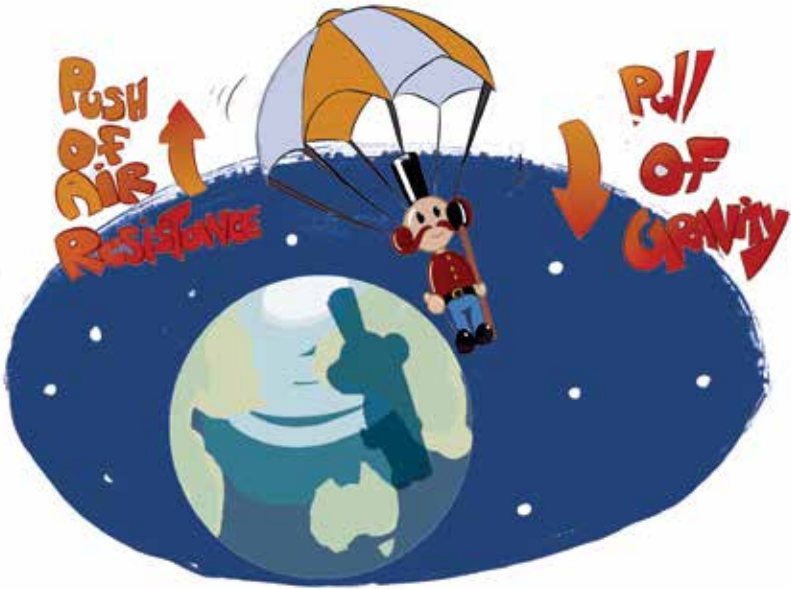




Push and pull forces

Physical Sciences



Written for the Australian Curriculum: Science

Sienna Osborne | Randall Hall | Richard John

AUSTRALIAN CURRICULUM: SCIENCE

Strand:	Science Understanding, Science Inquiry Skills
Sub-strand:	Physical Sciences
Descriptor:	A push or pull affects how an object moves Compare observations with those of others Represent and communicate observations and ideas in a variety of ways

SCIENCE WORDS

Push, pull, forces, gravity, Earth

INFORMATION FOR PARENTS OR CAREGIVER

Helping your child learn to read is a rewarding and enjoyable experience for both you and your child. Here are some ways you can help your child with their reading.

BEFORE READING

- Introduce the book; read the title and look at the picture on the front cover. Ask what the book might be about.
- Ask your child if they know any forces. Look through the book and talk about the pictures. Can they identify any forces from the pictures?
- Refer to the science words. Discuss each word and its meaning. These words will appear in the book.

DURING READING

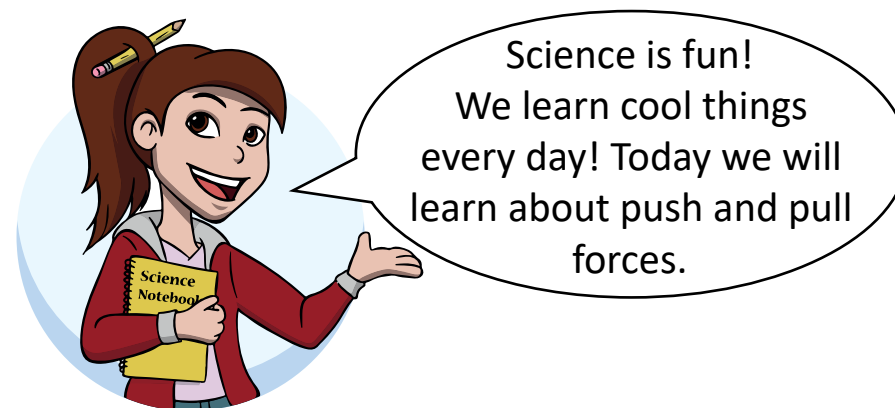
- At this level, your child should attempt to read their home reader on their own. There may be words they are unsure of. Encourage them to break these words down into their individual sounds, blending them from left to right.
- Stop your child on the pages where Suzie the Scientist appears. Discuss the science vocabulary and interesting information presented.

