

A simple Saturday brings an amazing surprise for Poppy, Big Bao and Li'l Bean when Bruno the puppy leads them to a mysterious box buried in the garden.

Join our curious trio on their eye-opening adventure in Life Science as they uncover

The Mystery of the GROOVY GOGGLES

Discover how everyday ordinary things can be extraordinary if you learn to look at them differently.



Bayer

An initiative by Bayer (China) Limited to educate the future scientists of our planet.

The Mystery of the GROOVY GOGGLES An Adventure in Life Science

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STORY JOINTLY CREATED & WRITTEN BY
Choo Li-Hsian and Natasha Wong

ILLUSTRATIONS BY
Hsulynn Pang

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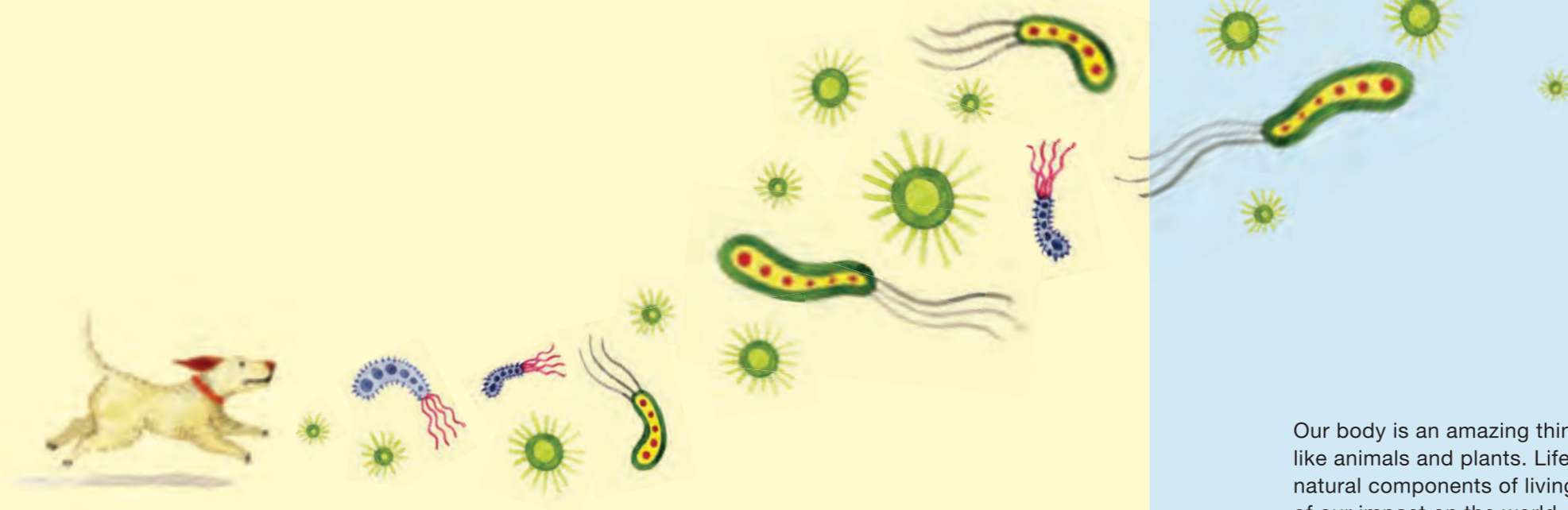
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Book design by Nina Ng
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Our body is an amazing thing, mysterious and magical, as are the bodies of other living creatures, like animals and plants. Life Science helps us better understand how smartly the physical and natural components of living things work. It also helps us have a more meaningful understanding of our impact on the world, and guides us to make informed choices about our healthcare, food, lifestyle and taking care of our loved ones and our surroundings.

We believe that children, both boys and girls, will benefit greatly from learning more about Life Sciences. A greater knowledge about humans and other living things will enhance their appreciation of nature and may encourage them to discover more. Such knowledge can also be applied in their daily lives so that they can be healthier and happier.

As a leading Life Science company, Bayer is proud to sponsor this wonderful book *The Mystery of the Groovy Goggles*. It helps to unravel some of the mysteries of how seemingly ordinary things in the world work, including our bodies, and share this with children in a fun, colourful and engaging way. Children are our hope for the future. We believe that this book will inspire our children (and hopefully their parents as well as other adults) to know more and think more critically, to be more curious about science and innovation, and to stretch their imaginations without limit.

