

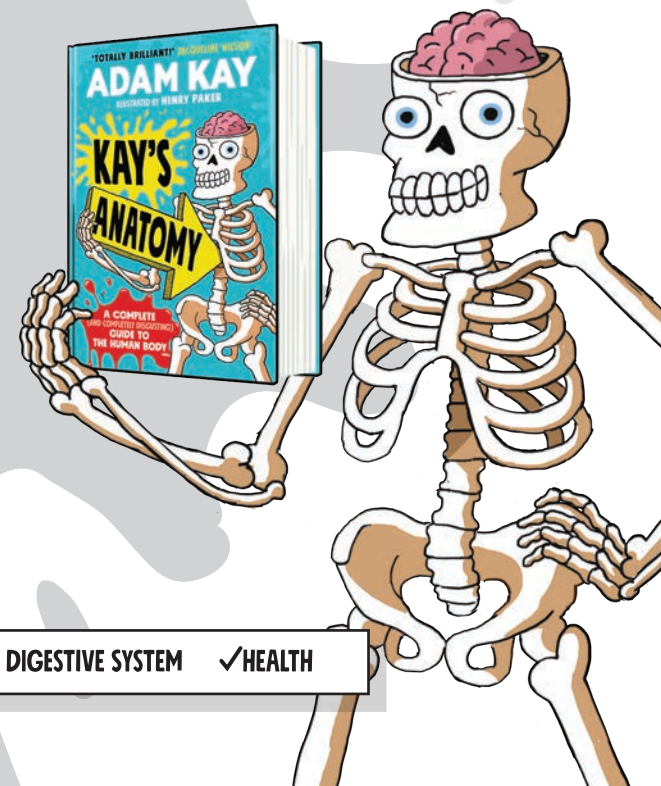
**A COMPLETE  
(AND COMPLETELY DISGUSTING)  
GUIDE TO  
THE HUMAN BODY**

# **KAY'S ANATOMY**

## **ADAM KAY**

**LEARNING  
ACTIVITIES FOR  
KS2/3**

THESE FUN ACTIVITIES HAVE BEEN DESIGNED FOR CHILDREN AGED 8+ TO COMPLETE IN THE CLASSROOM OR AT HOME. THEY COVER THE KEY STAGE 2/3 HUMAN BIOLOGY SYLLABUS (IN A SLIGHTLY REPULSIVE WAY), HELPING CHILDREN TO UNDERSTAND THE HUMAN BODY.



**KS2 SCIENCE CURRICULUM LINKS:** ✓ HUMAN BODY ✓ THE HEART ✓ CIRCULATORY SYSTEM ✓ SKELETONS ✓ DIGESTIVE SYSTEM ✓ HEALTH

# ABOUT THE BOOK

**Do you ever think about your body and how it all works? Like really properly think about it? The human body is extraordinary and fascinating and, well . . . pretty weird. Yours is weird, mine is weird, your maths teacher's is even weirder.**

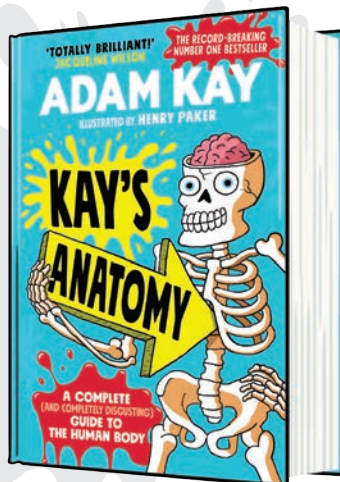
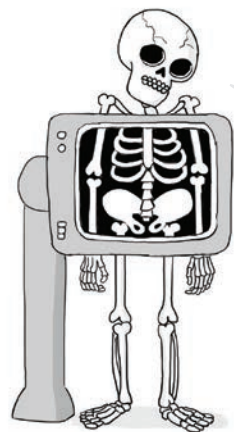
This book is going to tell you what's actually going on in there, and answer the really important questions, like:

**Are bogeys safe to eat?** Look, if your nose is going to all that effort of creating a snack, the least we can do is check out its nutritional value. (Yes, they're safe. Chew away!)

