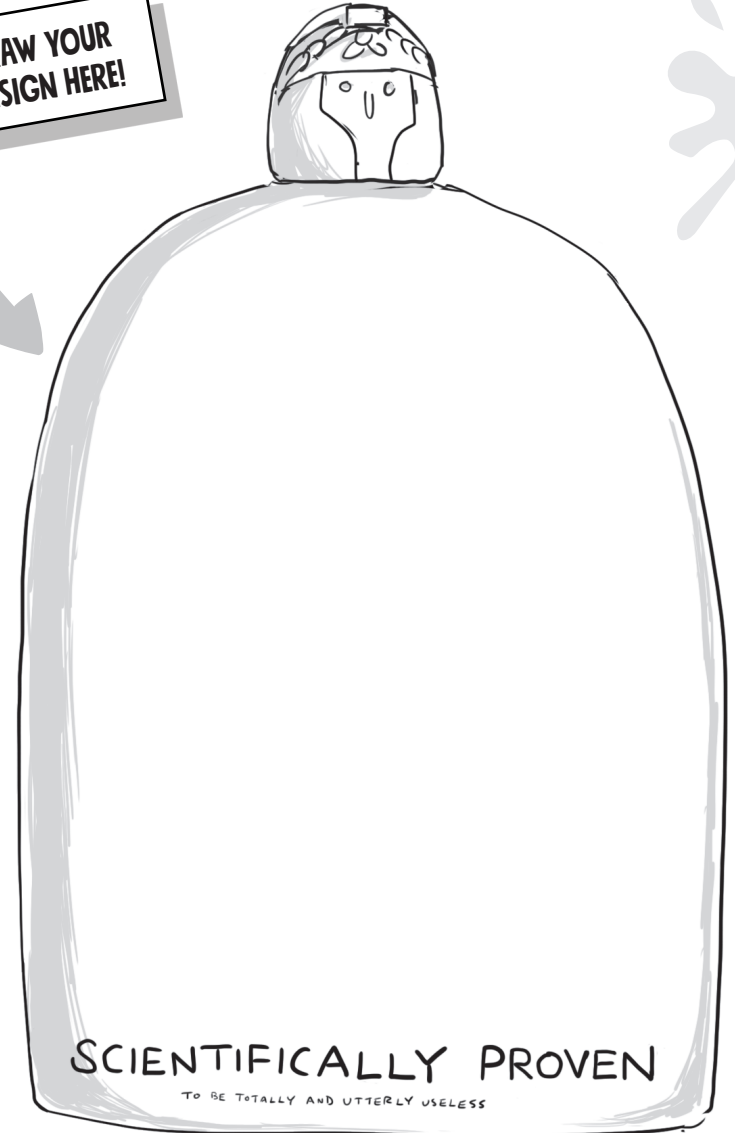


FUN FACT!

Caesar eventually came up with a different plan: he made a kind of headband out of laurel leaves so no one could see his lack of locks – that's why, if you see a picture of him, it looks like he's just lost a wrestling match with a hedge.

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DRAW YOUR
DESIGN HERE!



ACTIVITY FOUR: ORGAN TRANSPLANTS



Doctors have wanted to do transplants for thousands of years, but they've only actually happened quite recently. So why did it take so long? Were they all just really lazy? Or did they keep putting it off, like the way you're always far too busy to tidy your bedroom?

The reason that it took surgeons sooooo long to transplant an organ is that, when they tried it, the patients just died. Even if they put it in exactly the right place and connected it up perfectly to all the complicated veins and arteries . . . the patient still ended up totally dead. This was because of something called organ rejection. Your body is so marvellous and miraculous that as soon as some thing appears inside that it doesn't recognize, it goes straight on the attack. This is excellent news if you have an illness because the viruses or bacteria or other evil invaders get zapped and destroyed. But it's not quite so handy if you're trying to install a new organ.

The big change happened when scientists invented a drug that stops the immune system (the part of the body that fights infections) from getting overexcited, which means the body doesn't try to boot out its lovely new replacement organ. This drug was invented by an incredible scientist called Gertrude Elion – she won a Nobel Prize for it, and fair enough really.

Because their immune systems have been turned right down, it's really important that people with organ transplants stay away from people who are ill because they're not as good at fighting off germs. **Pages 235 – 236**

44

1. What is organ rejection?
2. What is the immune system?
3. Who invented the drug that allows doctors to carry out organ transplants?
4. What does this drug do?
5. Why do people who have had organ transplants need to stay away from people who are ill?



Do you think doctors can do head transplants?

YES NO

Turn to page 245 to find out!