A handwritten signature in black ink, appearing to read 'Celina Chew', located below the endorsement text.

Celina Chew
President of Bayer Greater China Group



Equipped with his five senses,
man explores the universe around him
and calls the adventure **Science**.

- Edwin Powell Hubble



Poppy



Big Bao



Li'l Bean



Bruno



What is your name?
What do you look like?



It was a stuffy-nose-*stuck-at-home* kind of Saturday.



Good friends can warm the heart when you have a cold.



Very soon after.



Even in our backyard, there are treasures untold.
Oh, the surprises simple Saturdays can hold!



What is Life Science?
It's the study of Living Things.

What are Living Things?

They are made up of tiny cells and come in different *Shapes* and *Size*s. People, plants and animals are all living things.

Some living things are so small that you can't even see them.

We are living things because...

We move.

We eat.

We breathe.

We reproduce.

We need to get rid of waste.

We are sensitive to things around us.

We **gROW**.





There is a teeny
tiny world in every
little drop.





BRUNO'S BRAINY BITES

When you sneeze, the nasty germs can fly as far as 10 metres away.





Life Science is the study of all living things, including people, plants and animals. **Life Science** helps us to learn about our bodies.

When any of our many body parts don't work well, we can fall sick.



BRUNO'S BRAINY BITES

What is a cell?



A human body is made up of 22 internal organs, 206 bones and 600 muscles. It also has 100,000,000,000,000 cells. That's a hundred trillion cells!

Cells are the building blocks of all living things. Our bodies are made up of brain cells, fat cells and blood cells. Every cell has a special role to play.



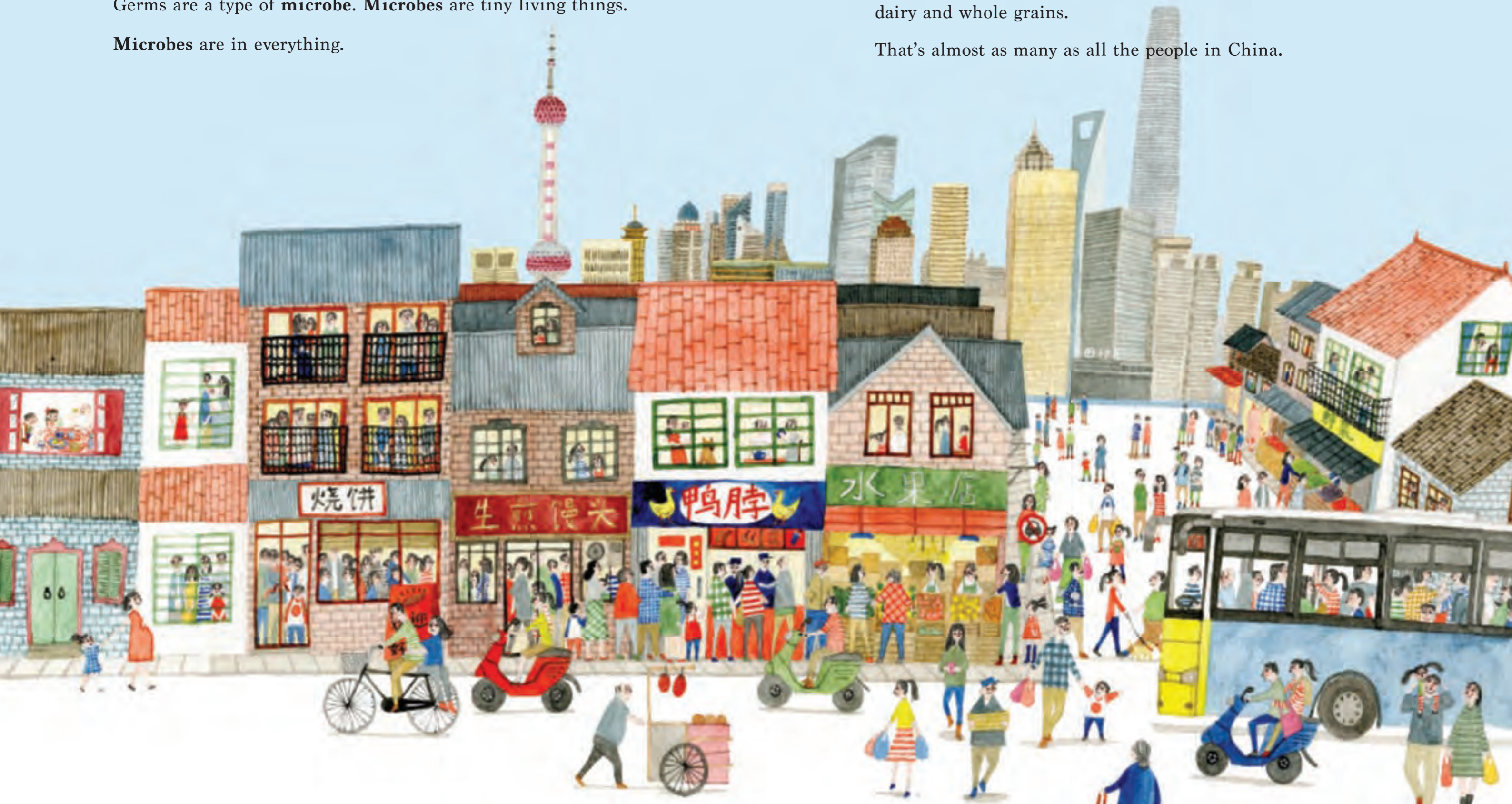
We also fall sick when germs attack our bodies.

