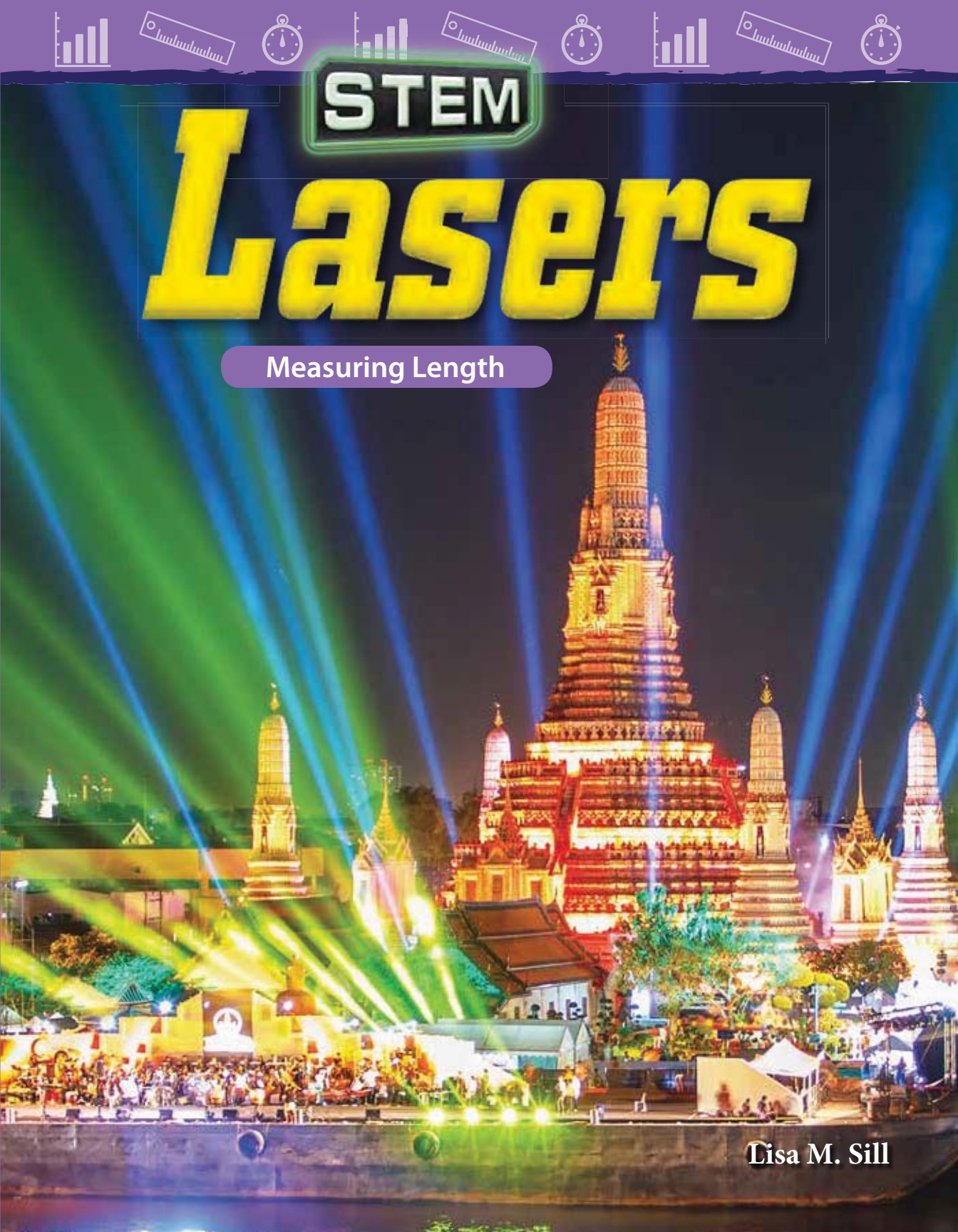
STEM

Lasers

Measuring Length



Lisa M. Sill

Table of Contents

What Are Lasers? 4
Bright Lights 6
White Light vs. Laser Light 10
All Around Us 14
Lasers of the Future 26
Problem Solving 28
Glossary 30
Index 31
Answer Key 32

