

Nanny, Rolling.

"You'd laugh if my hair was on fire," my dad said to me once. He was probably right! You can't help it when you're young, can you? Any mishap that someone has is amusing and you just can't stop laughing about it. The story I'm about to tell you is true, and even now, thirty years later, it still makes me smile. If I'm honest, it makes me giggle a little bit.

Our Nan was tiny. She was literally about the size of a Year 6 girl - and a short one at that! She had wiry grey, curly hair, a hooked nose and wore thick -lensed glasses that were way too big for her face compared to the size of her head. All of this made her look like a small witch. Despite all of this, we loved her dearly and she had a great sense of humour.

She always came round to our house on a Wednesday evening to help our mum out - there were five of us after all. Around ten o'clock mum would take her home, even though our dad would always suggest that she flew home on her broomstick!

Well, that summer's evening, I stood at the bottom of the driveway balancing on the small wall that separated our drive from the neighbour's drive. The wall was needed because our house was about a metre and a half higher than next door's. Their drive was flat but ours was about four metres long but rose by about a metre up to the house. The rest of the height difference was made up by three steps of varying heights. These unevenly spaced steps were, ultimately, Nan's downfall.

I remember looking up at the front door as nan and mum appeared. They were talking about something and nan clearly wasn't paying attention. She missed the first step completely, making her legs appear to 'dance' down to the next step. Sadly, neither leg was expecting this, so it looked like one leg was waiting for the other leg to react. Neither did she until she started to fall. Then both legs reacted, trying to find somewhere to land safely. Whilst this was happening, nan dropped her handbag and flailed her hands around trying to find something to hold onto. Mum tried to grab her to stop her falling but only ended up giving her an extra 'shove' that she didn't need. All in all, it was very funny to watch (especially when you're fourteen), but the best bit was yet to come!

Nan was now completely out of control and was travelling like some kind of badly prepared gymnast. I'm sure she would have been glad of a broomstick at this point, it may have saved her. She seemed to travel like she was in a slow-motion clip from an action film. Nan twisted awkwardly through the air, hit the floor, bounced a couple of times, then landed flat on her side. She then started to roll down the drive, just like children do on a grassy hill. What made it all the funnier was that the contents of her handbag that were capable of rolling, did so after her. They looked almost magnetically frantic. Not wanting to be left behind, they criss-crossed each other's path as if racing to see which could get back to her the quickest. Could you imagine such a sight?

As she rolled, she seemed to pick up speed, faster and faster until she ploughed into the wall on which I was standing. She just lay there looking up at me, her glasses at a very strange angle indeed. In fact, I'm sure one of the arms of her glasses was actually up her nose! One by one, her personal possessions came to rest behind her, bumping into her. The last thing to stop was her hairbrush that ironically positioned itself perfectly under one of her large curls almost like it knew it was now needed.

To say that my brothers and sister and I laughed would be an understatement! We howled and tears rolled down our faces. Mum came racing down the drive to help her mother and scolded us appropriately. We all slinked off to hide our shame, still giggling as we went.

As for poor old nan, she went to A and E and had an X-Ray. She'd broken her hip and ended up spending weeks in hospital!

We all felt really bad for laughing... but we just couldn't help ourselves.

So, what's an X-Ray?

X-Rays were first discovered in 1895 by Wilhelm Conrad Röntgen, a professor at Würzburg University in Germany. During an experiment he noticed this 'unknown energy' so called it 'X-radiation'. For this discovery, Röntgen was awarded the very first **Nobel Prize** in Physics, in 1901.

An **X-Ray** is a form of **electromagnetic** radiation with a small **wavelength**; so small that it can't be seen by the human eye. Due to this small wavelength, X-Rays can pass through some solid objects but not all, it depends how dense the object is.

Why does the X-Ray photograph only show bones?

The human body is made up of bones, skin, tissue and muscles. All of these have varying densities but bones are the most **dense**.