Germs are a type of **microbe**. **Microbes** are tiny living things.

Microbes are in everything.

We swallow about 1.3 billion **microbes** a day when we eat healthy balanced meals made up of fruits, vegetables, lean meat, dairy and whole grains.

That's almost as many as all the people in China.



BACTERIA

VIRUSES



Staphylococcus aureus



Salmonella enterica



Bacillus anthracis



Smallpox virus



Influenza virus



Ebola virus

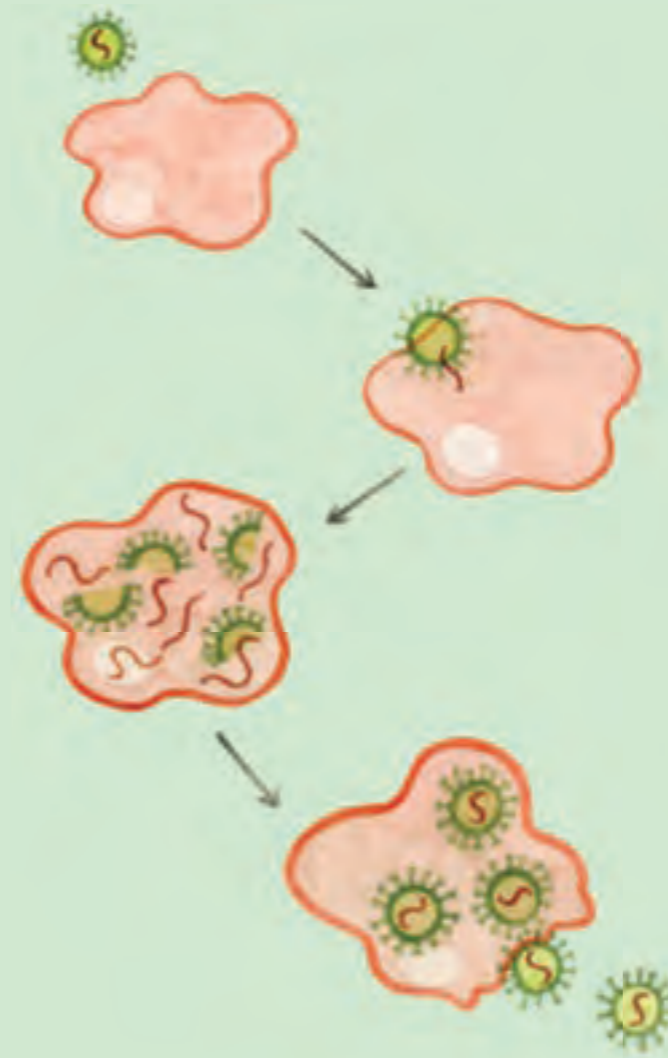


Two types of germs that *can* make you sick are **bacteria** and **viruses**. They are very **different** from each other.



