

# CHALLENGE

VELS-links  
inside!



## Macro-Micro

Hidden  
WORLDS

Fantastic Journey

Stinky  
Feet

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# Stinky Feet

by Ali Ashley

Photo courtesy Shutterstock



*It's really hot, you've been playing sport all morning and your feet are sweating in your runners. You run indoors and with relief, kick off your shoes. Big mistake!*

Your feet stink like rotten eggs made into an omelette with extra smelly cheese. It's totally gross and totally embarrassing. But why do sweaty feet stink?

Bacteria love damp, dark places, feed on dead skin cells, body oils and sweat. So where on the human body is the best place for bacteria to feast and multiply? Yes, on that sweaty pair of feet tucked inside those shoes.

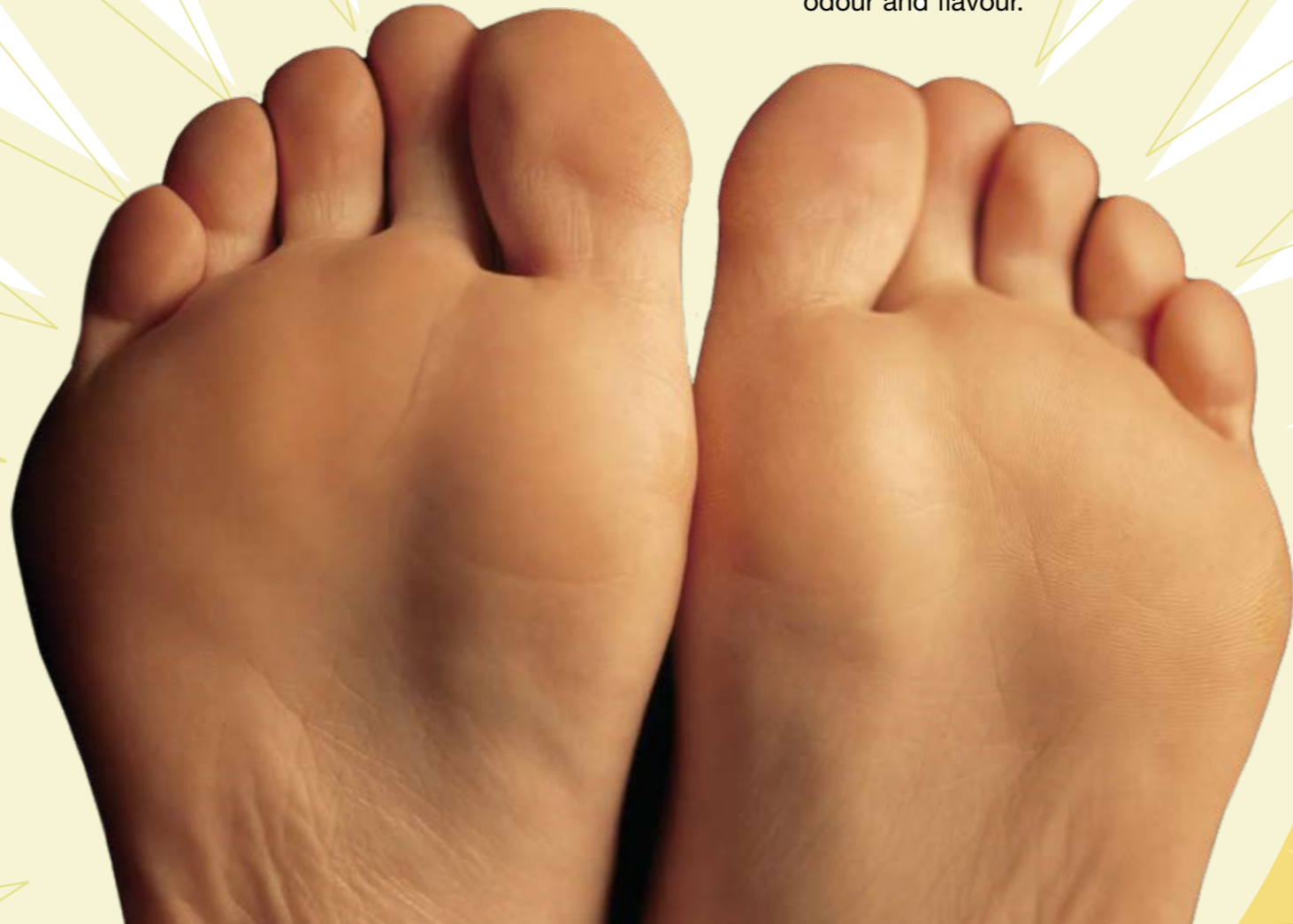
How can something so small make such a big smell? As bacteria feed, they also produce waste. It's the excrement that makes feet smell so bad. The sweatier the feet, the smellier they will be.

