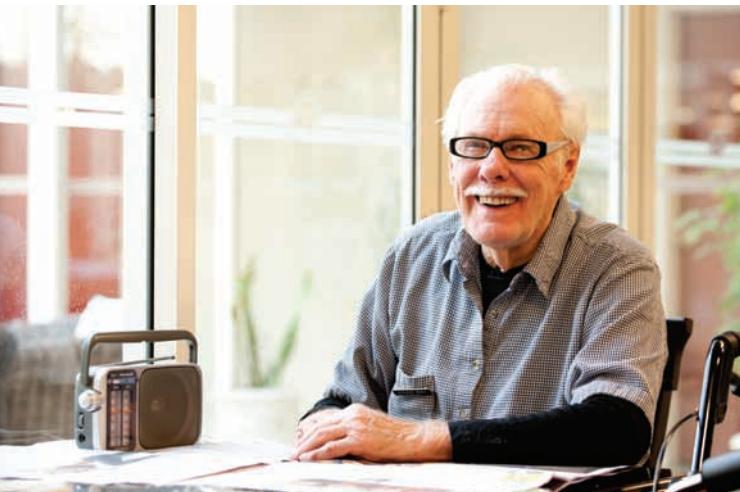


MAKING WAVES

by Iona McNaughton



The students at Lyall Bay School in Wellington are making waves – radio waves. Their school's radio station, MaranuiFM, broadcasts twenty-four hours a day, seven days a week. Whether it's music, news, weather reports, or interviews ... there's always something to listen to.



IT'S RADIO, AND IT'S LIVE

Year 5 and 6 students at Lyall Bay School have been running MaranuiFM since 2008. This involves all kinds of challenging tasks. The students write **business plans**, sell advertising, and make deals with sponsors. They plan and research the daily shows, and finally, they host these shows. It's radio, and it's live. Anything can happen – which is why the students say they love it!

Today, Elisabeth and Ollie are buddies for the Rita Angus hour. This is a show sponsored by a local retirement village and aimed at the people who live there. The students sit together in the radio station, a room that contains most of the broadcasting equipment. There are computers, microphones, a **mixer**, and a transmitter (see page 37). On the wall, there's a big clock and various lists that remind the students of things like the station's website address and social media URLs. It's easy to forget things when you're under pressure.

Elisabeth and Ollie have a few minutes before they go live. Ollie checks for emails and surfs the Internet for last-minute ideas. On a second computer, which contains the radio software, Elisabeth finalises a playlist from over five thousand songs. This computer is connected to yet another one, in a different room, which **live-streams** the radio station on the Internet (<http://player.wizz.co.nz/maranuifm>).



The countdown is almost over. Both students reread the plan for the show. There's just enough time to take one last look for emails, then it's all on. Five, four, three, two, one ... Elisabeth gives Ollie the thumbs up, and they turn on their microphones.

"Good afternoon. You're listening to Lyall Bay School and MaranuiFM 106.7. We're bringing you the Rita Angus hour. I'm Elisabeth ..."

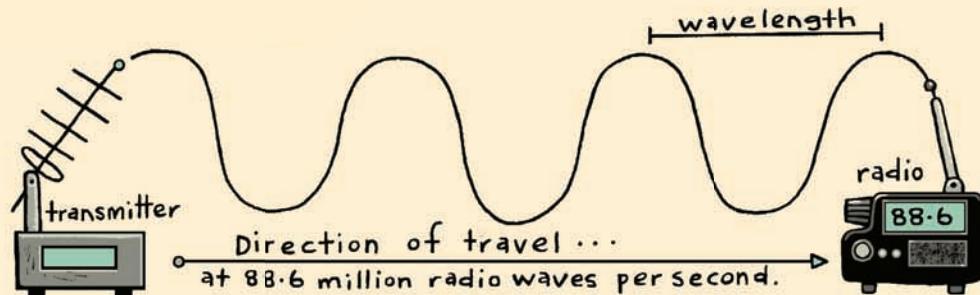
"And I'm Ollie. Before we go to the music, here is today's question for our listeners: What was your favourite game when you were a child? Email us your responses, and we'll read them out later in the show."