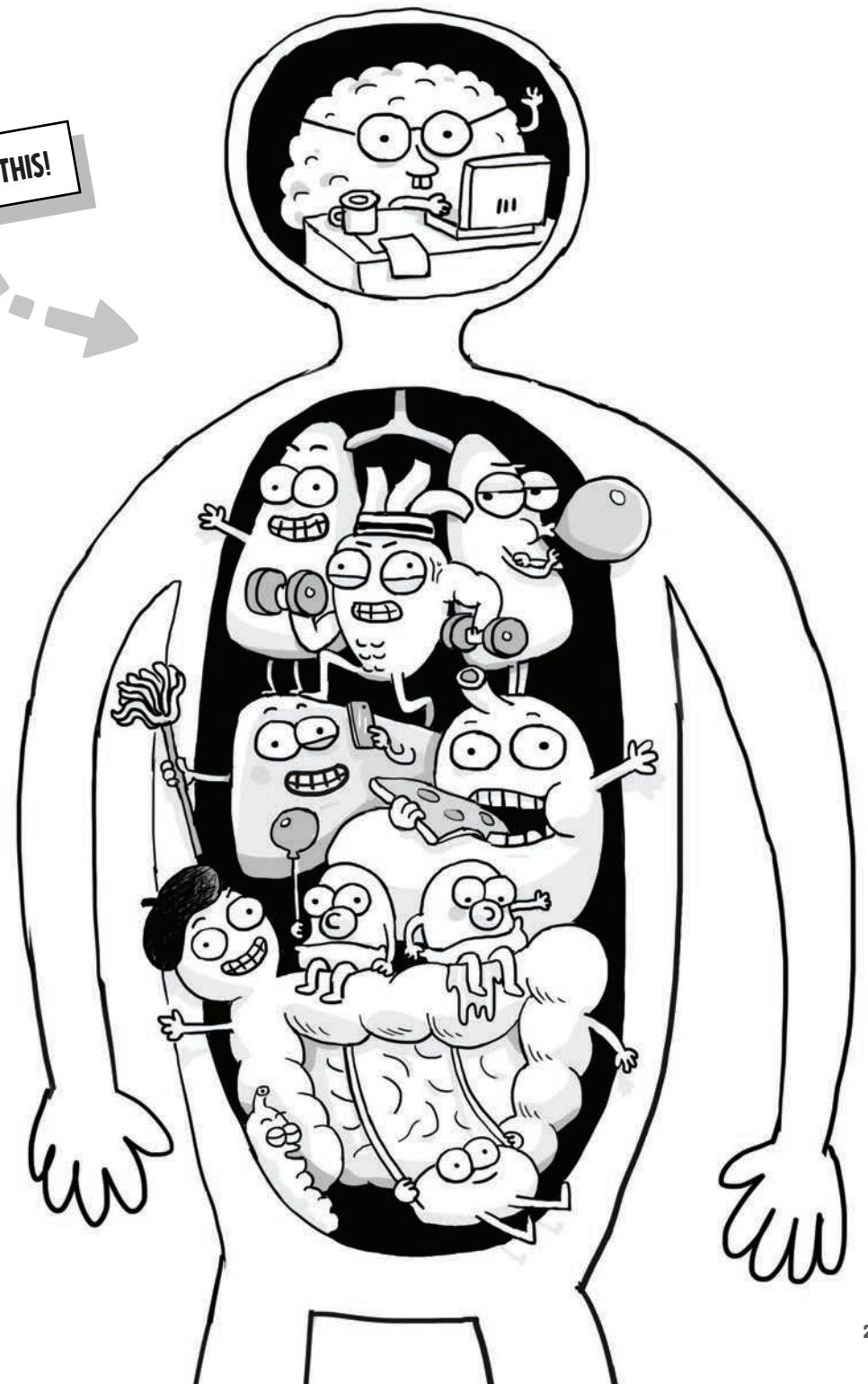
**And how much of your life will you spend on the toilet?** About a year - so bring a good book. (I recommend this one.)

So sit back, relax, put on some rubber gloves, and let a doctor take you on a poo (and puke) filled tour of your insides. Welcome to Kay's Anatomy\*.

\*a fancy word for your body. See, you're learning already.



COLOUR THIS!

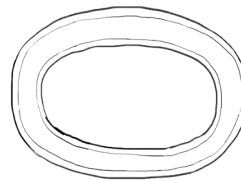
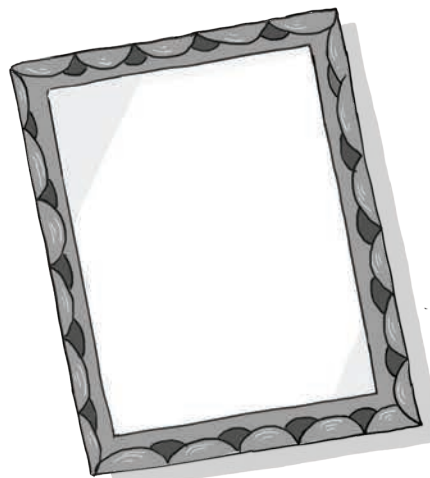
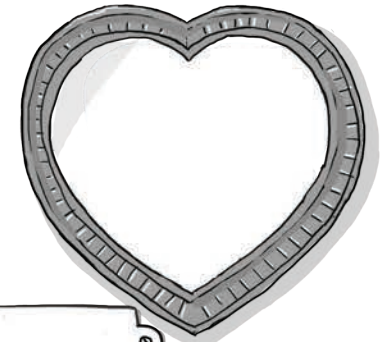
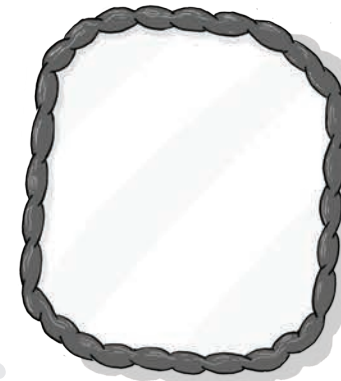
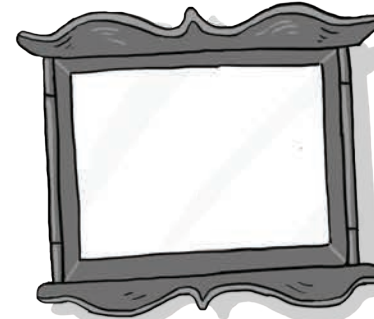
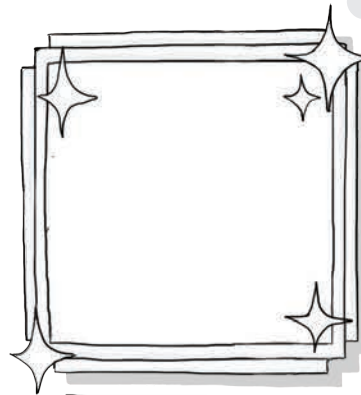
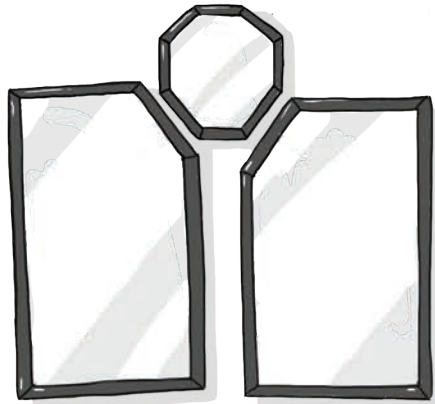
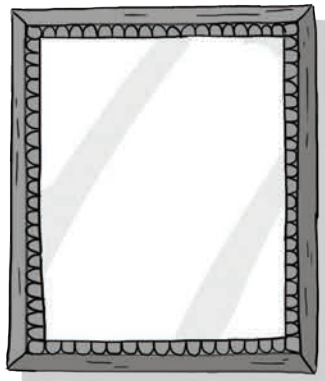