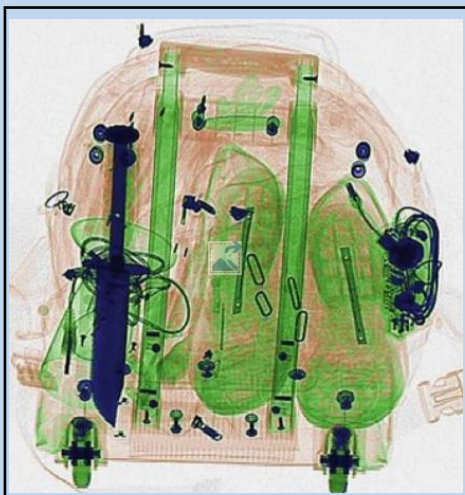
When you pass an x-ray through a body, the bones are the only part through which the x-rays are not able to pass. If you place photographic paper on the other side of your body, only those rays which have passed through the body will turn the paper dark.

This is why bones show up as white spaces on an x-ray and how doctors can tell if you have an injury to your **skeletal** structure.



This image has been coloured red to show where the break in the bone is.

Why can't you wear metal when having an X-Ray?



Metal is very dense so it stops the X-rays getting through and blocks the view of anything behind. This can be very useful when looking at other objects.

This is a **scanner** in an airport. Look at how some objects show up more than others. The material of the bag is less dense so its image is lighter. The knife is hidden in the bag, but not hidden from the X-Ray!

An extract from 'The Boy on the bike'.

"Hey, Dad!" yelled Zach as he rushed over to see him, hugging him tightly to show his affection and in an attempt to slow his progress.

"Hey," said his Dad, "You ok?"

"Yeah, I'm good," Zach replied.

"Why aren't you with Chloe?" his mum asked sternly, "I asked you to look after her while I got your dad!"

"I know," said Zach, "But she's been asleep most of the time... and then she woke up and wanted some water so I had to get the nurse 'cos there wasn't any left... and then she went to the loo so I had to get the nurse again." Zach felt sure that they knew he was making things up because he'd given too many ridiculous reasons.

"Well we'd better get up there then," replied his mother, who was clearly not happy with what she'd heard.

"It's ok for a minute, you know how long she takes sometimes... and we could get some snacks from the machine..." Zach suggested, "I'm sure she'd like..." he continued as he headed to the vending machines.

"Zach, we've got snacks in our bag already, now come on." Said his Mum. She looked at him as mothers do, so he had to think quickly.

The boy on the bike had finally reached the park by Zach and Chloe's house so he knew that he only had a short journey to the hospital. Being on a bike also meant that he could use alleyways and shortcuts to get there more quickly, but he could feel Chloe's grip starting to weaken so he couldn't risk speeding up anymore. He just had to keep going and have faith that Zach would do his best to give him as much time as he could to get Chloe back.

Zach followed his parents through the waiting area of A and E, which was busy as usual. He saw a trolley that was in an advantageous position and he headed towards it.

"Ow!" he cried, falling to the floor and gripping his ankle, making it look like he was in the most excruciating pain that he'd ever felt. "I think I've broken my ankle," he shouted, "Mum, Dad, get a nurse or a doctor!"

His parents rushed over to him and tried to help him up. He screamed out in pain. "No, don't," he cried, "It hurts too much. I can't move."

"Oh, for heaven's sake," moaned his mother, "There's nothing wrong with him. Right, you stay with Zach and I'll go and check on Chloe." She said to his Dad. "He doesn't need both of us."

"Good idea," said Zach's Dad. "We'll catch up in a bit."

The boy on the bike entered the hospital car park. He had nearly done it. He just needed to get her up to her room. Luckily it was dark now. There was less chance of being seen.

Zach's Mum stood outside the lift and pressed the button several times. She didn't know why as it didn't make the lift arrive any quicker, but it made her feel that she was doing something about it. Finally, she was in. Now she hoped that the lift didn't stop on every floor as usual!

As she pushed open Chloe's door she felt a sudden rush of cold air. The window was wide open and Chloe was slumped beneath it. "Chloe!" she called. She rushed over to her and carefully picked her up, "Are you OK? What are you doing by the window? Why is it open so much?"