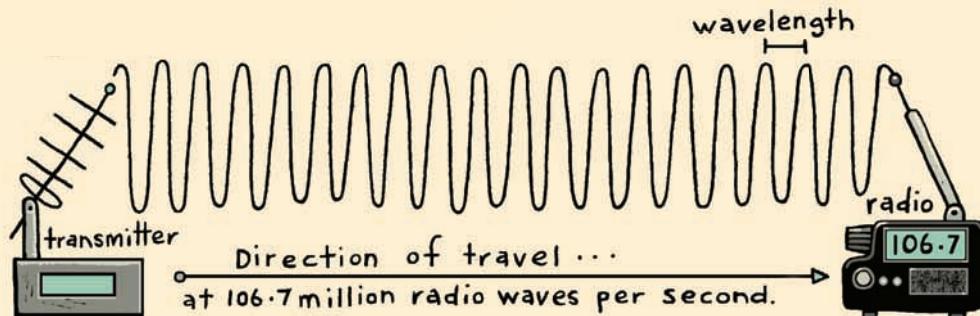
RADIO: HOW IT WORKS

As well as streaming on the Internet, MaranuiFM broadcasts at a frequency of 106.7. So what does this mean, and how does it work? MaranuiFM has a radio transmitter that sends an electrical signal to an aerial on the school's roof. The aerial changes this electrical signal into electromagnetic energy (a combination of electricity and magnetism), which travels through the air in waves to your radio.

Radio waves have a certain speed, length, and frequency – just like the waves in an ocean. Speed is how fast the radio waves travel, although this is so quick it's almost instantaneous. Wavelength is the distance between one wave's crest (or peak) and the next. Frequency is the number of waves that arrive at a radio each second. These are usually measured in **megahertz**.



The radio waves from MaranuiFM travel at a frequency that is higher than the example above. To listen to MaranuiFM, people need to tune their radio to a frequency of 106.7 megahertz.



ALWAYS LEARNING

At the beginning of each year, senior students who want to be announcers on MaranuiFM have to apply for a position. Grace was interested because her older sister said it was a lot of fun. The experience has given Grace a lot of new skills. "I'm an outside girl, and I play a lot of sport," she says. "I never used to spend much time on computers. Now I've learnt how to use them – and I'm no longer afraid to give things a go. In fact, I love radio announcing so much I want to be an announcer for a job."

A major highlight for Grace was interviewing Rio Hunuki-Hemopo, a musician in the band Trinity Roots.

Grace says it was pretty cool. "At the time, my mum was working in Vanuatu. She was able to listen to the interview on the Internet. She emailed me afterwards to say how proud she was. I love knowing that when we're talking on the radio, people anywhere in the world could be listening."