# ACTIVITY ONE: MY ORGANS

**An organ is a part of your body that does a specific thing.**

Can you draw and label the functions of each of the organs in the Gallery below? You might be able to add more information as you complete the activities in this pack and read Kay's Anatomy!



PIPPIN - MY DOG.  
NOT REALLY PART OF THE  
BODY, BUT CUTE, ISN'T SHE?

## FUN FACT!

The heart is the fifth biggest organ in your body. In at number four are the lungs – but they should probably be disqualified for cheating because there are two of them. Number three is that old clever clogs, the brain. At number two is your big lump of liver, and at number one it's that stretchy bag of weirdness: your skin.

PAGE 45

# ACTIVITY TWO: THE HEART AND CIRCULATORY SYSTEM

The heart is divided into left and right sides, and each side is divided into two chambers, so – how many chambers is that in total? That's right: sixteen thousand, two hundred and thirty-eight. Hold on – I pressed the wrong button on my calculator. It's actually four. The heart is made up of four chambers, and each one is like the room of a house. A quite disgusting house, because it's totally full of blood. Also, it's way too small to live in, unless you're a fly. And you probably don't want a fly living in your heart. That would cause a very serious condition called . . . umm . . . fly-in-your-heart-itis.

Blood enters your heart on the left side into the top chamber (called the atrium) and the blood is full of lovely oxygen, because it's just come from the lungs. It then flows down to the bottom chamber (or ventricle), where it gets an almighty SQUEEZE and whizzes off through tubes called arteries to travel around your body. How does it know to go in the right direction, and not just back up into your lungs?

**OPTION 1:  
SATNAV**

**OPTION 2:  
IT LEAVES A TRAIL OF  
BREADCRUMBS SO IT  
CAN'T GET LOST**

**OPTION 3:  
VALVES**

If you answered 1 or 2, go and sit in the bin for ten minutes. Blood goes in the right direction because there are valves in the heart, that stop it going backwards and causing some kind of unpleasant blood-splattering explosion. **Pages 47–48.**

**1. HOW MANY CHAMBERS  
DOES THE HEART HAVE?**

.....

.....

**2. THROUGH WHICH CHAMBER  
DOES BLOOD ENTER THE HEART?**

.....

.....

**3. WHICH SIDE OF THE HEART  
RECEIVES BLOOD THAT IS  
'FULL OF LOVELY OXYGEN'?**

.....

.....

**4. WHERE HAS THIS  
OXYGEN-RICH BLOOD  
COME FROM?**

.....

