

Balloon Trees



by Danna Smith
illustrated by Laurie Allen Klein

Balloon Trees

Balloons do come from trees—rubber trees. This rhyming story follows the wide variety of steps involved in making the air-filled decorations we all know and love. Readers follow the tapping of the rubber tree, the ship that carries the liquid rubber to the factory, and the manufacturing process itself to learn just how that latex balloon arrived at his or her house. This delightful, fun-to-read-aloud story is sure to give readers a new appreciation for balloons.

It's so much more than a picture book . . . this book is specifically designed to be both a fun-to-read story and a launch pad for discussions and learning. Whether read at home or in a classroom, we encourage adults to do the activities with the young children in their lives. Free online resources and support at www.ArbordalePublishing.com include:

- For Creative Minds as seen in the book (in English & Spanish):
 - Rubber: A Natural Resource
 - Balloon Sequencing
 - Rubber True or False
- Teaching Activities (to do at home or school):
 - Reading Questions
 - Language Arts
 - Science
 - Math
 - Geography
 - Coloring Pages
- Interactive Quizzes: Reading Comprehension, For Creative Minds, and Math Word Problems
- English and Spanish Audiobooks
- Related Websites
- Aligned to State and Core Standards
- Accelerated Reader and Reading Counts! Quizzes
- Lexile and Fountas & Pinnell Reading Levels

eBooks with Auto-Flip, Auto-Read, and selectable English and Spanish text and audio available for purchase online.

Thanks to Ted A. Vlamis, President, and Ted J. Vlamis, Vice President, of Pioneer Balloon Company; and to Marty Fish of the International Balloon Association for verifying the accuracy of the balloon manufacturing processes in this book. And thanks to Jim Dryburgh, CEO and Owner of Holz Rubber Company for verifying the rubber-related information.

Danna Smith has received excellent reviews for two previous books, *Pirate Nap* and *Two at the Zoo*; the latter was featured in *Parenting Magazine*. The inspiration for her most recent book, *Balloon Trees*, came from her husband's line of work in the rubber industry. Although his company makes industrial rubber products, Danna chose to follow the creation of a fun product that is near and dear to a child's heart: the balloon. She lives in Northern California with her husband, two grown children, and their cocker spaniel, Peanut. Visit her website at www.dannasmithbooks.com.

Laurie Allen Klein has been a freelance artist for nearly 25 years. Over the last several years, she has worked as the on-staff artist for a marine park, where she does everything from painting life-size sea animal murals, to illustrating children's activity books. She has combined her love and fascination with outer space (and science fiction) with children's illustration in both *Solar System Forecast* and *Meet the Planets*. Laurie also illustrated *Furs and Feathers*, *Where Should Turtle Be?*, *Little Skink's Tail*, and *If a Dolphin Were a Fish* for Arbordale. She was the winner of the Outstanding Pennsylvania Author/Illustrator Award from the Pennsylvania School Librarians Association in 2008 and is a member of the Society of Children's Book Writers and Illustrators. Laurie lives in Florida. See more of her artwork at www.lauriekleinarts.com.



