





## NATURAL SCIENCE 6



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- · Sense organs
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Find out more	Documentaries
• Investigate how the brain can affect our reflexes.	• Sensing our world
• Find out how bacteria are spread.	Working together: look    what your body can do
• Discover how to extract genetic material from cells.	• Changes over time
• Discover how to analyse data using different charts.	• Health is life
• Investigate how chromatography works.	Messy and not so messy mixtures
<ul> <li>Discover the relationships between mass, volume and density.</li> </ul>	• Machines on the move
<b>A</b>	



### WHO ARE THESE GREAT SCIENTISTS?

These scientists have used science to improve our lives, but science is easy for anyone to use, including you. The most important quality to have is curiosity!

Before reading the text, can you guess what each scientist did?

#### Linda B. Buck



She worked out how the receptors in our noses enable us to sense so many different smells. You should think of her the next time you smell something delicious!

Which scientist is being described? Listen and guess.

Did you know ... discovered ... ?

Their work was important because ...

#### Dorothy Crowfoot Hodgkin



She used X-rays to determine what certain molecules look like, e.g. penicillin, vitamin B12 and insulin.

#### Rosalind Franklin



She carried out the first X-rays of genetic material, which allowed other scientists to discover the structure of DNA. Now we know that DNA is arranged in a spiral!





#### WOMAN TO WIN A NOBEL PRIZE

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#### **Marie Curie**



She discovered and studied the radioactive elements radium and polonium. These became important in other scientific experiments and in medicine, to treat tumours.

Women continue to be underrepresented in STEM careers (Science, Technology, Engineering and Maths). Many educational centres aim to promote women in STEM by providing the support needed to guarantee their success. However, to advance women in STEM, we first need to acknowledge their historic contributions in the sciences

Find out about three more firsts for female scientists.



#### Katherine Johnson



She made contributions to aeronautics and space programs through her incorporation of computing tools. She played a huge role in calculating flight trajectories for the first American in space and for the 1969 flight to the moon.

#### You!



Starting with the fascinating topics you will learn about this year, how can you use your curiosity to contribute to science?



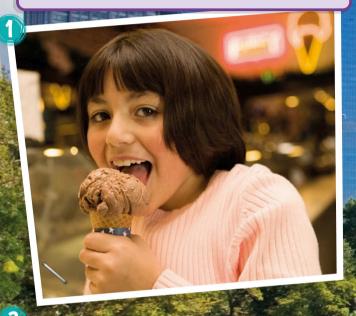
Can you name any other famous scientists?
What discoveries have they made?



# HOW DO WE INTERACT WITH THE WORLD?

#### Look and discuss...

Which senses are being used? How?



Our senses allow us to appreciate and interact with our environment. We could not survive without them! Our nervous system enables us to interpret information from the senses and react.



We use our ... to ...

... is being used to ...



1 taste; 2 sight; 3 smell; 4 sight and hearing; 5 sight and touch; 6 hearing





Song See, hear, touch, smell, taste



I'm Super Sensational Girl! I'll help you to learn how we interact with our environment and how our nervous system works.

Can you think of ways our senses help us to escape danger? DOGUMENTARU

Sensing our world

We have adapted to sense information about the world around us.

Come with me and learn about:

- the five senses and how they gather information.
- how our body sends information from one part to another.
- the need for different body systems to work together to accomplish even the most basic of tasks.
- the things our bodies do to protect us even without thinking.



## HOW DO OUR BRAINS COLLECT INFORMATION?

When we lose one of our senses, the others become stronger.

Interaction begins with our **sense organs**. These contain **receptors**, which are specialised cells that collect information, known as **stimuli**, from all around us. This information is then passed on to the **nervous system**.