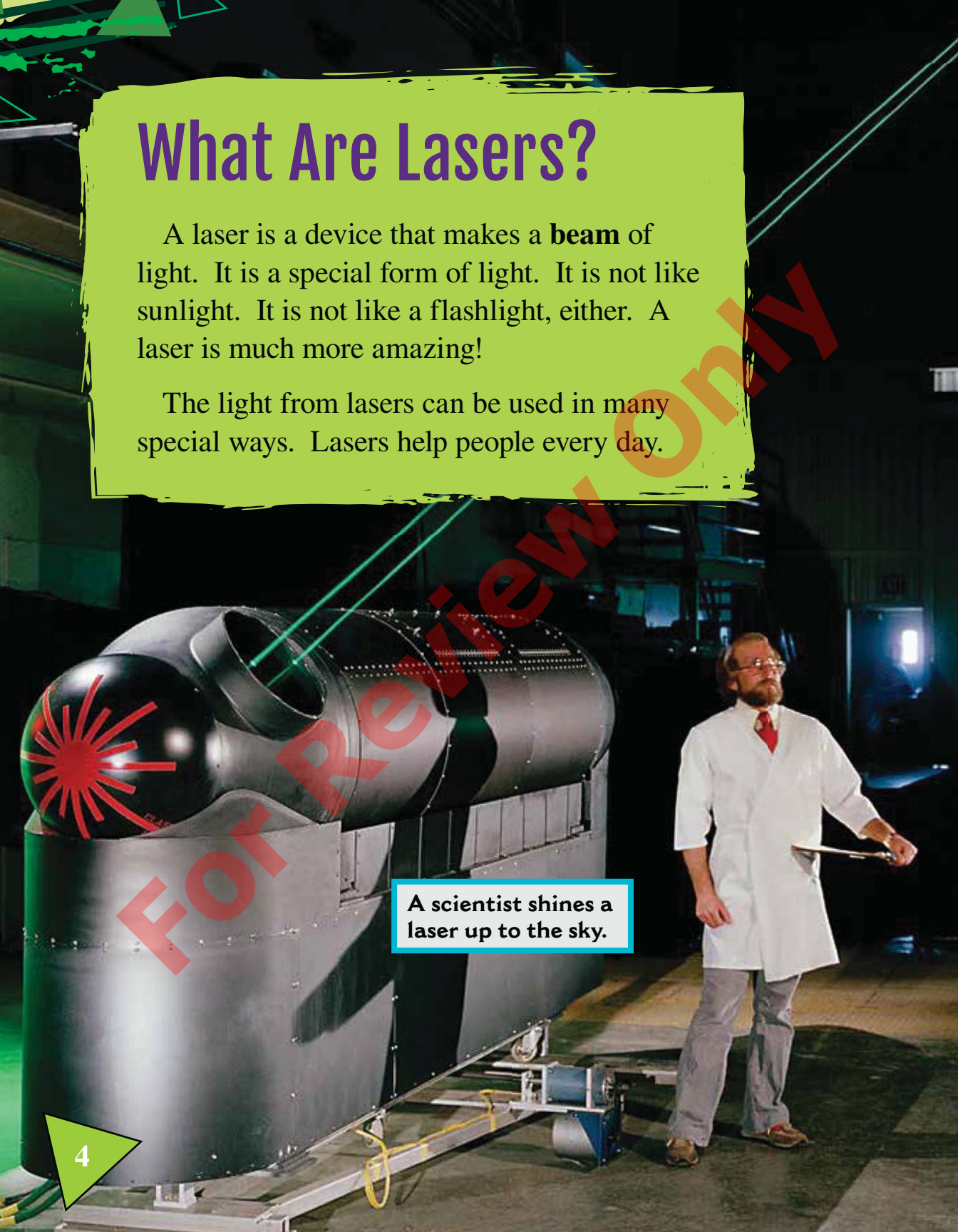
For Review Only

What Are Lasers?