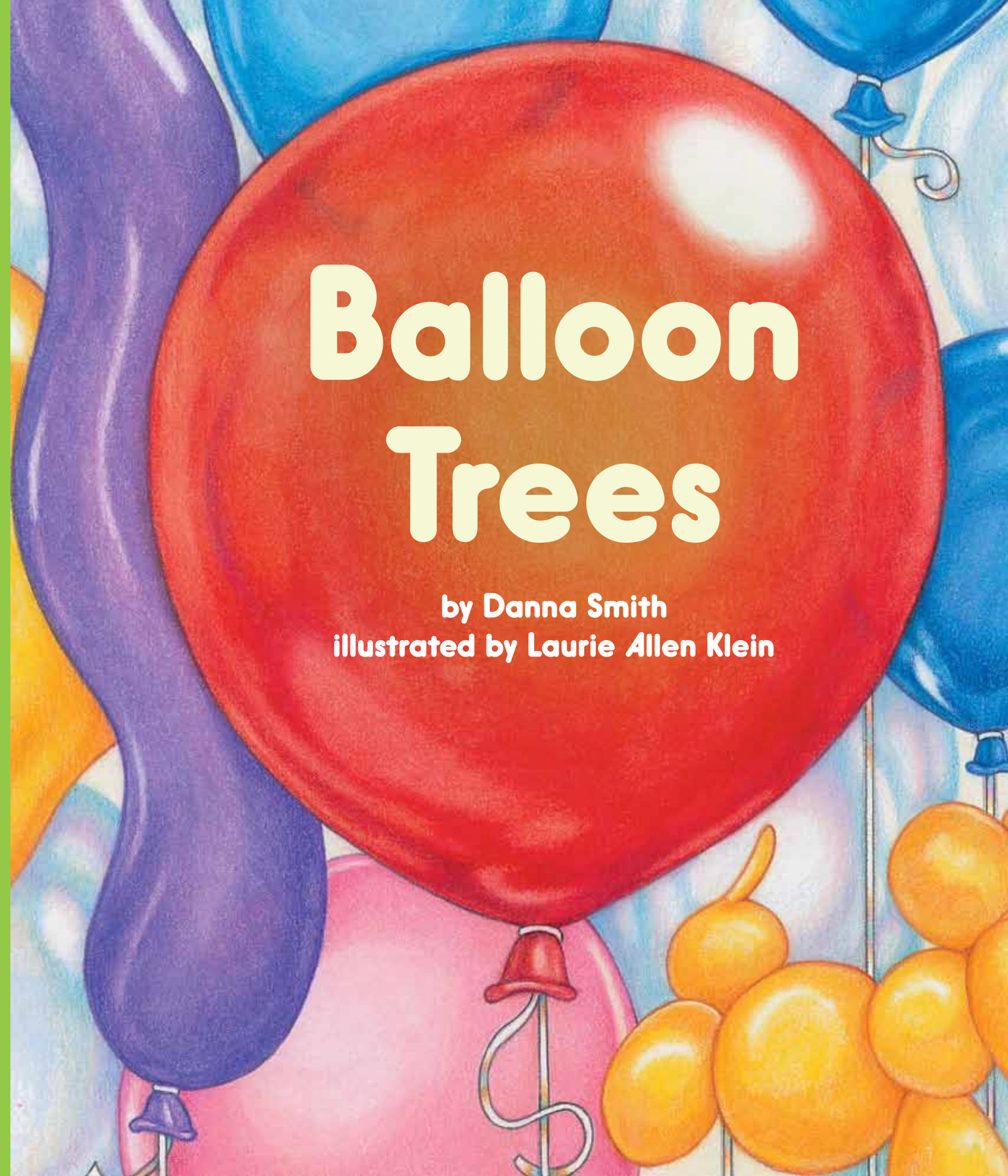
Danna Smith



Laurie Allen Klein

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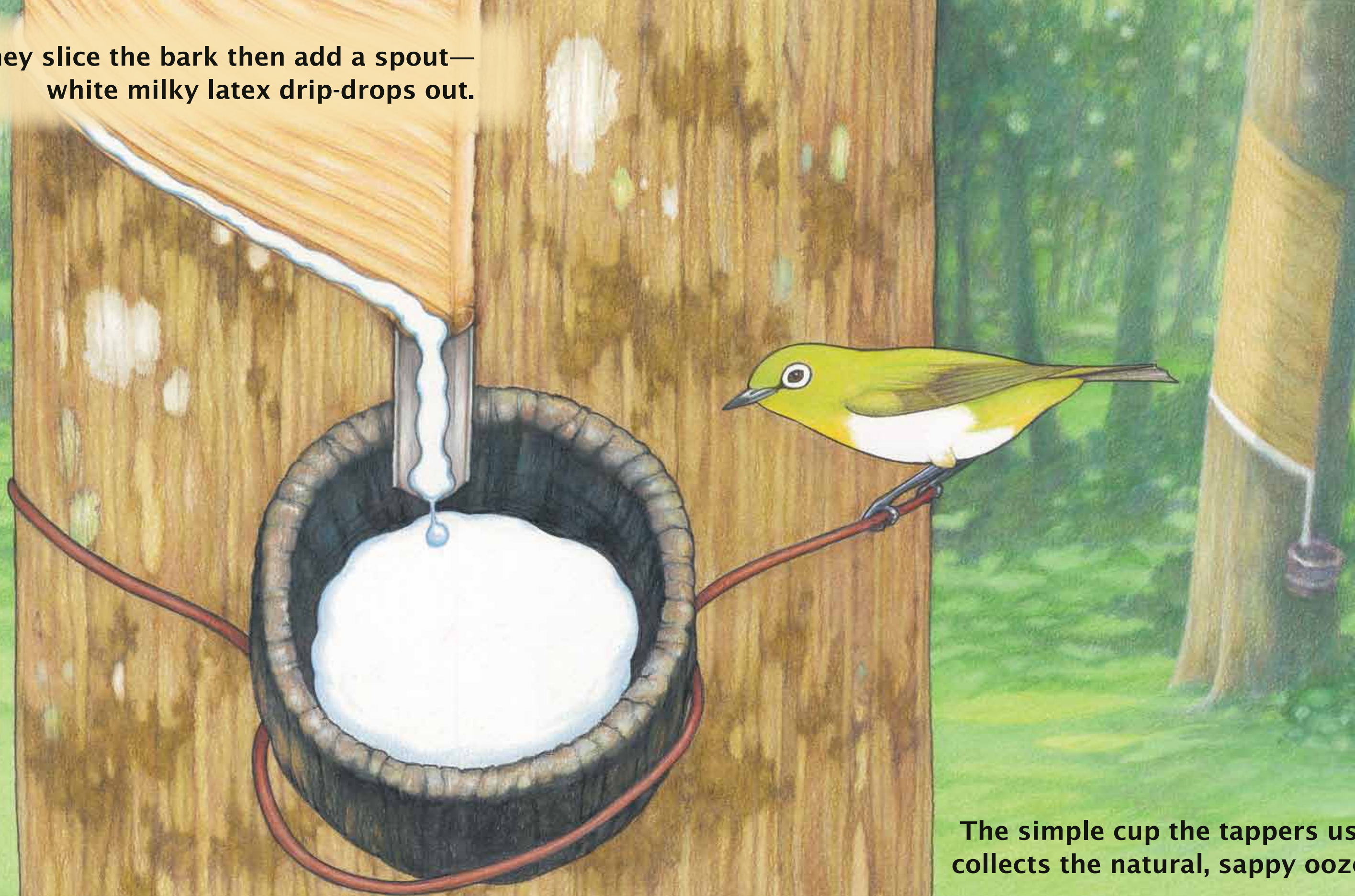


A vibrant illustration of a rubber tree forest. In the foreground, a large, bright red balloon is tied to a silver metal stand. The balloon is the central focus, with a white highlight on its upper right side. The forest consists of numerous tall, slender trees with dark trunks and light green foliage. A person wearing a hat and work clothes is visible in the middle ground, tending to a tree. Two small yellow birds are flying in the upper right. The ground is covered in green grass and moss.