Some people sweat more than others. Your own feet may sweat more depending on what you're doing, the weather and the shoes you're wearing.

## GERM WASTE

The more sweat that is produced, the more food there is for the bacteria, the more they feed, the more they multiply, the more waste they produce. And the more waste the worse the smell.

Some of the things that make smelly feet worse are wearing nylon or synthetic fabrics because they don't allow your feet to breathe. If you wear shoes without socks, the sweat stays on your feet, keeping them wet and feeding the bacteria. Poor hygiene, wearing shoes that are too small, shoes without ventilation or boots can also make foot odour worse.



### Did you know?

- There are over 250 000 sweat glands in your feet.
- Every week, the sweat glands in your feet release 4.5 litres of sweat, or a cup of sweat daily.
- Tinea is another cause of foot odour. It is a fungal infection that thrives in warm, moist places.

## ROTTEN EGGS

Why the rotten eggs smell? A strain of bacterium found munching on your dead skin cells converts methionine as it chomps away. Methionine is an essential amino acid that contains sulphur. It is present in some of the foods we eat. The bacteria produce sulphur compounds and release that distinctive rotten egg smell as they do their stuff.

And then there's the cheesy smell. That's because some bacteria found on your feet are also present in the manufacture of cheese. They give cheese its distinctive odour and flavour.

## ODOUR EATERS

To reduce the pong, the best thing to do is to reduce the amount of sweat:

- Wear clean cotton socks – socks absorb the sweat.
- Change socks when they become damp.
- Air your shoes – the sweat evaporates when you do this.
- Wear ventilated shoes.
- Avoid plastic shoes – they trap the sweat on your skin.
- Keep feet clean.
- Wash with anti-bacterial soap – this won't reduce the sweat but will keep bacteria at bay.
- Use deodorant on your feet.
- Remove hard skin from the feet – this becomes softer when the feet sweat, providing lots of skin cells for bacteria.

What if they still stink? If you've tried all the tips but people still run away when you take your shoes off, for the sake of your friends and family, leave your shoes on until you can wash your feet!

**Check this out!**

[http://kidshealth.org/kid/grow/body\\_stuff/feet\\_stink.html](http://kidshealth.org/kid/grow/body_stuff/feet_stink.html)

### TRY THIS!

VELS Links			
Strand	Domain	Dimension	
Physical, Personal and Social Learning	Health and Physical Education	Health knowledge and promotion	
Ideas for VELS inter-related activities			
Strand	Domain	Dimension	Activity
Discipline-based Learning	English	Writing	Write a poem called 'stinky feet'.
Discipline-based Learning	The Arts	Exploring and responding	Write and dramatise an advertisement for a foot deodorant.

Photo courtesy istockphoto

# Travelling Through Time

by Amanda Collins



TRY THIS!

VELS Links			
Strand	Domain	Dimension	
Discipline-based Learning	Science	Science at work	
Ideas for VELS inter-related activities			
Strand	Domain	Dimension	Activity
Physical, Personal and Social Learning	Personal Learning	The Individual learner	Would you like to travel forward or backward in time? Discuss this with a partner.
Discipline-based Learning	English	Reading	Read a chapter from <i>The Time Machine</i> , by H G Wells.

**Did you know?**

- It would take 100 000 years travelling at the speed of light to cross our galaxy.
- Around 100 000 atoms would fit across the width of a human hair.

Since time began, people have looked to the skies for answers to the cosmos. By studying the stars and planets, the universe has revealed secrets beyond our wildest imaginations. Have you ever wondered what it would be like to travel through time? You may be surprised to learn that you already have (in a way).

Our night sky is filled with stars, planets and far-away galaxies. It is amazing to think how far away those tiny points of light are. Our sun is 150 million kilometres away from the earth. If we could drive there, it would take more than 170 years non-stop. Even the sun's rays take time to reach the earth. Light travels at nearly 300 000 kilometres per second, so we see the sun as it was eight minutes ago.

The closest star to the Earth (apart from our sun) is Proxima Centauri. The light we see from this star began its journey 4.3 years ago. The farthest galaxies we can detect are millions of light years away. That star you are looking at may not have existed for thousands of years. You are looking into the past!

### Universally Small

It is hard to fathom just how big our universe is. Some scientists say that it is infinite – there are no boundaries. When we ponder how big the universe is, it makes us seem small and insignificant, and yet each person is completely unique. No two fingerprints are the same – no one will ever be identical to you in every way.

Once upon a time, the atom was the smallest known particle. Today, scientists are finding particles smaller than the components of an atom. In the future, maybe even smaller particles will be discovered. In this sense, not only is the universe infinite, it is also infinitesimal. Perhaps we aren't so tiny after all.