SCIENCE CONCEPTS IN THIS BOOK

From the early stages of the *Australian Curriculum: Science* students are asked to investigate the way objects move and what influences the way they move.

In this book, the reader is asked to look at the forces that impact the movement of common objects around them. Newton's first law of motion suggests *an object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force*. Therefore force must be applied to an object for it to move, change direction, slow down or stop. Most children will assume that a force is applied to an object through direct contact—like a person pushing or pulling a door. Forces like gravity and magnetism can also act on objects without direct contact.

This book has a focus on 'push and pull' forces—terminology that should be familiar to your child from their classroom studies. It also introduces the concepts of friction and air resistance as forces that oppose the motion of an object, slowing it down.



Push and pull forces



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Declan had some homework to do.

“I have to make a toy,” he told Suzie the Scientist.

“The toy must use a push or pull force to move it,” he added.

“I don’t know what type of toy to make or how to make it move,” he said.

“Let’s go for a walk around town,” said Suzie. “We can look for push and pull forces in action.”



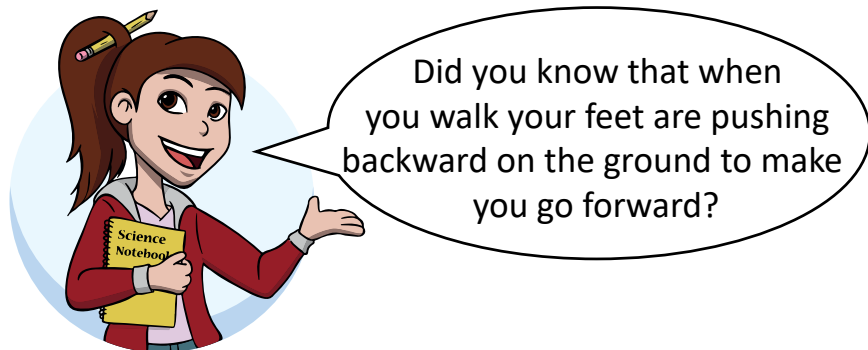
Declan and Suzie the Scientist walked past Mr Brown's house.

"Good morning," said Mr Brown with a smile.

"Good morning," said Declan and Suzie.

Mr Brown has a beautiful lawn.

They waved goodbye to Mr Brown as he pushed his lawn mower up and down the yard.



“My teacher will be very happy,”
said Declan.

“I have made a toy that uses **push**
and **pull** forces!”



AFTER READING

Ask your child what the book was about and encourage them to re-tell it in the order in which it appeared.

Discuss the following with your child to assist in understanding the content of the book:

- What push and pull forces did Declan see when Max was flying his kite?
- What forces do you think could affect Declan's parachute?
- Suzie tells us that gravity is a force that pulls things back to Earth. What other examples of gravity can you think of?
- If you kicked a ball up a hill, what do you think will happen next? Why do you think that?

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Push and pull forces

Physical Sciences

In this book Suzie the Scientist helps us learn about 'push and pull' forces. We explore how a push or a pull force affects how an object moves. Suzie also helps us understand how gravity, friction and air resistance can affect the motion of objects.

Australian Curriculum: All books in the 'Suzie the Scientist' series are written for the *Australian Curriculum: Science* and align directly to what children learn in the classroom. This book addresses the learning outcome "A push or a pull affects how an object moves or changes shape" from the Physical Sciences sub-strand.



WOW! Forces are cool! And so is science.

PARENTS, READ ALONG WITH SUZIE!

*Throughout this book Suzie the Scientist tells us interesting scientific facts. Use these pages to encourage further interest and discussion about **forces** with your child.*

Suggested Reading Level:



PM 19-21, Fountas & Pinnell K-L



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