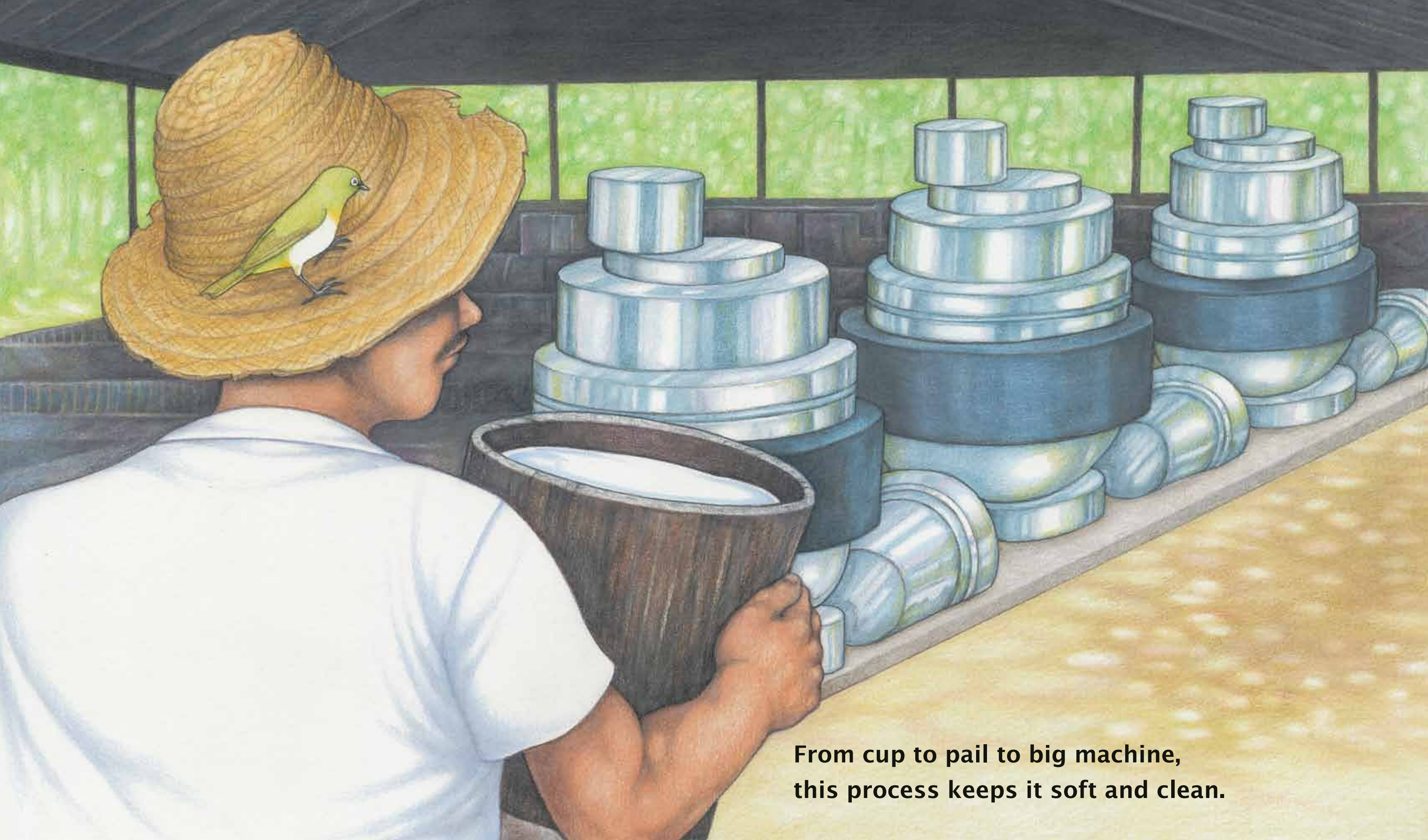
**This balloon was made from trees—
made from rubber trees like these . . .**