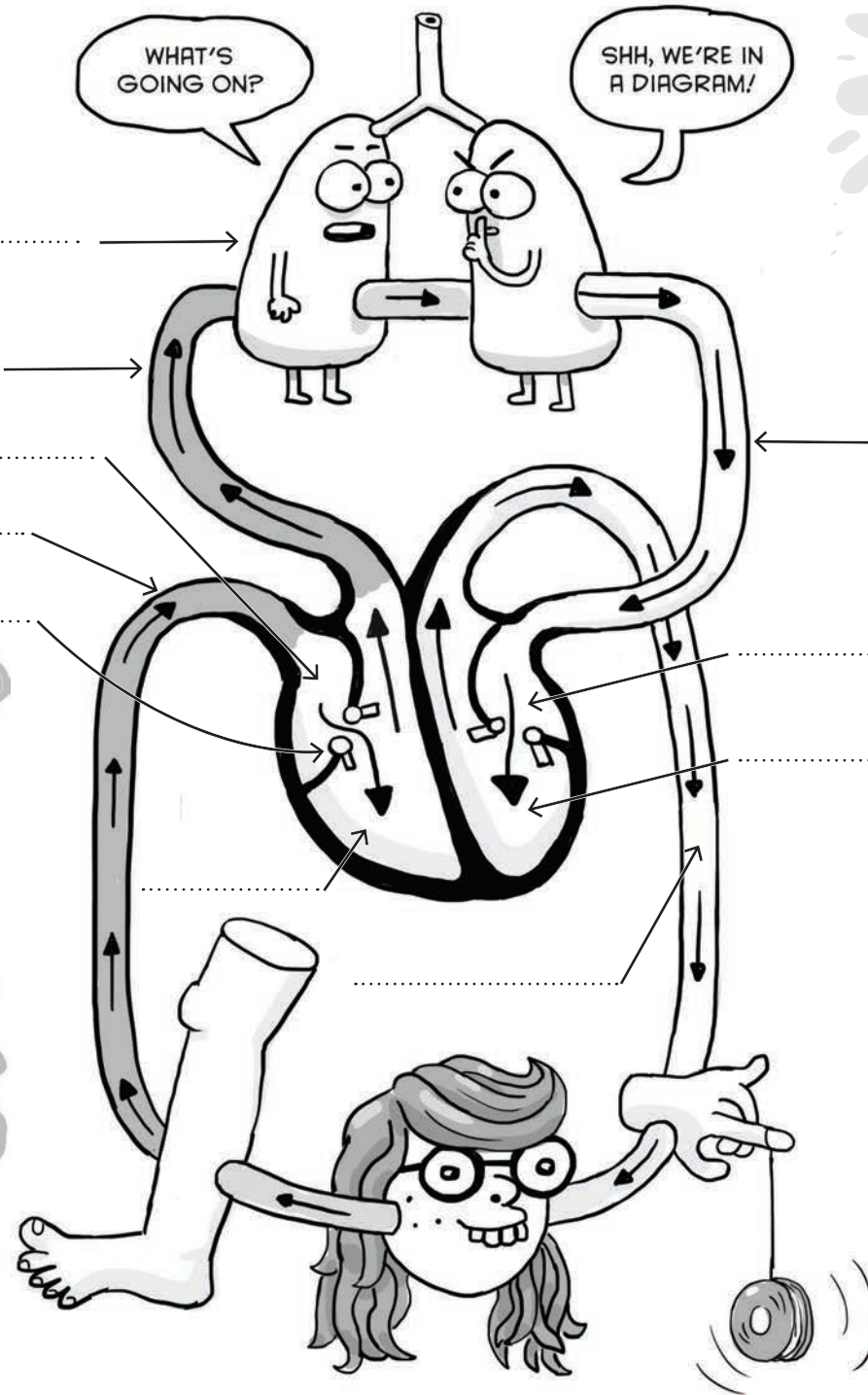
.....

**5. WHAT STOPS BLOOD FROM  
GOING BACKWARDS?**

.....

.....

**TASK: USE THE LIST BELOW TO LABEL THE HEART DIAGRAM!**  
**READ PAGES 45–51 OF KAY’S ANATOMY FOR MORE HELP.**



Find out more about **BLOOD** and the **LUNGS** in **Chapters 3** and **4** of Kay’s Anatomy!

RIGHT ATRIUM  
 LEFT ATRIUM  
 RIGHT VENTRICLE  
 LEFT VENTRICLE  
 VALVES  
 OXYGEN-RICH BLOOD  
 FROM THE LUNGS  
 OXYGEN-POOR BLOOD  
 FROM THE BODY  
 VEINS  
 ARTERIES  
 LUNGS

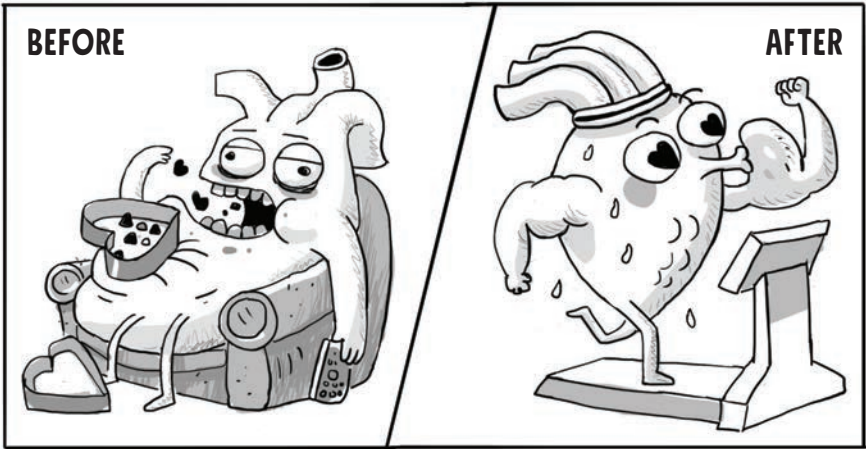
### FUN FACT!

If you took all the arteries and veins in your body and laid them out end to end, they would stretch around the world about three times. Please don’t do this – it would make a horrible mess, and I’m not clearing up after you.