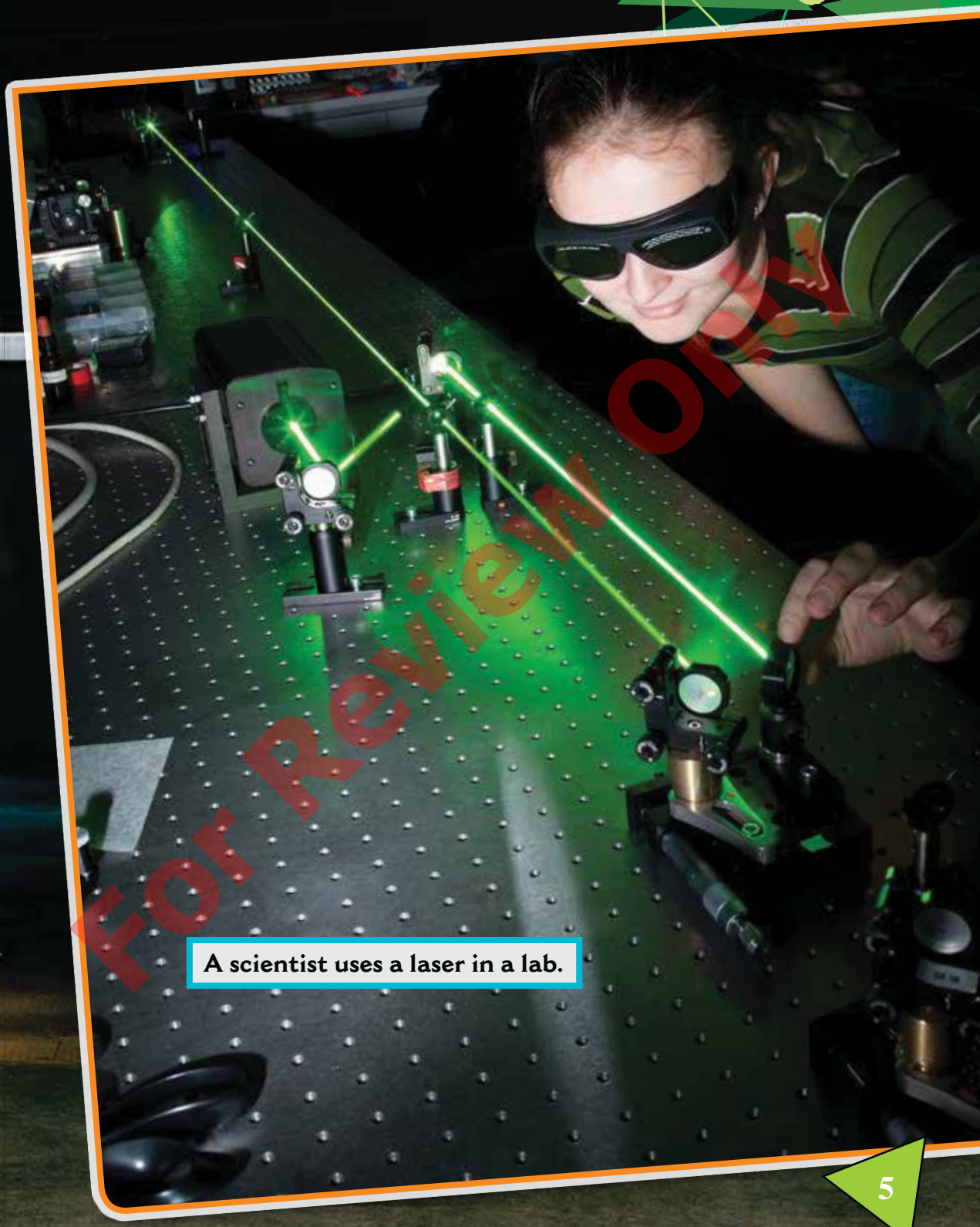
A laser is a device that makes a **beam** of light. It is a special form of light. It is not like sunlight. It is not like a flashlight, either. A laser is much more amazing!

The light from lasers can be used in many special ways. Lasers help people every day.

For Review Only



A scientist shines a laser up to the sky.



A scientist uses a laser in a lab.

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Bright Lights

Lasers make very bright lights. In fact, they are the brightest **source** of light on Earth. The light from a laser can be up to one million times brighter than the light from a light bulb! This strong light can hurt people's eyes. But there are ways people can stay safe. The best way is to wear special glasses that block the bright light. They help protect people's vision.