**The tappers start their work at dawn.
They pull their hats and work gloves on.**

**They slice the bark then add a spout—
white milky latex drip-drops out.**

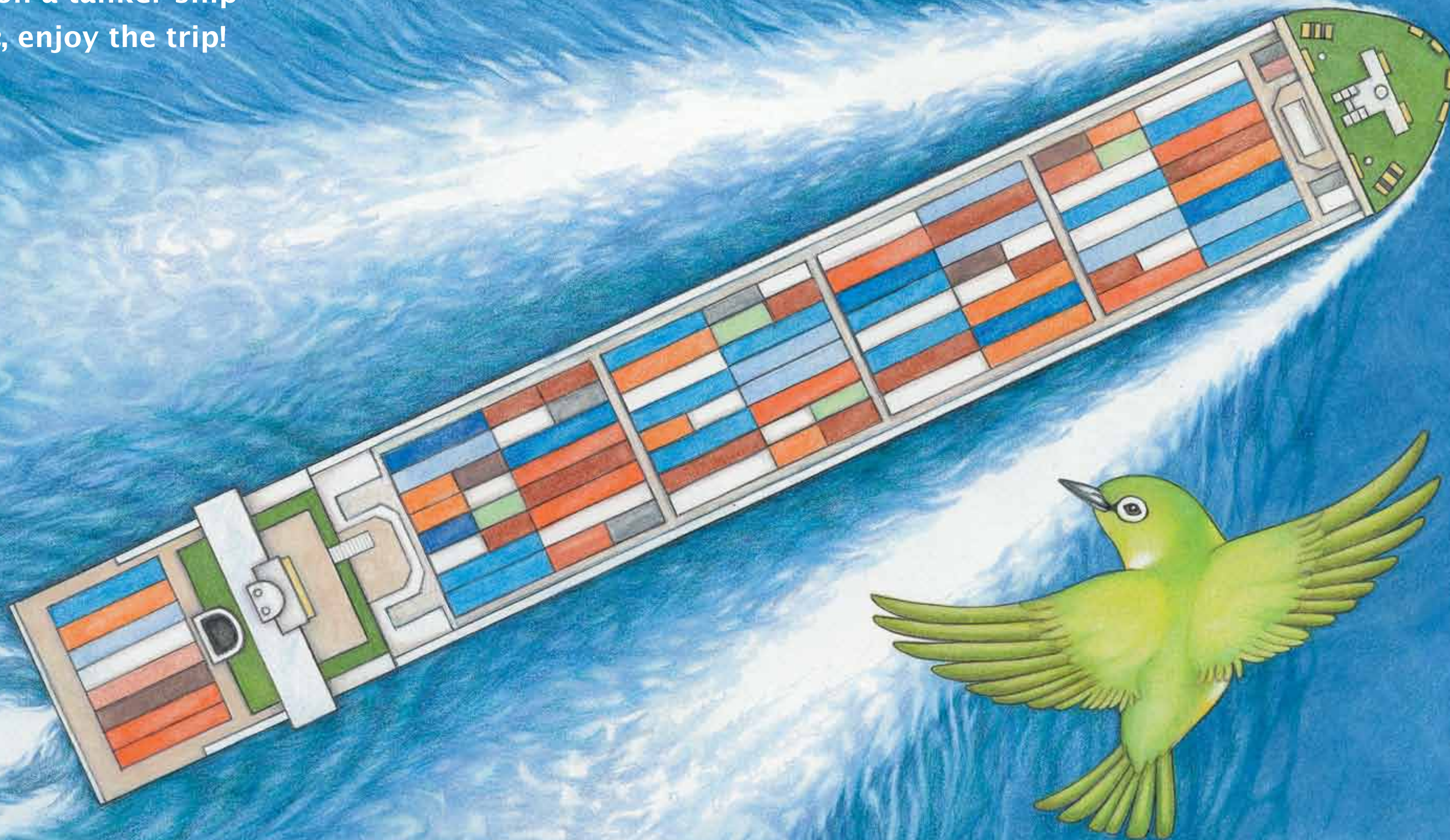


**The simple cup the tappers use
collects the natural, sappy ooze.**



**From cup to pail to big machine,
this process keeps it soft and clean.**

It's loaded on a tanker ship—
bon voyage, enjoy the trip!



For Creative Minds

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Rubber: A Natural Resource

Rubber is one of the most important raw materials in the world with thousands of uses. It is elastic, skid resistant, waterproof, bouncy, strong, holds air, keeps out noise, resists moisture, and doesn't conduct electricity.

Rubber trees are strong and tall with dark, shiny leaves. They grow at low elevations (not on mountains) in wet, tropical areas.