**PAGE 50**



# ACTIVITY THREE: HEALTH AND EXERCISE



## FUN FACT!

Just like your arm muscles get stronger from those constant arm-wrestling matches with gorillas, your heart muscle also gets stronger with exercise. That's why, when grown-ups tell you that it's a good idea to exercise, they're telling the truth for once.

PAGES 52-53

MATCH THE FOLLOWING EXERCISES TO THE RIGHT HEART RATES.  
EXPLAIN YOUR CHOICES:

.....

.....

.....

## FUN FACT!

The easiest place to take your pulse is on your wrist. All you need is a watch (or a clock, or a timer on a phone) and a wrist. And a pulse, ideally.

PAGE 53

WALKING SLOWLY

105 B.P.M

SLEEPING

67 B.P.M

SPRINTING

140 B.P.M

READING

120 B.P.M

JOGGING

78 B.P.M

WALKING FAST

95 B.P.M

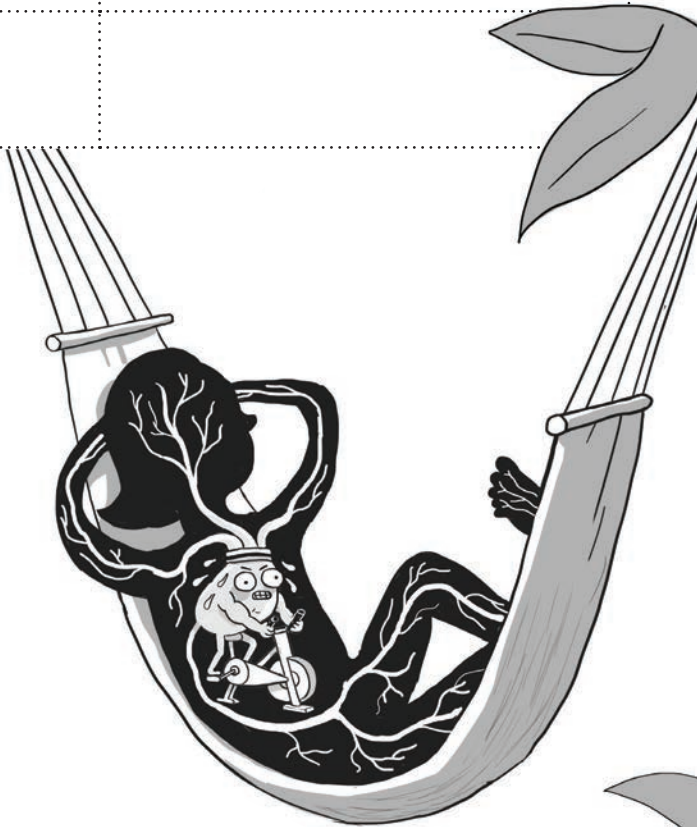


ANSWERS: Sleeping 67 B.P.M.;  
Reading 78 B.P.M.; Walking fast  
slowly 95 B.P.M.; Jogging 120 B.P.M.;  
Sprinting 140 B.P.M.

**TASK: FIND SOME SPACE TO GET ACTIVE, AND A FRIEND OR SIBLING TO HELP YOU. RECORD EACH OTHER’S HEART RATES WHEN YOU DO THE FOLLOWING EXERCISES:**

	BEATS IN 10 SECONDS	MULTIPLY BY 6	BEATS PER MINUTE
RESTING			
JOGGING			
STAR JUMPS			
RESTING			

**WHAT PATTERN DO YOU SEE? CAN YOU IDENTIFY THAT HEART RATE INCREASES OR DECREASES WITH EXERCISE? WHY DO YOU THINK THIS IS?**



# ACTIVITY FOUR: THE HUMAN SKELETON

Where would you be without your bones? I can tell you exactly where you'd be: on the floor, a huge sloppy bag of skin and innards sitting in a big, shapeless heap. Like a jelly with eyes and hair. Happily, your bones are here to rescue you from a life of being a talking beanbag, so I thought you might want to get to know them a bit better.

Your skeleton doesn't just support the shape of your body, it also means you can do things like walk around, do star jumps, play netball, and hit people (please don't hit people). Not only that, it's also a suit of armour to keep your squishy bits safe – it surrounds your brain, your heart and your lungs. Without your skeleton, your brain and your heart and your lungs would all explode in a hideous, splattering mess any time you fell over (which wouldn't be great, let's be honest). Your skull hides your brain safely away, and your heart and lungs have a cage (your ribs!) protecting them. As well as keeping your organs out of harm's way and helping you move around, your bones have a surprising sideline in making blood cells (you might remember me telling you this already – sorry if I've become that boring old relative who always repeats the same story). Bones are like gobstoppers, made up of lots of different layers – only a lot more disgusting. (Unless you're Pippin. She loves eating old bones. Preferably served in a muddy puddle.)

Pages 202–03.

1. WHAT IS THE PURPOSE OF YOUR SKELETON? LIST AT LEAST TWO PURPOSES.

.....

.....

.....

3. WHICH PART OF THE SKELETON PROTECTS THE BRAIN?

.....

.....

.....

.....



2. WHAT WOULD HAPPEN TO YOUR BRAIN, HEART AND LUNGS WITHOUT A SKELETON?

.....