FUN FACT!

Before too long it should be possible to make a brand-new heart from scratch in a lab, for people whose hearts have stopped working properly. This will be amazing, life-changing news for patients who are on a waiting list for a heart transplant.

TASK: WHEN DID THE FIRST ORGAN TRANSPLANTS TAKE PLACE?

Use the missing words to fill in the gaps in the sentences below.

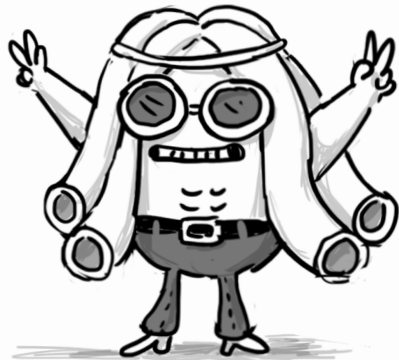
The pictures will give you clues. (You can read page 237 of *Kay's Marvellous Medicine* for further help.)



In 1954, the first transplant took place.



In 1967, the first transplant took place.



In 1967, the first transplant took place.



In 1981, the first transplant took place.

ACTIVITY FIVE: THE TRUE OR POO QUIZ



FROM CHAPTER 1: THE BRAIN

1. OUR BRAINS ARE BIGGER THAN THOSE OF OUR ANCESTORS.

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2. DOCTORS USED ELECTRICITY TO TREAT PAIN TWO THOUSAND YEARS AGO.

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FROM CHAPTER 5: SKIN

9. MOLES ON YOUR SKIN CAN PREDICT THE FUTURE.

.....

10. COLLECTING FINGERNAILS COULD MAKE YOU EXTREMELY RICH.

.....

FROM CHAPTER 9: LIVER AND KIDNEYS

17. THREE HUNDRED YEARS AGO, DOCTORS TRIED TO FIX THE BRAIN USING EXTRACTS OF WEE.

.....

18. THERE USED TO BE A TAX ON WEE.

.....

FROM CHAPTER 2: CIRCULATION

3. DRINKING BLOOD WAS A POPULAR TREATMENT IN ANCIENT ROME.

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4. A DOCTOR WON A NOBEL PRIZE FOR OPERATING ON HIS OWN HEART.

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FROM CHAPTER 6: THE LUNGS

11. ALEXANDER THE GREAT INVENTED AN OPERATION THAT IS STILL USED TODAY.

.....

12. SMOKING USED TO BE ALLOWED AT SCHOOL.

.....

FROM CHAPTER 10: BONES

19. KING CHARLES II WAS A CANNIBAL.

.....

20. DOCTORS USED TO INJECT JOINTS WITH GOLD.

.....

FROM CHAPTER 11: EYES AND EARS

21. IN ANCIENT GREECE, THEY THOUGHT TEARS WERE CAUSED BY THE BRAIN LEAKING.

.....

22. BEETHOVEN COMPOSED MUSIC WHEN HE WAS TOTALLY DEAF.

.....

FROM CHAPTER 3: INFECTION

5. RABBITS CAN TELL IF YOU'VE GOT AN INFECTION.

.....

6. SOME INFECTIONS MAKE YOU SMILE.

.....

FROM CHAPTER 7: SURGERY

13. IT'S POSSIBLE TO DO OPERATIONS ON BABIES BEFORE THEY'RE BORN.

.....

14. THE WORLD RECORD FOR THE MOST SURGERY WAS A MAN WHO HAD NINETY-SEVEN SEPARATE OPERATIONS.

.....

FROM CHAPTER 12: GENETICS

23. JURASSIC PARK COULD ACTUALLY HAPPEN.

.....

24. IT WOULD TAKE YOU A WHOLE MONTH TO TYPE OUT YOUR GENETIC CODE.

.....

FROM CHAPTER 4: THE GUT

7. SHAKESPEARE WROTE FART JOKES.

.....

8. THE ANCIENT ROMANS GARGLED WITH DIARRHOEA AS MOUTHWASH.

.....

FROM CHAPTER 8: REPRODUCTION

15. YOU CAN ONLY HAVE AN ULTRASOUND WHEN YOU'RE IN THE BATH.

.....

16. TWINS ARE GETTING MORE COMMON.

.....

ANSWERS:
1 Poo, 2 True, 3 True, 4 True, 5 Poo, 6 True, 7 True, 8 Poo, 9 Poo, 10 True, 11 True, 12 True, 13 True, 14 Poo, 15 Poo, 16 True, 17 True, 18 Poo, 19 True, 20 True, 21 Poo, 22 True, 23 Poo, 24 Poo