A *single* bacteria in your body can multiply into *millions* in a matter of hours. Bad bacteria produce poisons that can harm the cells in your body.

Bacteria can cause ear infections, sore throats, stomach aches or toothaches. Luckily, scientists have invented many **medicines** and **vaccines**, some of these even use good bacteria to fight the bad bacteria.

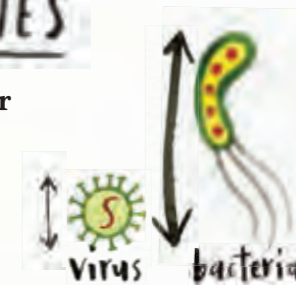


A virus can sneak into your body's cells. Inside, they multiply. The cell then pops open and the new virus particles pour out to find other cells to enter.

Colds, chickenpox, mumps and measles are types of **diseases** caused by viruses. Scientists are still trying to find medicine to *kill* viruses. They have discovered vaccines and various ways that can help your body get stronger to fight back.

BRUNO'S BRAINY BITES

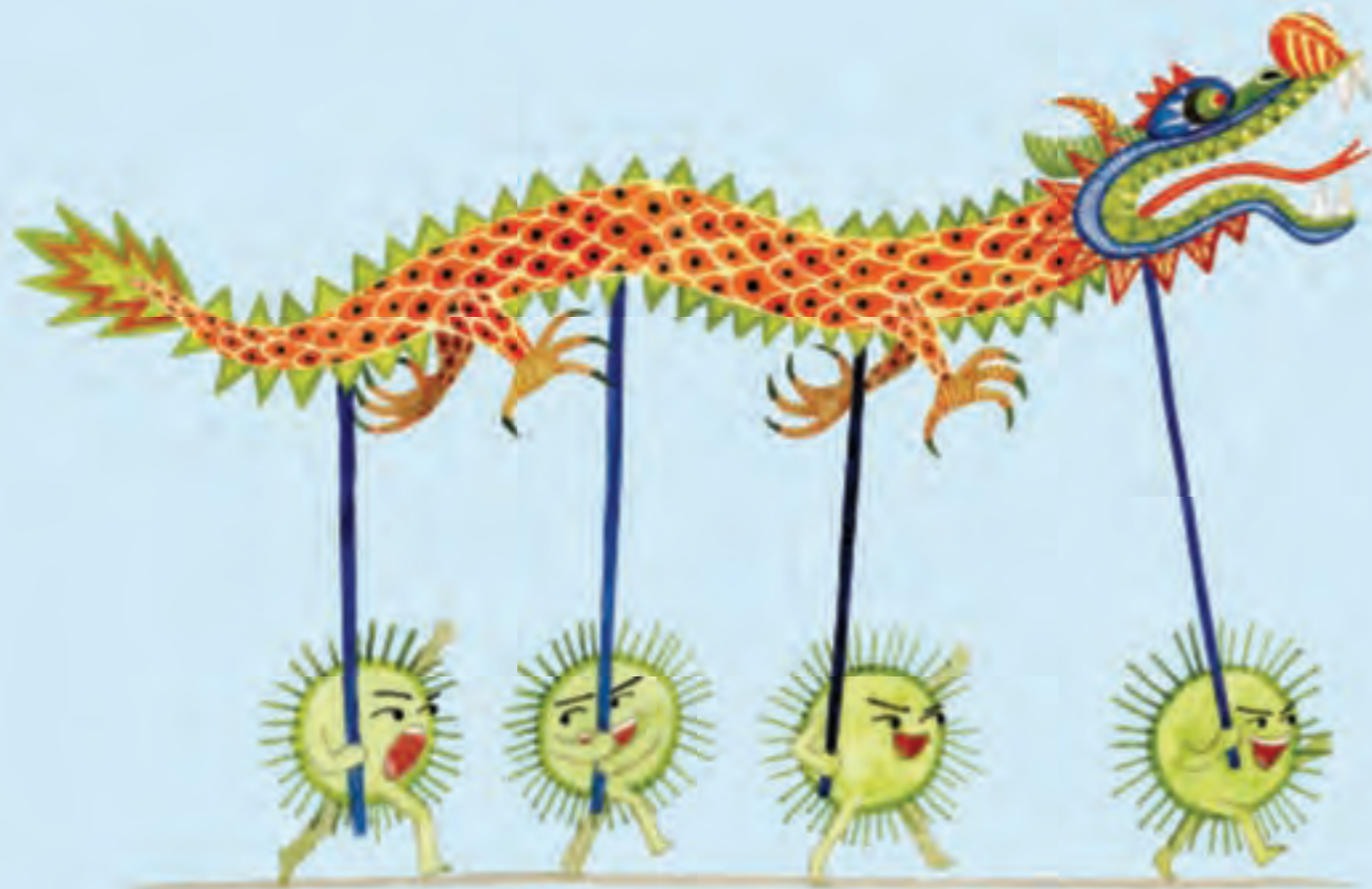
The largest virus is smaller than the smallest bacteria. Some bacteria are good for us, but all viruses are bad and cause disease.