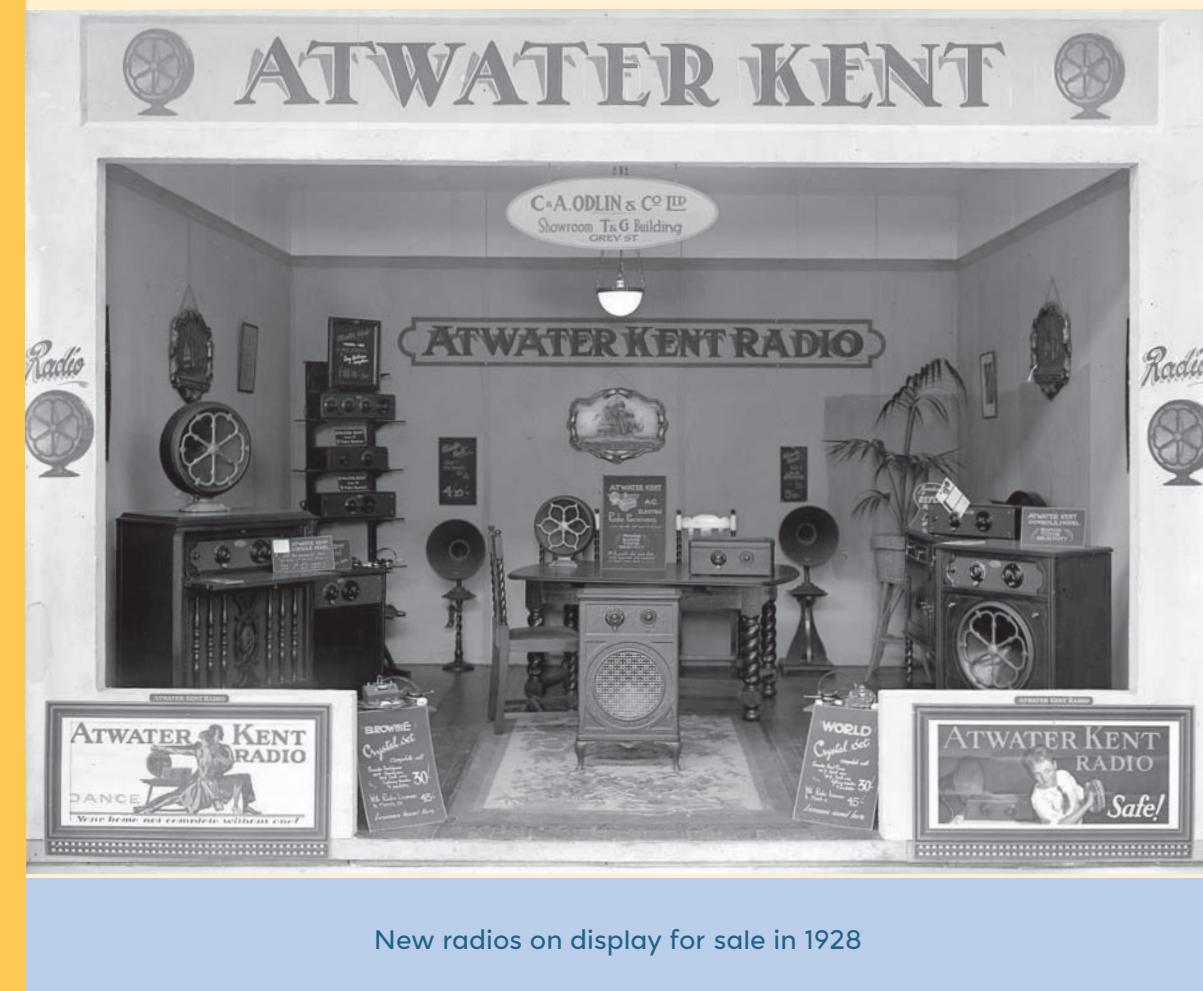
One thing that was definitely *not* a highlight was a show that Grace did with her friend Asha. "We put on some music," Grace remembers, "then we carried on talking. I said to Asha 'Wouldn't it be awful if the microphones were still on?' I checked – and they were. It was so embarrassing! I'm much more careful now."



IN THE BEGINNING

New Zealand's first radio programme was broadcast on 17 November 1921 by physics professor Robert Jack. Transmitted from Dunedin, the broadcast was heard as far away as Auckland. Radio stations were soon established in New Zealand's three other main cities at the time: Auckland, Wellington, and Christchurch.

By the end of 1927, more than thirty thousand homes had paid for a radio licence, which allowed them to receive radio broadcasts. Professor Jack's radio transmitter is on display at Toitū Otago Settlers Museum in Dunedin. The station he founded in 1922, today called Radio Dunedin, is the oldest radio station outside the United States and the fifth oldest in the world.



New radios on display for sale in 1928

Grace says that radio announcers need to be able to interview people. She has some advice about this. "You should find out as much as you can about the person beforehand, then prepare some focused questions. You also need to listen carefully to their answers so you can respond with more questions."

Another student, Eli, believes that radio announcers need to show their personality. He describes himself as a chatterbox who has learnt to think ahead and be flexible. Things don't always go to plan!

"One time during a show, I put on a song, then started talking to my buddy about what we'd do next. When I checked to see how long the song had left to play, I realised I hadn't pushed the play button." After two minutes of broadcasting nothing, Eli went back on air feeling very embarrassed. But he managed to take control of the situation. "I said, 'Sorry about the dead air. We hope you're still with us. And now for an interesting fact ...'"

Eli is keen to follow in his grandfather's footsteps and eventually work in radio. His grandfather started as the office boy for a radio station in 1947 before working his way up to become a producer. Eli loves being involved with MaranuiFM because he says he gets to meet interesting people and is always learning new things. Last year, he was among a group of students who visited Radio Network House. "It looked like a lot of fun to work there," Eli says, "and would never be boring."