"I... was saying... goodbye... to the boy... on... the... bike" gasped Chloe, then her head fell backwards.

These questions are about Nanny, Rolling.

Circle the correct answer.

How did the author's father suggest that Nan could get home?

Walk

In a taxi

On her
broomstick

Drive herself

(1)

In the second paragraph, what does the author compare the height of his nan to?

(1)

Tick true or false

The story took place in the Summertime

Nan often visited on Wednesdays.

Nan arrived on a broomstick.

Nan was a large woman.

Nan had a good sense of humour.

T	F

(2)

The author describes his house as being higher than that of his neighbour's house. How much higher does he say it is?

(1)

These questions are about Nanny, Rolling.

In paragraph 2, how does the author describe his Nan? (2)

The author's mother tried to help Nan as she fell, but what did she actually end up doing instead? (1)

Number these statements to put them in the correct order.

Nan and mom were talking as they left the house.

Nan landed on her side and rolled down the drive.

Nan's belongings bumped into her.

Nan lost her footing on the step.

Mom accidentally pushed Nan down the steps

1

(1)

'I'm sure she would have been glad of a broomstick at this point...'

These questions are about Nanny, Rolling.

The author writes, 'Mum came racing down the drive to help her mother and scolded us appropriately'.

What do you think is the closest meaning to the word 'scolded'?

Burn with hot water

Trying not to laugh.

Chastise someone.

Asking for help in an emergency.

(1)

What two words or phrases are used to describe how the contents of Nan's handbag appeared to move? (2)

Why does the author use the word 'ironic' to describe the final resting place of Nan's hairbrush? (2)

These questions are about 'So, what's an X-Ray?'

Tick true or false

X-Rays can be seen by the human eye.

X-Rays were first discovered by a German professor.

X-Rays can't go through metal very well.

X-Rays show where broken bones are by automatically colouring them red.

T	F

(2)

When were X-Rays first discovered by Professor Röntgen? (1)

Draw lines to match the statements.

X-Rays are a form of

Bones show up

X-Rays have

X-Ray scanners are

small wavelengths.

electromagnetic
radiation.

white on a X-Ray.

used in airports.

(2)

These questions are about 'So, what's an X-Ray?'

In what year was Professor Röntgen awarded the Nobel Prize? (1)

In which scientific area did he get this award? (1)

Professor Röntgen discovered X-Rays by accident. What phrase is used to show you this? (1)

What do X-Rays do to photographic paper? (1)

Give three examples of the features of non-fiction texts that are used in this extract. (3)

These questions are about 'So, what's an X-Ray?'

Why are some of the words in **bold** type? (1)

Explain why are X-Ray scanners useful in airports?

Give an example from the text. (2)

Look at the image from the airport scanner.

Use the information from the text to explain how and why some objects can be seen better than others. (3)

Why are you asked to remove all metal objects before having an X-Ray? (1)

These questions are about the extract from 'The Boy on the bike'.

Circle the correct answer.

Where is most of this extract set?

The hospital
car park.

A and E

The hospital
lift

Chloe's room

(1)

In this extract, Zach had two jobs to do.

What were they?

(2)

At the start of this extract, what three reasons does Zach give for not being with his sister, Chloe?

(3)

These questions are about the extract from 'The Boy on the bike'.

What does the Boy on the Bike use to help him get to the hospital more quickly? (1)

Tick true or false

Zach lied to his parents to try and slow them down.

Zach pretended to hurt himself on a trolley.

Chloe was holding on very tight.

Zach's mum thought that he'd really hurt himself on the hospital trolley.

Chloe shouldn't have been out of the hospital.

T	F

(2)

Why does the author use the word '*advantageous*' when describing the position of the trolley in the A and E department? (1)

These questions are about the extract from 'The Boy on the bike'.

Number these statements to put them in the correct order.

Zach headed over to the vending machine.

Zach's mum wants to know why he's not with Chloe.

Zach greets his dad first.

Zach's mum gets in the lift.

Zach trips on a trolley.