.....

.....

.....

4. WHICH PART OF THE SKELETON PROTECTS THE HEART AND LUNGS?

.....

.....

.....

.....

5. WHAT ARE BONES MADE UP OF?

.....

.....

.....

.....



**TASK: USE THE LIST BELOW TO LABEL THE SKELETON! READ CHAPTER 8 OF KAY'S ANATOMY FOR MORE HELP.**

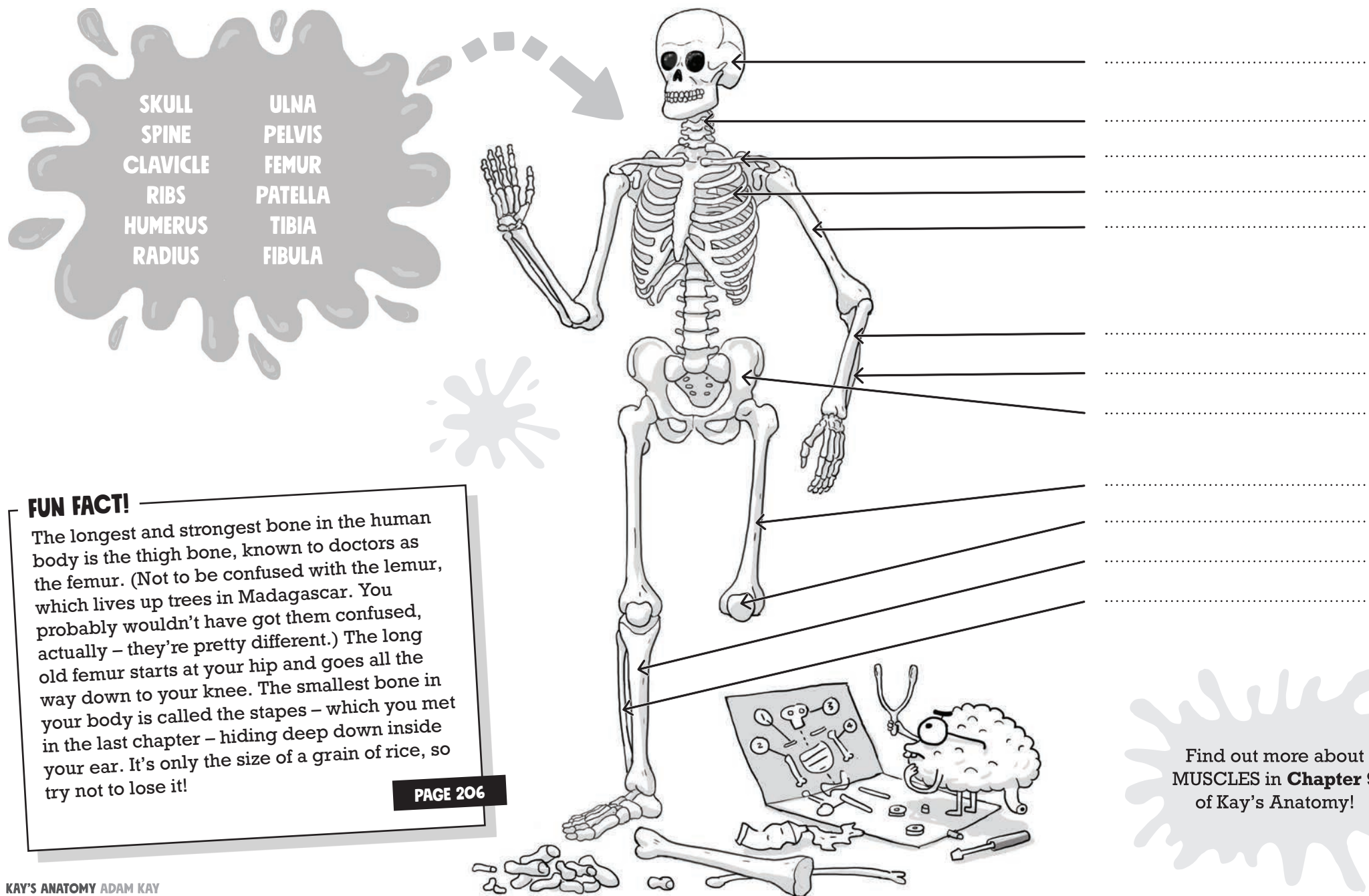
SKULL  
SPINE  
CLAVICLE  
RIBS  
HUMERUS  
RADIUS

ULNA  
PELVIS  
FEMUR  
PATELLA  
TIBIA  
FIBULA

### FUN FACT!

The longest and strongest bone in the human body is the thigh bone, known to doctors as the femur. (Not to be confused with the lemur, which lives up trees in Madagascar. You probably wouldn't have got them confused, actually – they're pretty different.) The long old femur starts at your hip and goes all the way down to your knee. The smallest bone in your body is called the stapes – which you met in the last chapter – hiding deep down inside your ear. It's only the size of a grain of rice, so try not to lose it!

PAGE 206



Find out more about  
**MUSCLES** in **Chapter 9**  
of Kay's Anatomy!