So, if looking at our night sky is like looking into the past, does that make time travel possible? Based on Einstein's Theory of Relativity, scientists believe that travelling to the future may be possible. If a person were to travel away from the Earth at the speed of light, time would pass by differently for the traveller than for the people left behind. By the time the traveller returned, everyone else would be a lot older, yet the traveller would hardly have aged at all.

### Into the Past

Travelling into the past would introduce many problems. What would happen if you accidentally changed history? If you no longer existed, who was that mysterious visitor from the future? The theory of time travel relies on moving close to the speed of light.

But to go back in time may require us to slow down the speed of light, or make it move in circles rather than waves. Is this an impossible feat? At the moment, our technology restricts us from finding out for sure.

We are limited only by our imaginations as to what we can discover and explore. When we look out at the night sky and imagine what could be, anything is possible. You never know . . . you might be the first person to invent a time machine. Imagine that!

The Film *Back to the Future* explored time travel into the past.

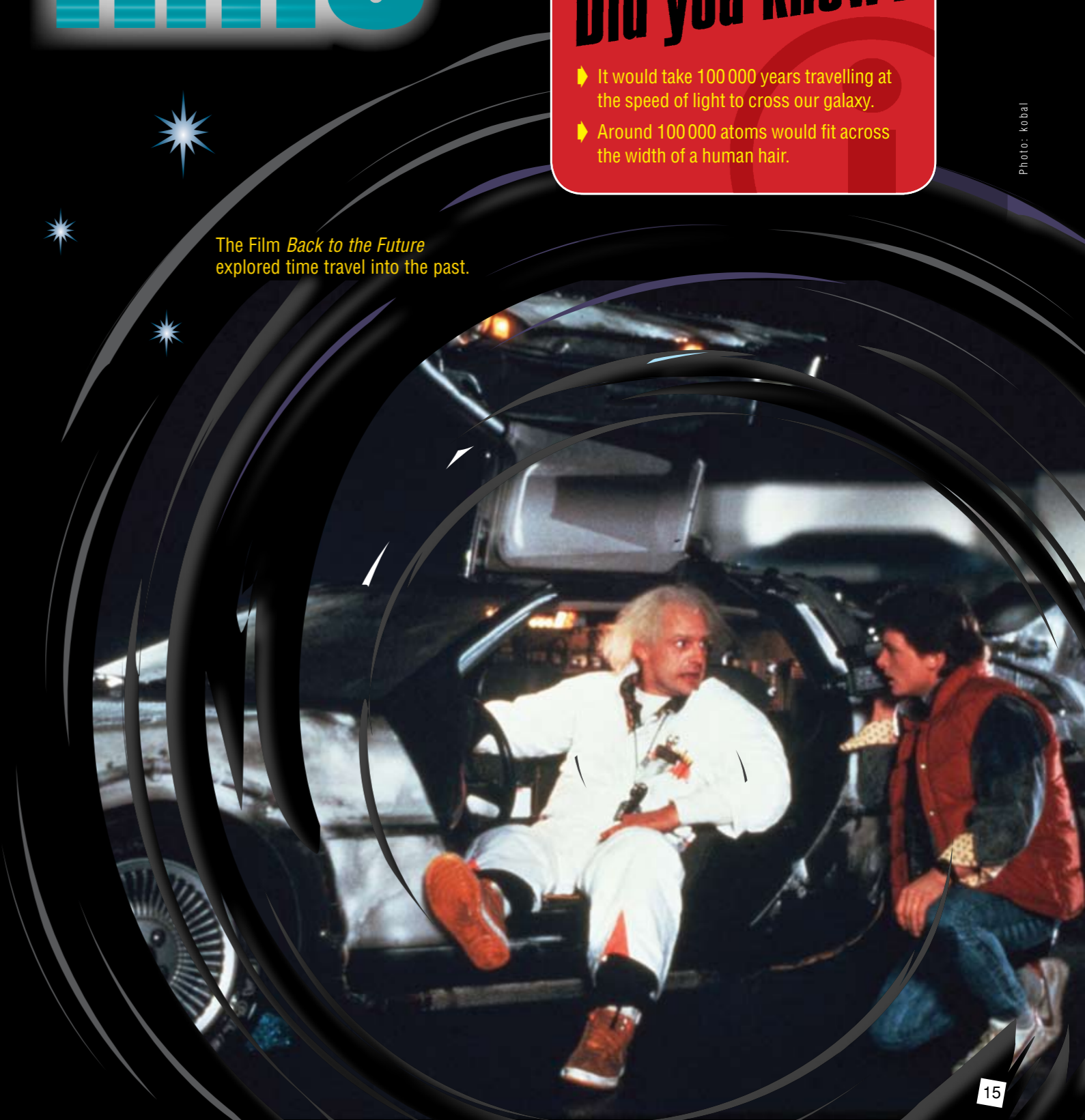


Photo: Kobal

**Check this out!**

[www.pbs.org/wgbh/nova/time/](http://www.pbs.org/wgbh/nova/time/)  
(Einstein's Theory of Relativity)

