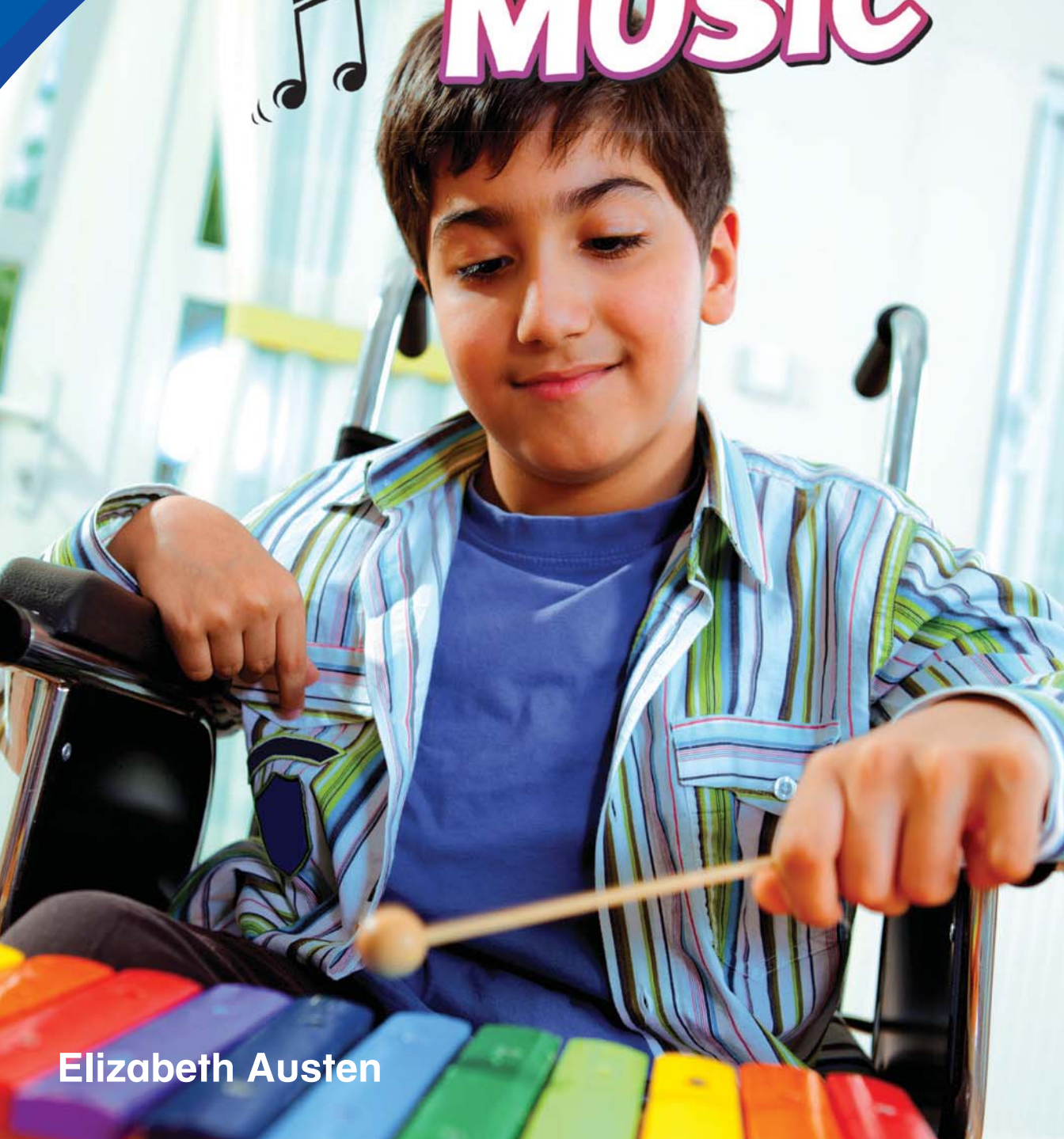




Smithsonian

Making Music



Elizabeth Austen

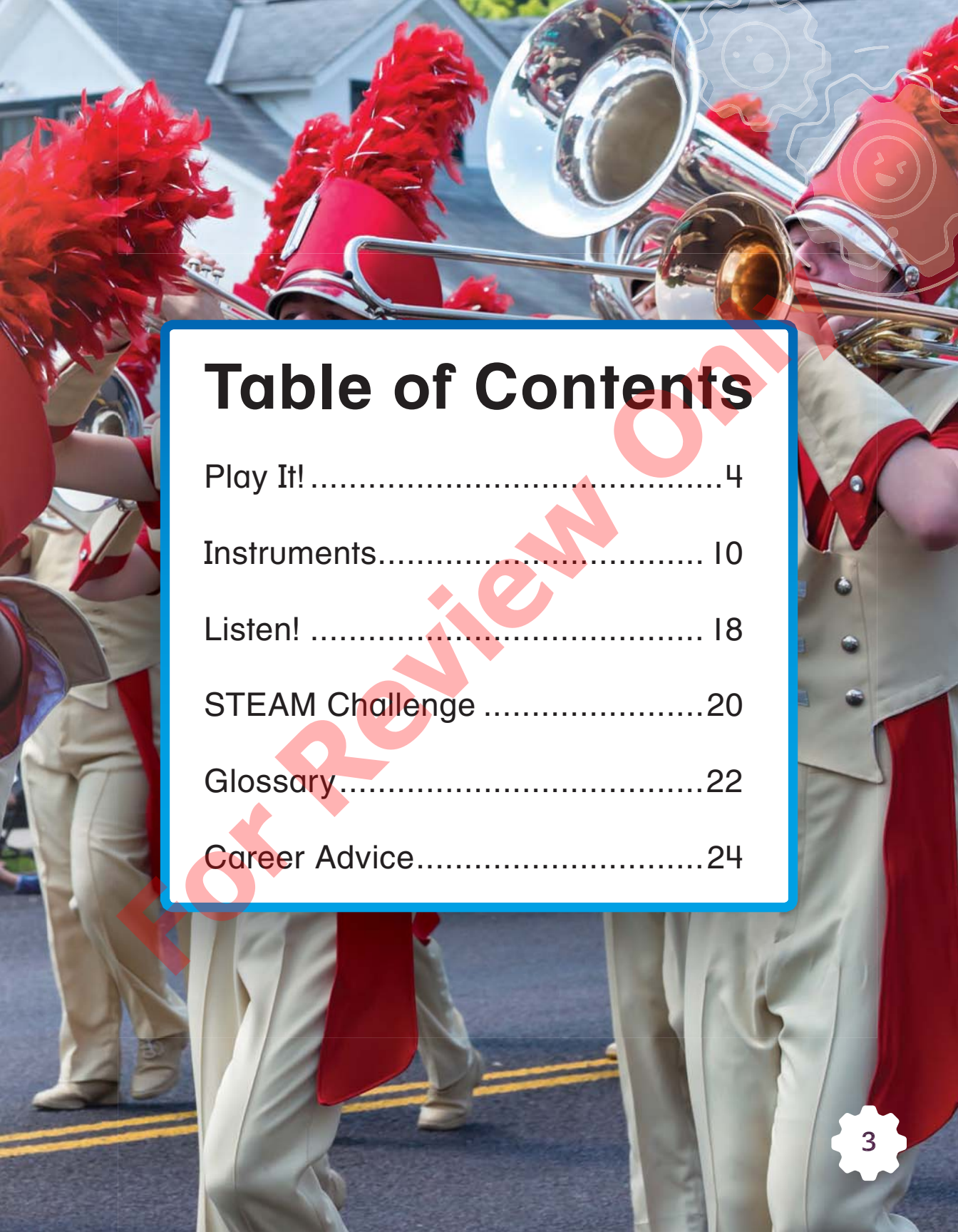


Table of Contents

Play It!	4
Instruments.....	10
Listen!	18
STEAM Challenge	20
Glossary.....	22
Career Advice.....	24

Play It!

Toot toot! Horns blast. *Dum du dum!* Drums beat. *Ting-a-ling!* Piano keys sing.

Music is in the air.





saxophone player

How does the music get there? Music is a sound. Sound is made through **vibrations.**



This piano makes vibrations when it is played.



People hear some vibrations as sounds.



This boy hears the vibrations as sound.



People who make instruments know how sound works. They build instruments to make sounds when they are played. People hear the sounds as music!



This man builds a guitar out of wood.

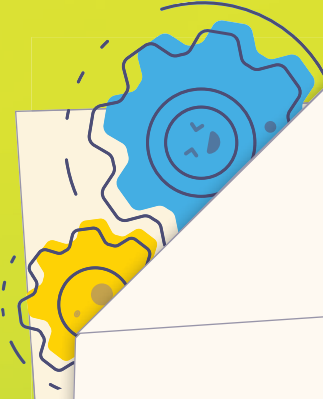
A photograph of a man with white body paint on his chest and arms, playing a didgeridoo. The instrument is a long, dark, hollowed-out log with colorful patterns near the mouthpiece. He is standing outdoors in a natural setting with trees and foliage in the background. The photo is framed with a blue border.

A man plays an instrument made from a hollow tree.

Science & Technology

Nature Made

Insects called termites eat trees. Blowing through the hollow trunks vibrates the air. That makes music!



STEAM CHALLENGE

The Problem

Your class is having a music show. You need instruments! But there is no money to buy them. You must make them. What instruments will you make? How will you play them?

The Goals

- Your instruments can be made with anything you can find. You can try things, such as boxes, rubber bands, or bottles.
- Your instruments must make sounds when played.
- Your instruments must make the same sounds every time you play them in the same way.





Research and Brainstorm

How do instruments make sound? What types of sounds do people like to hear?



Design and Build

Draw your plan. How will it work? What materials will you use? Build your model!



Test and Improve

Play your instrument twice. Does it make the same type of sound each time? Do you like the sound? Can you make it better? Try again.



Reflect and Share

How many types of instruments do you think there can be? What makes sounds besides instruments? How could you make your instrument louder?