Your body is a *fortress*. Your skin is like a fence that keeps many harmful germs out. The small hairs in your nose are like a net that catches germs before they are breathed into the body.

If germs do enter your body, your army of **white blood cells** will fight them. Vaccines can help to strengthen this army.

Eat well, exercise and stay healthy to keep your body's army strong.



Life Science can make life better for *all* living things.

Even though medicine cannot kill the cold virus, scientists have found ways to help you feel better.



Some of the most *serious diseases* in history are caused by viruses, like HIV (causes AIDS), Poliovirus (causes Polio) and the Variola virus (causes Smallpox). Scientists are still looking for new ways to fight viruses.

Will you help us find a cure?





Pollen is a powder released into the air by trees, plants and grass to fertilise other plants. It is made up of very tiny grains. Many people are *allergic* to pollen.

There are many things that can cause *allergies*. They are called **allergens**. Sometimes, your body thinks that these ordinary things are harmful.

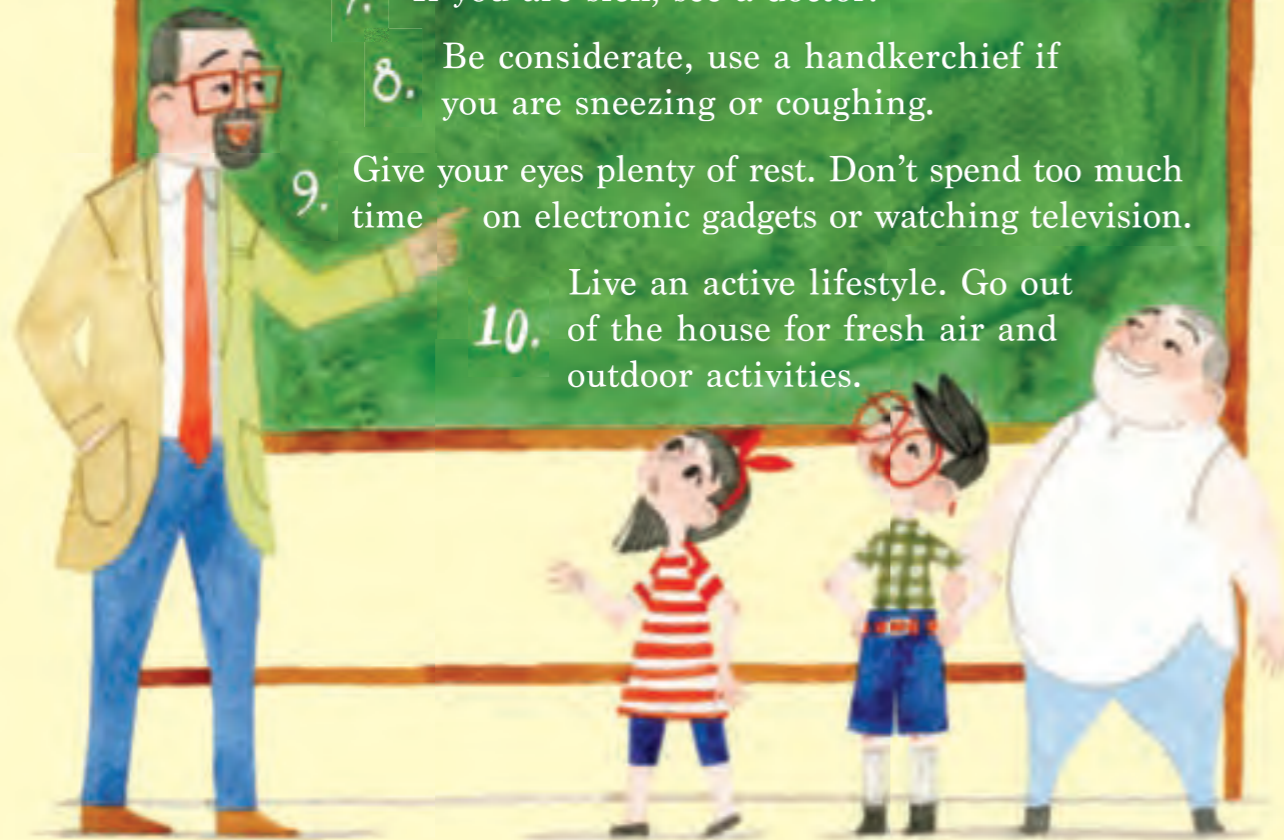
Allergies can cause wheezing, chest tightness, hives and lightheadedness. If you experience any of these symptoms, see a doctor immediately.



