

**AN INTRODUCTION
TO MAKING WAVES:
AN ADVENTURE
WITH SOUND**

Science Alberta Foundation is pleased to make *Making Waves: An Adventure with Sound*, one of our *Science-In-A-Crate* programs, available in your community!

Sound is a critical part of our ability to observe and sense our environment and, in turn, appreciate these surroundings. It is a part of the life experience before birth. Sound is used for communication by all animals and is an endless source of entertainment. In their early years, children experiment with their voices and with objects that produce sounds.

Making Waves: An Adventure with Sound is a science program that encourages participants to develop an understanding of sound and how we make, interpret and respond to sound. Sound is energy transmitted by vibrations and detected by our ears. Students learn that sound is vibration, and that changes in vibration can affect the loudness, pitch and quality of sound. The range and sensitivity of human ears and those of other animals is introduced as students discover decibels and how to measure sound.

By exploring and investigating, participants learn about the role of sound in communication and how we use sound in many different aspects of our lives. Students are indirectly exposed to many careers that work with sound, and the use of technology to communicate with others is part of the main storyline.

Curriculum connections can be found within the Grade 3 Social Studies, Language Arts, Math, Health and Wellness, ICT and Music curricula. However, the purpose and design of *Making Waves: An Adventure with Sound* was to meet the Grade 3 science curriculum objectives. The activity topics are as follows.

Making Waves: An Adventure with Sound (Introduction Activity)	Setting the stage for the activities, this activity introduces the storyline for the crate and some terminology for the unit. Students are also exposed to different forms of communication.
Crash Discovers Vibrations	Experiment with the vibration of strings using a unique instrument, and the vibration of metal keys used on a thumb piano.
Great Shakes Cause Sound	Use a rain stick, tambourine and drum to explore vibrations and the sounds made by vibrations.
Crash Investigates Animal Trainers	Play a board game to investigate and uncover the varied ranges of hearing among animals and humans.
In Search of Decibels	Measure sound using a decibel meter, order and predict the decibel level of common sounds and think about the dangers of exposure to loud sounds.

Secrets From the Pond	Investigate the way sound travels through air, liquids and solids.
Rock Star Goes Quiet	Compare, investigate and predict the effectiveness of three potential materials used to create a soundproof room.
Sound Effects Uncovered	Explore the way various sounds make us feel and the role of sound in communication.
That's A Wrap! (culminating class activity)	Create sound effects to accompany scenes from a movie about sound.