1

(2)

In the paragraph starting '*The boy on the bike entered the hospital car park*', what device does the author use increase the tension? (1)

Chloe is seriously ill.

Find evidence from the text to support how you know this. (3)

These questions are about Nanny, Rolling.

Circle the correct answer.

How did the author's father suggest that Nan could get home?

Walk

In a taxi

On her
broomstick

Drive herself

(1)

In the second paragraph, what does the author compare the height of his nan to?

(1)

He compared her to a Year 6 child, and a small one at that.

Tick true or false

The story took place in the Summertime

Nan often visited on Wednesdays.

Nan arrived on a broomstick.

Nan was a large woman.

Nan had a good sense of humour.

T	F
✓	
✓	
	✓
	✓
✓	

Two marks for all 5 correct, one mark for 3 or 4 correct answers. (2)

The author describes his house as being higher than that of his neighbour's house. How much higher does he say it is? (1)

One and a half metres higher.

These questions are about Nanny, Rolling.

In paragraph 2, how does the author describe his Nan? (2)

She had wiry grey, curly hair, a hooked nose and wore thick-lensed glasses.

He also described her as a 'small witch'. (Any 2 of these)

The author's mother tried to help Nan as she fell, but what did she actually end up doing instead? (1)

She ended up pushing Nan down the steps.

Number these statements to put them in the correct order.

Nan and mom were talking as they left the house.

Nan landed on her side and rolled down the drive.

Nan's belongings bumped into her.

Nan lost her footing on the step.

Mom accidentally pushed Nan down the steps

1

4

5

2

3

(1)

'I'm sure she would have been glad of a broomstick at this point...'

Because she could have used it to fly to safety.

It would have stopped her from breaking her hip in the fall.

These questions are about Nanny, Rolling.

The author writes, 'Mum came racing down the drive to help her mother and scolded us appropriately'.

What do you think is the closest meaning to the word 'scolded'?

Burn with hot water

Trying not to laugh.

Chastise someone.

Asking for help in an emergency.

✓

(1)

What two words or phrases are used to describe how the contents of Nan's handbag appeared to move? (2)

Magnetically frantic.

Criss-crossed each other's path.

Why does the author use the word 'ironic' to describe the final resting place of Nan's hairbrush? (2)

It landed by her hair and brushes are used on hair.

It landed right underneath a curl.

Her hair was now a mess and needed brushing.

These questions are about 'So, what's an X-Ray?'

Tick true or false

X-Rays can be seen by the human eye.

X-Rays were first discovered by a German professor.

X-Rays can't go through metal very well.

X-Rays show where broken bones are by automatically colouring them red.

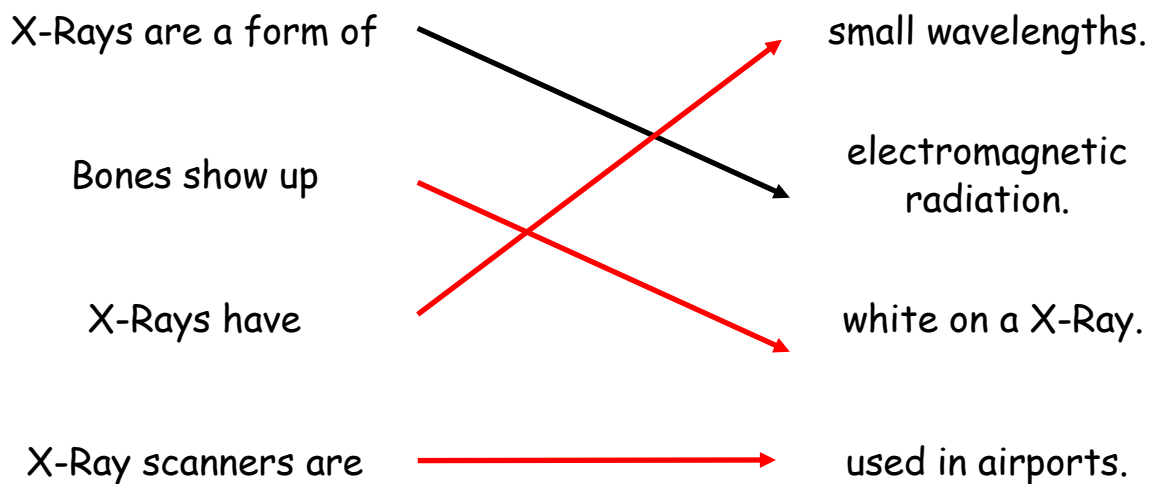
T	F
	✓
✓	
✓	
	✓

(2)

When were X-Rays first discovered by Professor Röntgen? (1)

1895

Draw lines to match the statements.