The first rubber trees grew in the Amazon area of Brazil and spread into other parts of South and Central America. Early European explorers took some seeds and planted them in Africa and Southeast Asia.



Most of the rubber that we use comes from rubber plantations in Thailand, Indonesia, and Malaysia, shown in yellow on the map. Wild rubber trees still grow in countries shown in red on the map.

Rubber plantations are far from towns, so the workers and their families live there. They have houses, schools, shops, churches, and doctors right on the plantation.

New rubber trees are planted throughout the year. Plantation workers plant seeds and then pick the healthiest saplings to plant. The rubber tree saplings are planted in rows 22 feet (6.7 m) apart with 11 feet (3.3 m) between each sapling. It only takes six or seven years for the trees to grow large enough to be tapped.

Rubber comes from the sap of rubber trees, called "latex." Plantation workers, called tappers, start work around dawn each day because the latex flows best in the early morning. The tappers cut off a very thin layer of bark and put a small bowl under the cut to catch the latex that comes out of the cut. Cutting the bark or "tapping" it does not kill the tree; in fact, the latex that oozes out is the tree's natural way of healing itself. The tapper will return several hours later to get the latex in the bowl. The trees are tapped every other day and can be tapped for 30 to 35 years. Each tapping gives us about a cup of latex.

When water is removed from the sap (latex), we get "sheet rubber."



Which of these things is made with rubber or has rubber in it?

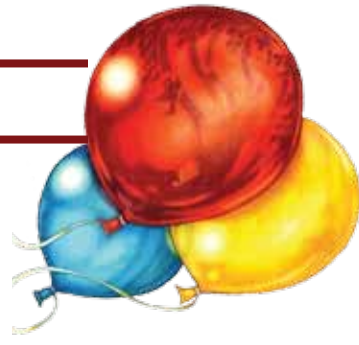


All contain or are made from rubber: many different types of balls, latex paint, rubber O-rings, rubber bands, pencil erasers, rubber gaskets, rubber ducks, bottom of many shoes, bike and car tires, latex balloons, rubber hoses, rubber boots, rubber shower mats, rubber or latex gloves, and even rubber doormats. The number one rubber product is tires.



Balloon Sequencing

Put the balloon manufacturing events in order to unscramble the words.



A

The latex goes into big machines to get rid of extra water.



E

In the factories, latex is mixed with a mix of chemicals and color.



F

The balloons are heated (vulcanized) to make the rubber strong.



L

A tapper gets up before dawn to gather latex from the rubber trees.



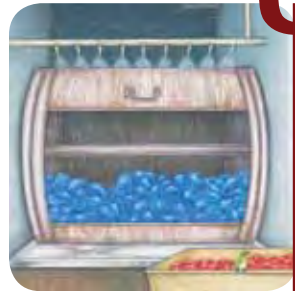
N

The packages are trucked to stores for you to buy and use.



T

Ships carry the latex to factories all around the world.



U

Balloons are taken off the molds, washed, dried, and put in packages to be sold.



X

Molds are dipped into colored latex and shaped into balloons.

Answer: LATEX FUN

Rubber True or False

Do you think these statements are true or false? Answers are upside down, below.

1

The first bicycle tires were made out of rubber.

2

People in Central and South America were the first people to use rubber balls.

3

Rubber erases or "rubs" out pencil markings. That is how we get the word "rubber."

4

People always knew that rubber would be used for all kinds of things.

5

The average rubber tree produces 19 pounds of latex per year.

6

Balloons have always been made from rubber.

7

Rubber trees grow in habitats all over the world.

8

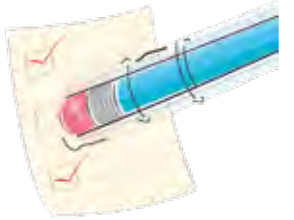
When the latex rubber comes out of the tree, it is a liquid sap.

9

Charles Goodyear discovered a process called "vulcanization" that is essential for all of the rubber products that we use.

