Smithsonian

Building Sandcastles

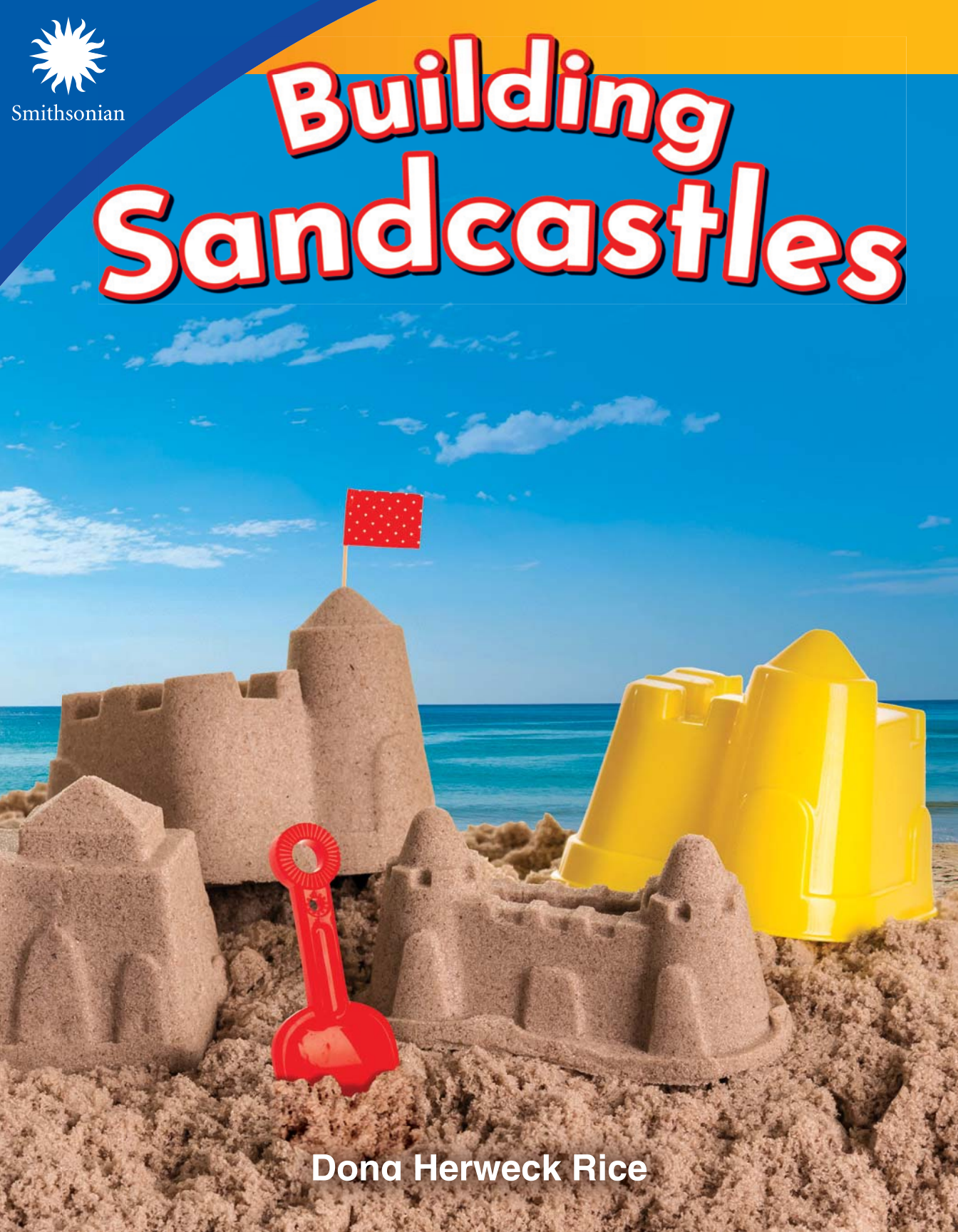

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Table of Contents

Castles of Sand 4

Ready to Build 6

Try, Try Again 18

STEAM Challenge 20

Glossary 22

Career Advice 24

For Review Only

Castles of Sand

Castles are made to last. But sandcastles wash away. They are pretty enough for kings and queens. But most people would not think of living in them.

Sandcastles are works of art. And they are fun to make!

For Review Only

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Ready to Build

You need the right tools to build sandcastles. The first tool is your mind. If you can picture a sandcastle, you can build it. Tools will help you.

This boy uses a plastic tool to build his sandcastle.

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The tallest sandcastle in the world was built using many tools.

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Sand

Sandcastles are made of sand, of course. First, pack the sand like mud. For this to work, the sand has to be wet. Wet sand holds together. However, if your sand is too wet, it will fall down.

A sandcastle builder packs wet sand together.

For Review Only

A sandcastle builder pours water onto a pile of sand.

Science & Technology

Wet Sand

Wet sand sticks because of the water. Drops of water connect the **grains** of sand. Water acts like glue that holds the grains together.

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STEAM CHALLENGE

The Problem

You have been asked to join a contest for building sandcastles! Can you make a sandcastle that is fit for a king or queen? What shape will you build?

The Goals

- Build a sandcastle that measures at least 30 centimeters (1 foot) wide by 30 centimeters (1 foot) tall.
- Build your sandcastle using sand, water, and tools for sculpting.
- Build a sandcastle that can stand for at least 15 minutes without falling.

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Research and Brainstorm

Why is sand different from dirt? Can a person make a castle out of dirt? How about rocks?

Design and Build

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

Test and Improve

Let your sandcastle stand for at least 15 minutes. Does it stay together? Does it crack or fall? Can you make it better? Try again.

Reflect and Share

How big do you think a sandcastle can be and still stand? How small can a sandcastle be and still be shaped and sculpted?

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