



Good Vibrations

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:	Light and sound are produced by a range of sources and can be sensed Compare observations with those of others

SCIENCE WORDS

Vibration, vibrate, sound, instruments, mouthpiece, pluck, lungs, cords

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 pictures. Ask your child if they can name any musical instruments.
- Refer to the science words above. Discuss each word and its meaning. These words will appear in the book.

DURING READING

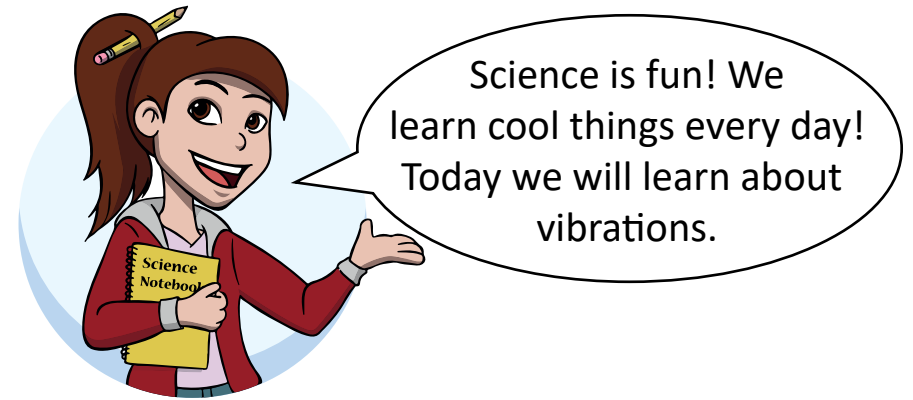
- At this level, your child should attempt to read their home reader on their own. There may be words they are unsure of. Encourage them to break these words down into their individual sounds, blending them from left to right.
- Stop your child on the pages where Suzie the Scientist appears. Discuss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

SCIENCE CONCEPTS IN THIS BOOK

Sounds are created by vibrations. Musical instruments make sound when parts of the instrument are made to vibrate. This causes the air particles around them to vibrate and bump into each other—creating regions of relatively high and low pressure air particles. These high and low pressure regions can propagate through space—this is what is known as a **sound wave**.

Sound waves can also travel through solids and liquids. We sense the sound waves when the vibrating air particles bump into our eardrums—we perceive this as sound.

Musical instruments are categorised in four groups: brass, woodwind, percussion and stringed instruments. Brass instruments make sound when the player creates vibrations with their lips against a mouthpiece (e.g. trumpet, tuba, trombone etc.). Woodwind instruments make sound when air is blown across a mouthpiece (e.g. a flute) or into a mouthpiece causing a reed to vibrate (e.g. clarinet, oboe etc.). Percussion instruments make sound when vibrations are created by striking them (e.g. drum, triangle, xylophone etc.). Stringed instruments make sound when strings vibrate due to being scraped, rubbed or plucked (e.g. guitar, violin, harp etc.).



Good Vibrations



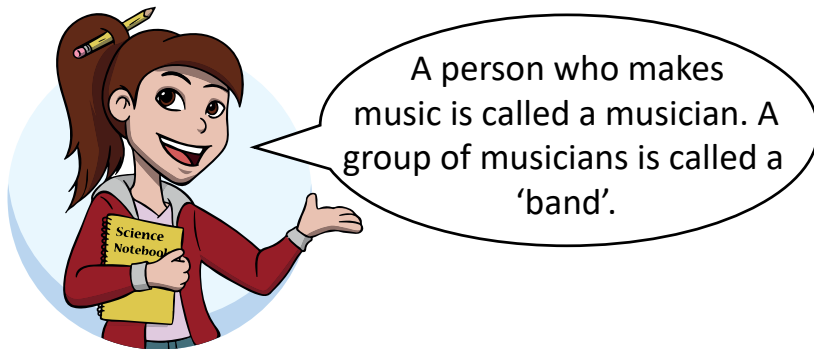
Written for the Australian Curriculum: Science

Sienna Osborne | Randall Hall | Richard John

Sally loves music and she loves to sing along. Music makes Sally feel very happy.

“I think I will start my own band!” she said. “I will ask my friends if they play a musical instrument.”

“And I will see if they want to join my band,” she added.



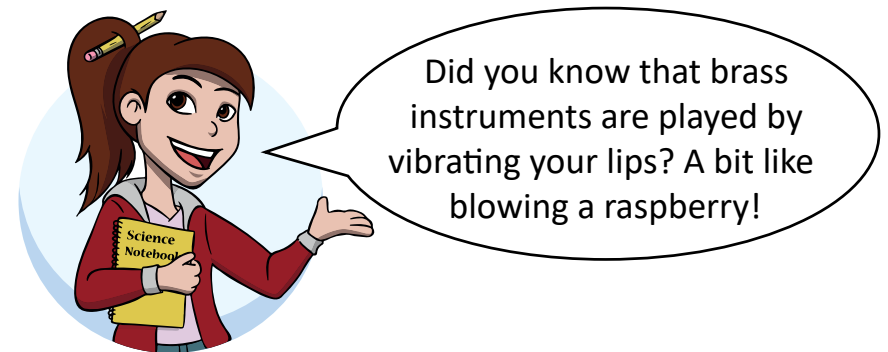
Sally saw David. "Do you play a musical instrument?" Sally asked.

"Yes, I play the trumpet," said David.

"My trumpet is a brass instrument. It makes a sound when I vibrate my lips against the mouth-piece."

"Would you like to join my band?" asked Sally.

"Yes!" said David. "Let's ask Erin too."



“What should we call our band?”
asked David.

“I know,” said Sally. “We can call
our band Good Vibrations!”



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:

- Can you give an example of a brass instrument?
- Can you describe how playing a piano and playing drums are similar?
- You can hear vibrations. How else can you sense them?
- What is your favourite instrument to play or listen to?

First published in Australia in 2017
Publicious Pty Ltd

Copyright © Sienna Osborne, Randall Hall, Richard John 2017

Reproduction and communication

Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the Act no part of this book may be reproduced, stored in a retrieval system, communicated or transmitted in any form or by any means without prior written permission. Inquiries should be addressed to the publisher

National Library of Australia Cataloguing-in-Publication data:

Osborne, Sienna; Hall, Randall; John, Richard

Good Vibrations

ISBN: 978-0-6481833-5-8

Printed in Australia

Acknowledgements

Series Illustrators: Gemma Duffill, Sam Dunn, Carissa Harris, James Elms

Series Graphic Artist: Sam Dunn

Series Consultants: Samantha Hutchinson, Gayle Brent

Consultant: Gayle Brent

Images: Shutterstock

Community Partners

The authors gratefully acknowledge the support of the following people and organisations for their assistance in the production and distribution of this series:

Jock and Beverly McIlwain, Mermaid Waters, Queensland, Australia
Griffith University, Queensland, Australia
Rotary International, Australia, District 9640
P&Cs Queensland



Good Vibrations

Physical Sciences

In this book Suzie the Scientist helps us learn about sound and how sound is produced by a range of sources. With Suzie, we explore different types of musical instruments and how they make sound through vibrations.

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 "Light and sound are produced by a range of sources and can be sensed" from the Physical Sciences sub-strand.



WOW!
Vibrations 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 **vibrations** with your child.*

Suggested Reading Level:



PM 16-18, Fountas & Pinnell I-K



ISBN 978-0-6481833-5-8



9 780648 183358 >

Publicious Pty Ltd | Gold Coast, Australia
www.suziethescientist.com.au