<http://science.howstuffworks.com/time-travel.htm> (time travel)



# Flagretia, Queen of Fire

by Lachlan Marnoch

The Queen of Fire stalked gracefully down a long corridor, crimson cloak fluttering along behind. She held in her hand a metal staff at the top of which burned an orange flame. A hood obscured her features. At the end of the corridor was a huge double door. She pushed it open without stopping. Behind the doors was a large dome-ceilinged room. Sitting in a pit in the centre was a vast bonfire. Standing around the fire was a circle of people, made entirely of flames.

There was a wooden throne at the opposite end of the room, painted with orange flames. When the Queen entered the room, all of the fire beings dropped to the ground, bowing. One started speaking.

'All hail, Flagretia, Queen of Fire, Empress of all of Tenetia.'

Flagretia's red stiletto shoes clicked against the marble floor as she crossed the room towards the throne. She turned and sat gracefully, staff in hand. She reached up and pulled back her hood.

Her face was unimaginably beautiful, her lips deepest red. A black streak ran from the tip of her nose to the fringe of her red hair. Her eyes were orange and apart from the black streak, so was her nose. The orange extended to around her eyes, almost like a ballroom mask. The rest



of her forehead was gold. On her right cheek was a small image of a flame. The rest of her lower face was white, the colour of super-heated metal.

'Bring in the traitor,' she ordered in a voice full of treble and echo. Another door swung open and three fire beings entered. Two of them walked. The other was being dragged along between them. His flames were dim and there were places where you could see straight through him.

'Mander Torchwood, you stand accused of High Treason to the Queen of Fire, and of passing information to the Frozen Ones. How do you plead?'

Mander Torchwood looked up at Flagretia, his burning face forming the impression of a smile. The attention of the whole room was focused on him now.

'For centuries our race has prevailed, conquering and burning and slaughtering.'

'How do you plead, spark?' Flagretia demanded, growing angry now. The flame on her staff flared, fed by her anger.

'Guilty,' replied Mander Torchwood. 'But I must say one thing before you extinguish me. The Frozen Ones are coming. They shall drive you back to the Mother Volcano and they will seal you there. Never again will you terrorise the lands of Tenetia.'

Flagretia's staff was exploding with rage now. Her voice trembled with anger as she said, 'Drop him in the pool.' The guards dragged Mander out of the room and towards the water chamber.

The three fire beings entered the chamber. Inside was a pool, full to the brim with horrible, clear, still water. One of the guards stopped still. He was staring at the wall. A blanket of frost was forming over the wall and cracks were running down the stone work. The wall exploded inwards. One guard was knocked backwards into the pool. He was extinguished instantly.

A figure loomed in the newly-formed hole. The other guard lifted his arm and tossed fire balls towards it. The figure leapt out, dodging the fiery projectiles. It seemed to be made of ice. It grabbed the guard by the neck and tossed him screaming into the pool. Mander noticed that the creature's hand had melted slightly where it had grabbed the guard.

'Mander Torchwood?' it growled.

'Yes,' replied Mander inquiringly.

'You will come with me'.

The Frozen Ones had arrived.

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See winners' names and entries online at [www.pearsoned.com.au/schools/magazines/yawa.asp](http://www.pearsoned.com.au/schools/magazines/yawa.asp)

Lachlan was a Year 7 student at Oxley College, Burradoo, New South Wales, when he wrote this story.

'If this fiery piece doesn't quench your thirst for fantasy, nothing will. It has it all: quest, action, grandeur, evil queen, hero, action, other-world setting and ideas.'

PAUL COLLINS

# The Four Seasons

by Calista Fung

She gives a bubbling laugh  
Her train of pink dragging  
A slippered foot bathed in blossoms  
Blue eyes lingering with cloudy days

He comes in majestic gold  
A ruby sunset at his side  
Dimpled leaves enveloping his hair  
Topaz circles encrusting his fingers

She glides in weeping immortality  
Bronzed face hidden with cracked curls  
Commanding authority with each crunching step  
Freckles drifting off her skin

He staggers sharply and slow  
A silver staff gripped tightly  
He howls at his siblings' graves  
White beard torn and stained

Calista was a Year 8 student at Rangī Ruru Girls' School, Christchurch, New Zealand when she wrote this poem.

'Calista shows a brilliant sense of imagery in this piece about the four seasons. How clever to humanise them. One can almost smell the blossoms of spring, and feel the cold of winter.'

PAUL COLLINS