10

Vulcanization uses chemicals and heat to change the soft, sticky, taffy-like rubber into strong, elastic rubber (cured rubber).



Answers: 1) False: The earliest bicycles had wooden wheels. Metal wheels were also used before rubber tires. 2) True. 3) True. 4) False: When people first discovered rubber, they didn't think it would be very useful because it was too sticky in the summer heat, and too breakable in the winter cold. 5) True. 6) False: Animal bladders were the first balloons. 7) False: Rubber trees were first found in the Amazon Rainforest and have been planted in Africa and Southeast Asia. Rubber trees only grow in wet, tropical climates. 8) True. 9) True. 10) True.

For my good friends, Linda Joy Singleton and Linda Whalen—DS
To BK and JK, who help me soar—LAK

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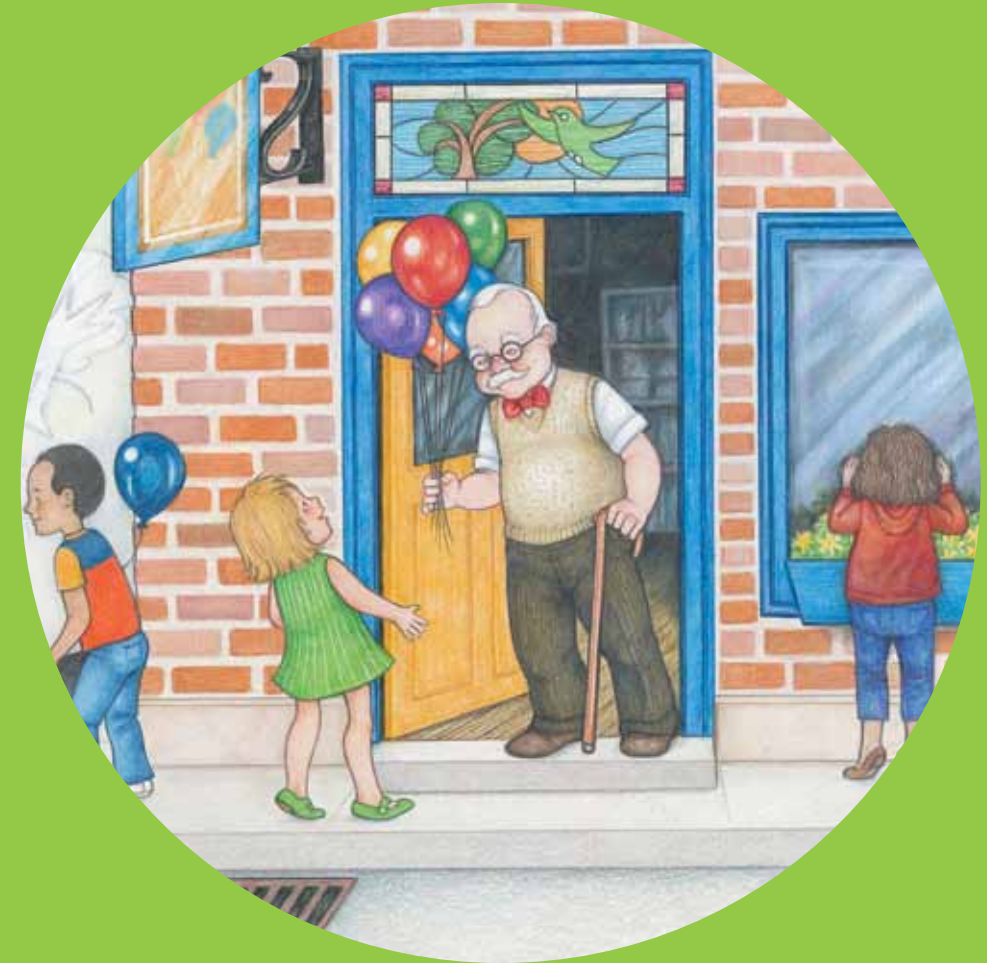


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