

**AMAZING STRUCTURES**

# **ROLLER COASTERS**



# Ideas for Parents and Teachers

Pogo Books let children practice reading informational text while introducing them to nonfiction features such as headings, labels, sidebars, maps, and diagrams, as well as a table of contents, glossary, and index.

Carefully leveled text with a strong photo match offers early fluent readers the support they need to succeed.

## Before Reading

- “Walk” through the book and point out the various nonfiction features. Ask the student what purpose each feature serves.
- Look at the glossary together. Read and discuss the words.

## Read the Book

- Have the child read the book independently.
- Invite him or her to list questions that arise from reading.

## After Reading

- Discuss the child’s questions. Talk about how he or she might find answers to those questions.
- Prompt the child to think more. Ask: Have you ever ridden on a roller coaster? Did you enjoy it?

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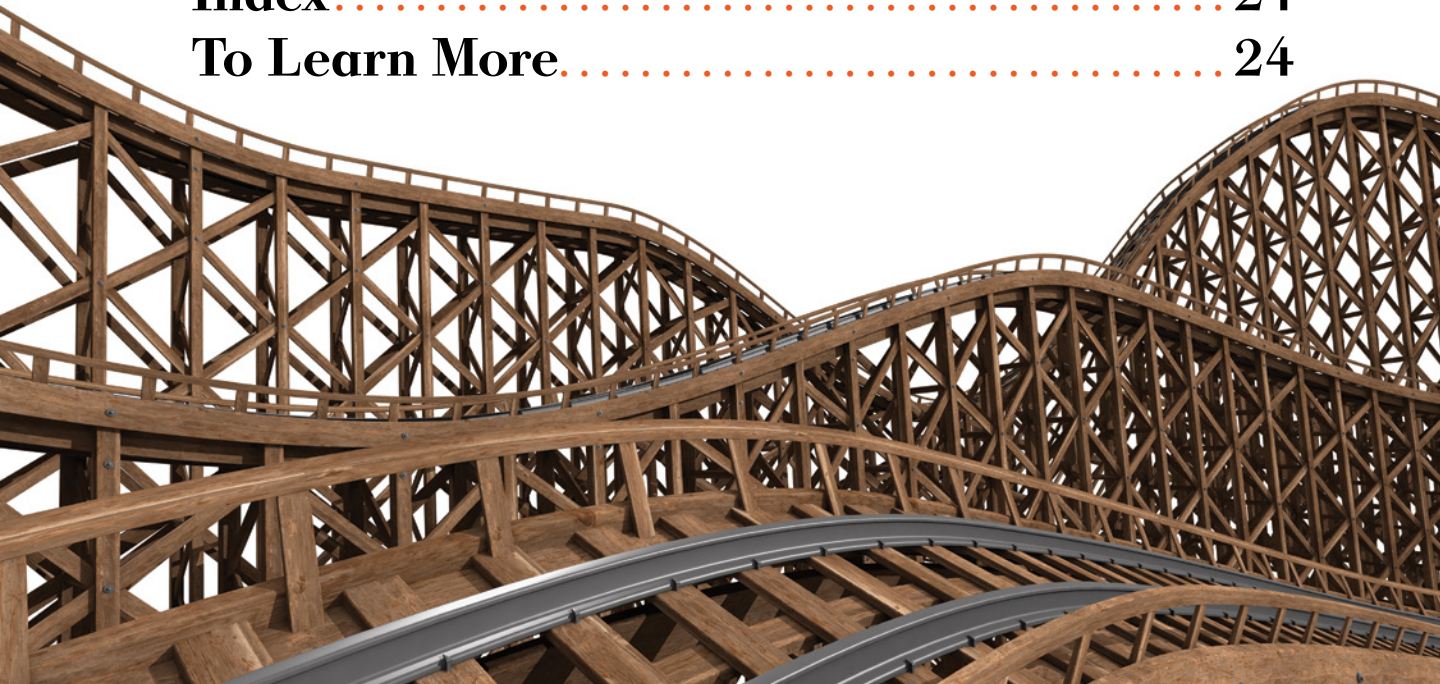
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# CHAPTER 1

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# A THRILLING RIDE

Have you ever been  
to an **amusement park**?

Did you ride the roller coasters?





People who ride them enjoy the thrill of fast rides. People have found ways to make fast rides for a long time.



Today's roller coasters started as something much simpler: a slide.

In the 1600s, people in Russia built tall, wooden ice slides.

To reach the top, people climbed stairs. They rode down the ice on a sled. Sand at the end of the slide helped them stop.

What do roller coasters look like today?

### DID YOU KNOW?

The Switchback Railway was the first coaster in the United States. It opened in 1884 at Coney Island in Brooklyn, New York.









## CHAPTER 2

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# HOW ROLLER COASTERS WORK



A roller coaster looks like a train.  
A chain of open cars moves on a **track**.  
A **motor** pulls each car up a hill.