The best way to avoid allergies is to *stay away* from the allergens that affect you. If you have a bad allergy, scientists have invented medicine that can help you feel better.

Healthy Habits

1. Wash your hands regularly with soap and water to get rid of germs.
2. Eat fresh and healthy food like vegetables, fruits and whole grains.
3. Start the day with a healthy breakfast. It gives you energy for the rest of the day.
4. Drink lots of water.
5. Get plenty of rest and sleep.
6. Exercise every day.
7. If you are sick, see a doctor.
8. Be considerate, use a handkerchief if you are sneezing or coughing.
9. Give your eyes plenty of rest. Don't spend too much time on electronic gadgets or watching television.
10. Live an active lifestyle. Go out of the house for fresh air and outdoor activities.



Life Science is the study of all living things, including people, plants and animals. It is important to learn about the plants and animals around us. We have a responsibility to take care of them.

Life Science should make life *better*, not just for human beings, but for **all living things.**



Life Scientists study the animals around us.
They have found ways to keep them *healthy*.



Life Scientists have also found ways to keep our farm animals *healthy*.



BRUNO'S BRAINY BITES

Good bacteria live in your gut and help you digest food. Some food like yoghurt and cheese also contain good bacteria.



Plants are also living things. They are very important to us and our planet. Flowers make us feel happy. Trees help absorb carbon dioxide and make our planet greener. Forests are the homes of wild animals. Many plants are used to make medicine.

Plants are also a main source of food for people and animals. We need plants and animals and they need us to protect them.


BRUNO'S BRAINY BITES

People hunt animals and destroy the places that plants and animals call home. Many beautiful animals like the Leatherback Turtle and the Western Black Rhinoceros are close to becoming extinct. When living things become extinct, they die out and we lose them forever.



Life Scientists
study plants too.





Scientists study everything from plant seeds, harvest machines and changing weather patterns. They are always looking for new ways to help our farms produce more food.

We have **7 BILLION** people in the world today.

How can we feed everyone, everywhere, every day of the year?

DIFFERENT KINDS OF LIFE SCIENTISTS



Marine Biologist



Microbiologist



Zoologist



Botanist



Entomologist



Osteologist



Paleontologist



Paleoecologist



Biochemist



Geneticist

Life Science is learning about ourselves and the living things around us.

What kind of **Life Scientist** would *you* like to be?
How will *you* make life better for all living things?



The mysteries of **Life Science** are hidden in the most *ordinary* places.

GO, EXPLORE AND DISCOVER

a world beyond your wildest imagination.



Put on the goggles and watch this page come to life.

Take a look at the scene with the Shanghai skyline on pages 44 and 45.

Try to find all the things listed below:

1. A baby
2. Two boys wearing the same shirt
3. The Oriental Pearl Tower
4. A backpack
5. A man with a moustache
6. A woman wearing spectacles
7. Two dogs
8. A teapot
9. A man falling asleep
10. The Bayer China logo