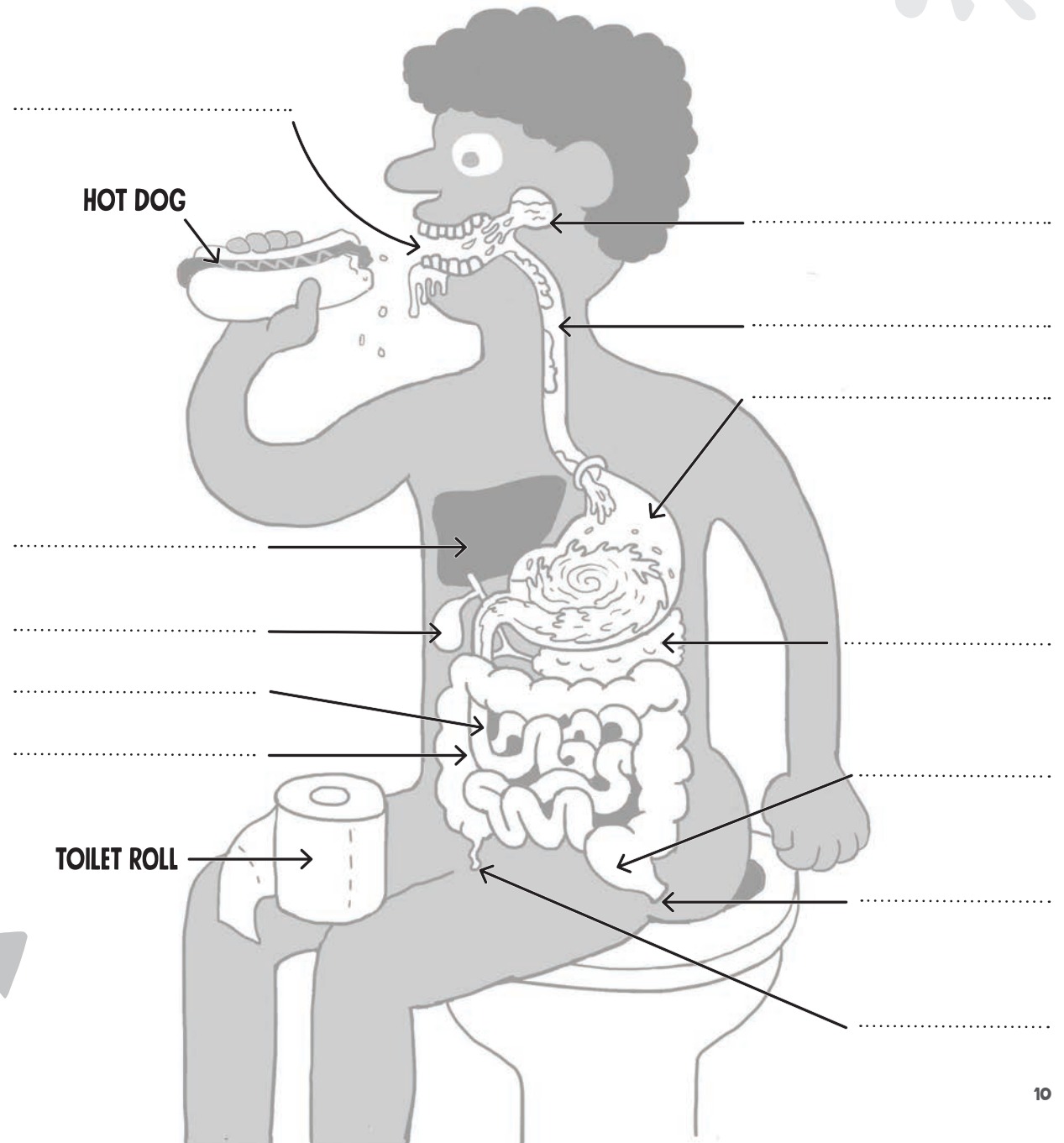
# ACTIVITY FIVE: THE DIGESTIVE SYSTEM

Your digestive system is like a sorting office (except it's got slimy walls and smells terrible) that takes the food, picks out all the useful bits and bobs for your body to use as energy, then packs the rest off on its journey to the toilet.

Let's meet all the different parts of your digestive system. Well, I say 'meet', I mean read about. I'm not going to make you go on a playdate with a pancreas. **Page 250.**

**TASK: USE THE LIST BELOW TO LABEL THE DIGESTIVE SYSTEM!**  
**READ CHAPTER 10 OF KAY'S ANATOMY FOR MORE HELP.**

MOUTH  
SALIVARY GLAND  
OESOPHAGUS  
STOMACH  
LIVER  
PANCREAS  
GALL BLADDER  
SMALL INTESTINE  
LARGE INTESTINE  
APPENDIX  
PANCREAS



**TASK: USE PAGES 252–257 TO NOTE DOWN THE FUNCTIONS OF EACH PART OF THE DIGESTIVE SYSTEM.**

PART OF THE DIGESTIVE SYSTEM	FUNCTION
MOUTH	
OESOPHAGUS	
STOMACH	
SMALL INTESTINE	
LARGE INTESTINE	
RECTUM	

**Why is it important to have a healthy, balanced diet?**

Write down some examples of CARBOHYDRATES, PROTEIN, FRUIT & VEGETABLES, and DAIRY foods.