We learn how radio works and how to use different kinds of technology.
- Rata



We learn about the importance of planning and being responsible for producing a good show.
- Max



I used to be shy, but now I'm much more confident and can talk to anyone.
- Dhani

I've learnt to work with people I've never worked with before.
- Grace

BUILDING THE FUTURE

An important role for the announcers on MaranuiFM is to encourage everyone in the school to become involved. Younger children read their stories and poems on the radio. Some play musical instruments or sing. Others are interviewed about their hobbies or what they did on the weekend.

“One of the best things about being an announcer is getting to know the younger students,” Asha says. “The little ones are often very quiet. Some have to stand on a chair to reach the microphone. Older kids are usually excited. They can also be nervous if it’s their first time.” Other students are the opposite of nervous! “Some kids are a bit too chatty, or their stories are too long,” says Asha. “You have to find a way to bring the interview to an end without being rude.”

All of the announcers agree that they enjoy involving the younger children in the radio station. As Grace says, “Getting the little kids interested is building the future of MaranuiFM.”



GLOSSARY

business plan: a plan that explains the goals of a business and how they'll be achieved

live-stream: to transmit an event over the Internet at the same time as it's happening

megahertz: millions of waves per second

mixer: electronic equipment that controls sound

Making Radio Waves

by Iona McNaughton

Text copyright © Crown 2015

Illustration (page 37) by Fraser Williamson copyright © Crown 2015

Photographs by Adrian Heke copyright © Crown 2015

except for the image on page 39 (reference EP-1321-1/2-G),
which is used with permission from the Alexander Turnbull Library, Wellington.

For copyright information about how you can use this material,
go to: <http://www.tki.org.nz/Copyright-in-Schools/Terms-of-use>

Published 2015 by the Ministry of Education

PO Box 1666, Wellington 6140, New Zealand.

www.education.govt.nz

All rights reserved.

Enquiries should be made to the publisher.

ISBN 978 0 478 16443 5 (online)

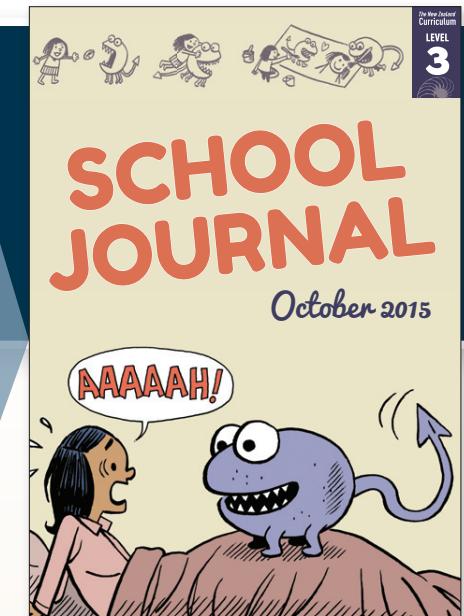
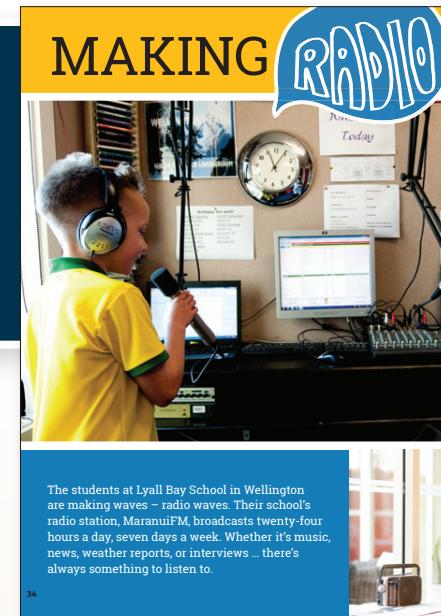
Publishing services: Lift Education E Tū

Editor: Susan Paris

Designer: Jodi Wicksteed

Literacy Consultant: Melanie Winthrop

Consulting Editors: Hōne Apanui and Emeli Sione



SCHOOL JOURNAL LEVEL 3, OCTOBER 2015

Curriculum learning areas	English Science
Reading year level	Year 6
Keywords	announcers, broadcasting, community, MaranuiFM, radio, radio waves, school, transmission