Two marks for 3 correct answers, 1 mark for 2 correct answers. (2)

These questions are about 'So, what's an X-Ray?'

In what year was Professor Röntgen awarded the Nobel Prize? (1)

1901

In which scientific area did he get this award? (1)

Physics

Professor Röntgen discovered X-Rays by accident. What phrase is used to show you this? (1)

Unknown energy.

What do X-Rays do to photographic paper? (1)

Turn them black.

Give three examples of the features of non-fiction texts that are used in this extract. (3)

Heading/title.

Sub headings/sub titles.

Images/photos/Caption.

Formal tone.

Words in bold - referring to the glossary. Etc.

These questions are about 'So, what's an X-Ray?'

Why are some of the words in **bold** type? (1)

Reference to the glossary.

Help to find the meanings of these unfamiliar words.

Explain why are X-Ray scanners useful in airports?

Give an example from the text. (2)

They help to find hidden objects.

A hidden knife is shown.

Look at the image from the airport scanner.

Use the information from the text to explain how and why some objects can be seen better than others. (3)

Reference to density of the objects.

Reference to how they show up lighter or darker.

Reference to how metal can be seen easily.

Reference to the fact that metal objects look white.

Why are you asked to remove all metal objects before having an X-Ray? (1)

Because X-rays can't go through metal thus hiding any illness, broken bone or dangerous object, etc.

These questions are about the extract from 'The Boy on the bike'.

Circle the correct answer.

Where is most of this extract set?

The hospital
car park.

A and E

The hospital
lift

Chloe's room

(1)

In this extract, Zach had two jobs to do.

What were they?

(2)

Look after his sister by staying with her.

Delay his parents getting back to the room before Chloe gets back.

At the start of this extract, what three reasons does Zach give for not being with his sister, Chloe?

(3)

Chloe was asleep so he didn't need to be there.

She needed water and she'd run out so he had to get the nurse.

Chloe needed the toilet so he had to get the nurse.

These questions are about the extract from 'The Boy on the bike'.

What does the Boy on the Bike use to help him get to the hospital more quickly? (1)

Alleyways

Shortcuts

Tick true or false

Zach lied to his parents to try and slow them down.

Zach pretended to hurt himself on a trolley.

Chloe was holding on very tight.

Zach's mum thought that he'd really hurt himself on the hospital trolley.

Chloe shouldn't have been out of the hospital.

T	F
✓	
✓	
	✓
	✓
✓	

(2)

Why does the author use the word 'advantageous' when describing the position of the trolley in the A and E department? (1)

Because it was sticking out in a strange position so Zach used it to his advantage by pretending to trip over it.

These questions are about the extract from 'The Boy on the bike'.

Number these statements to put them in the correct order.

Zach headed over to the vending machine.

Zach's mum wants to know why he's not with Chloe.

Zach greets his dad first.

Zach's mum gets in the lift.

Zach trips on a trolley.

3

2

1

5

4

(2)

In the paragraph starting '*The boy on the bike entered the hospital car park*', what device does the author use increase the tension? (1)

Short sentences.

Chloe is seriously ill.

Find evidence from the text to support how you know this. (3)

She was in hospital.

'Her grip was starting to weaken.'

'A and E was busy as usual' - suggesting that they go there a lot.

The lift might 'stop at ever floor' - suggesting that they're used to this.

Chloe was slumped on the floor by the window.

Chloe could hardly speak to her mother.

Chloe's head fell backwards.

Zach's parents were happy to leave him to look after Chloe.