Find out more about HEALTHY EATING on **page 269** of Kay's Anatomy!

**CARBOHYDRATES**

**PROTEIN**

**FRUIT & VEGETABLES**

**DAIRY**

**FUN FACT!**

Over your lifetime, you will chomp through about 30 tonnes of food – that's the weight of about twenty fully grown hippos. Don't eat it all at once!

**PAGE 255**



# ACTIVITY SIX: THE TRUE OR POO QUIZ

## FROM CHAPTER 1: SKIN

1. DOCTOR USE MAGGOTS  
TO HELP WOUNDS HEAL

.....

2. EATING TOO MANY  
CARROTS CAN MAKE YOUR  
SKIN TURN ORANGE

.....

## FROM CHAPTER 6: HAIR AND NAILS

11. YOU HAVE HAIR ON  
EVERY PART OF YOUR BODY

.....

12. FINGERNAILS GROW  
FASTER THAN TOENAILS

.....

## FROM CHAPTER 11: KIDNEYS AND LIVER

21. IN A SURVIVAL SITUATION,  
DRINKING YOUR WEE CAN HELP  
YOU STAY ALIVE

.....

22. YOU HAVE DRUNK YOUR  
OWN WEE BEFORE

.....

## FROM CHAPTER 2: HEART

3. YOUR HEART STOPS  
WHEN YOU SNEEZE

.....

4. YOUR HEART WAS YOUR VERY FIRST  
ORGAN TO DEVELOP

.....

## FROM CHAPTER 7: EYES, EARS, MOUTH & NOSE

13. YOUR EYES SEE EVERYTHING  
UPSIDE DOWN

.....

14. IF YOU SNEEZE WITH YOUR EYES  
OPEN, THEN YOUR EYES WILL POP OUT

.....

## FROM CHAPTER 12: REPRODUCTION

23. BABIES CRY IN THE UTERUS

.....

24. SPERM SWIM AT TWENTY  
MILES PER HOUR

.....

## FROM CHAPTER 3: BLOOD

5. YOUR BLOOD CONTAINS GOLD

.....

6. ONE IN TEN PEOPLE NEEDS  
A BLOOD TRANSFUSION  
DURING THEIR LIFE

.....

## FROM CHAPTER 8: BONES

15. YOU'RE SHORTER AT NIGHT THAN  
YOU ARE IN THE MORNING

.....

16. EVERY BONE IS CONNECTED TO  
ANOTHER BONE

.....

## FROM CHAPTER 13: LIFE AND DEATH

25. SCIENTIST HAVE SENT BACKUPS OF  
HUMAN DNA INTO SPACE, IN CASE THE  
EARTH IS WIPED OUT

.....

26. ALL HUMANS ARE 99 PER CENT  
IDENTICAL

.....

## FROM CHAPTER 4: LUNGS

7. YOU CAN SWALLOW AND  
BREATHE AT THE SAME TIME

.....

8. YOUR LUNGS WOULD  
FLOAT ON WATER

.....

## FROM CHAPTER 9: MUSCLES

17. YOUR FINGERS HAVE  
MUSCLES IN THEM

.....

18. TOO MUCH TIME PLAYING  
COMPUTER GAMES CAN DAMAGE  
YOUR HANDS

.....

## FROM CHAPTER 14: GERMS

27. WASHING YOUR HANDS WITH  
HOT WATER KILLS MORE BACTERIA  
THAN COLD WATER

.....

28. SOME BACTERIA GLOW IN THE DARK

.....

## FROM CHAPTER 5: BRAIN

9. GENIUSES HAVE MASSIVE BRAINS

.....

10. YOU CAN PLAY A MUSICAL  
INSTRUMENT WHILE SOMEONE IS  
OPERATING ON YOUR BRAIN

.....

## FROM CHAPTER 10: GUT

19. YOU NEED YOUR LARGE INTESTINE  
TO LIVE

.....

20. EATING BEETROOT MAKES YOUR  
POO TURN PURPLE

.....

ANSWERS:

1:True, 2:True, 3:Poo, 4:True,  
5:True, 6:Poo, 7:Poo, 8:True, 9:Poo,  
10:True, 11:Poo, 12:True, 13:True,  
14:Poo, 15:True, 16:Poo, 17:Poo,  
18:True, 19:Poo, 20:True, 21:True,  
22:True, 23:True, 24:Poo, 25:True,  
26:True, 27:Poo, 28:True.



# MEDICAL CERTIFICATE

This is to certify that

-----  
(Write your name here – really neatly though.  
This is going up in your surgery.)

has learned all about bums and blood and lungs  
and mucus and nose hair and elbows and wee and  
leeches and brains and skin and toenails and  
bacteria and hamstrings and poo and livers and  
earwax and robot butlers and teeth and snot and  
bones and those little insects that live in your  
eyelashes and kidneys and a bit more poo . . .

And is now a fully qualified doctor.\*

-----  
(Write the date here. Neater than you did before –  
that looked awful.)

*Adam Kay* \*\*

**Adam Kay**

Doctor, writer and incredible genius

\* Pretty much.

\*\* Please don't use my signature to steal all my money.  
Or, if you do, make sure you buy something nice.

**KAY'S ANATOMY**