**Suddenly, the car drops.  
It twists and turns. At times,  
it may be upside down!**

**Starting high is a key part  
of how the ride works.**

# ACTIVITIES & TOOLS

## TRY THIS!

### BUILD A ROLLER COASTER

You can build your own roller coaster!  
You will need the following materials:

- a small ball or marble
- about six feet (1.8 m) of  $\frac{3}{4}$  inch (1.9 centimeters) foam pipe insulation
- scissors
- masking tape
- supports such as books or boxes
- a plastic cup



- 1 Cut the tubing in half lengthwise. This will be your track. Your ball or marble will be your car.
- 2 Your car will need potential and kinetic energy. You will want to place the start of your track high so the car can make it through the course.
- 3 Use your tape and supports to make the starting point. You can even tape the starting point up on a wall.
- 4 Include at least one loop and one hill.
- 5 Place the cup at the end of the course. You will want the ball to land in the cup.
- 6 Place your car at the start of the course. Let it go. Did the coaster work? If not, figure out what went wrong. Make changes and try again.



## GLOSSARY

**amusement park:** A large outdoor area with rides and other forms of entertainment.

**brakes:** A device that slows or stops a moving vehicle by placing pressure on the wheels.

**designer:** One who creates and manufactures a new product style.

**gravity:** The force that pulls a body or thing toward the center of the earth or toward another body or thing.

**horsepower:** A unit of measurement that describes the rate at which an engine can do work.

**kinetic energy:** The energy that something has just by being in motion.

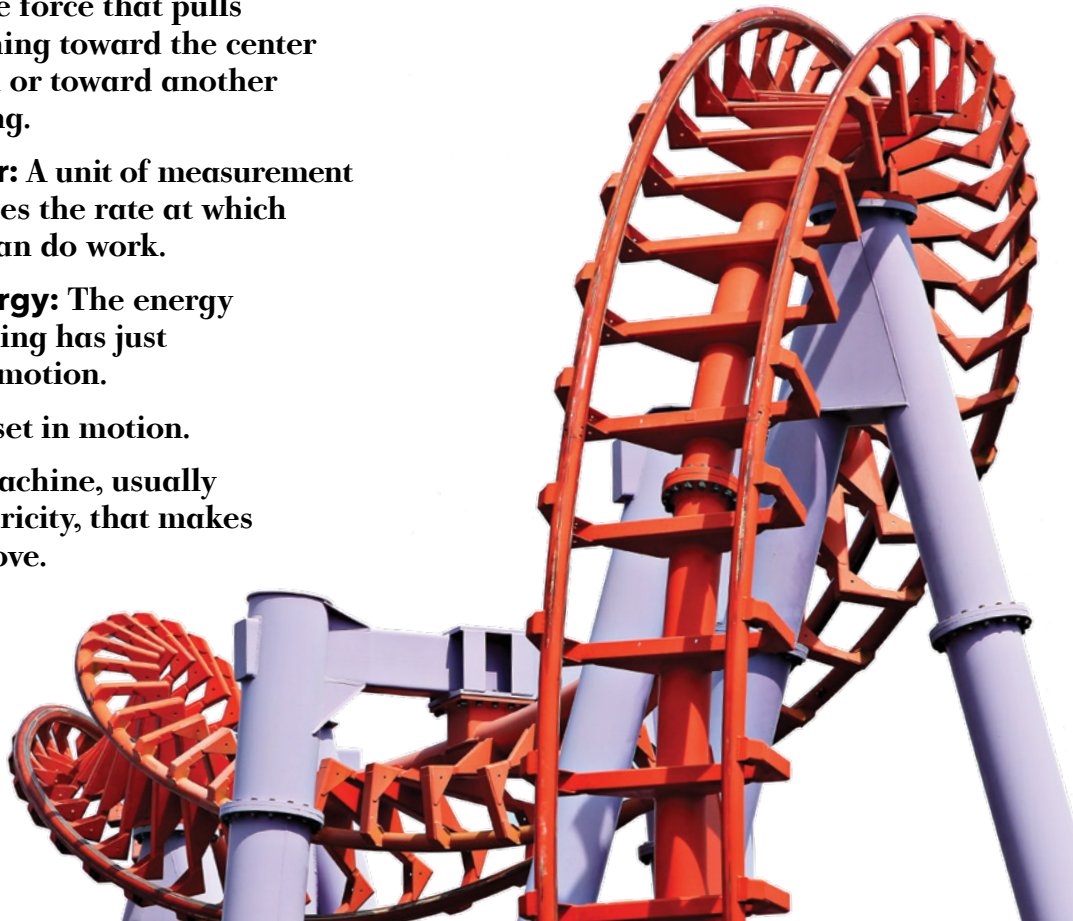
**launch:** To set in motion.

**motor:** A machine, usually run on electricity, that makes a vehicle move.

**potential energy:** The energy something gains by where it's located.

**steel:** A metal made from iron and carbon.

**track:** A continuous line of rails, which are bars made of steel or wood.



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## TO LEARN MORE

Learning more is as easy as 1, 2, 3.

- 1) Go to [www.factsurfer.com](http://www.factsurfer.com)
- 2) Enter "rollercoasters" into the search box.
- 3) Click the "Surf" to see a list of websites.

With factsurfer, finding more information is just a click away.