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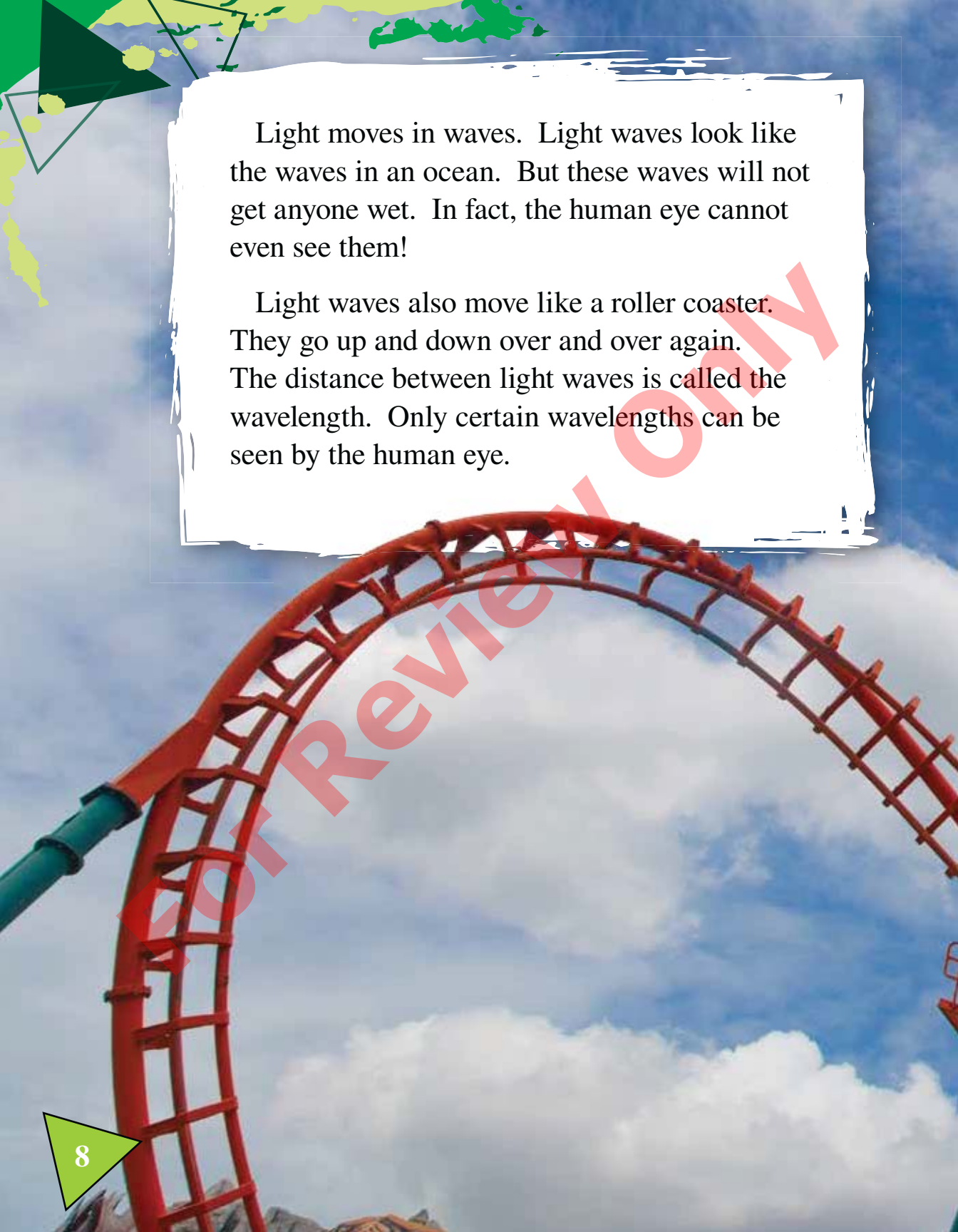


A man wears special goggles to protect his eyes from laser light.

For Review Only

Light moves in waves. Light waves look like the waves in an ocean. But these waves will not get anyone wet. In fact, the human eye cannot even see them!

Light waves also move like a roller coaster. They go up and down over and over again. The distance between light waves is called the wavelength. Only certain wavelengths can be seen by the human eye.



For Review Only



ocean waves

This roller coaster has the same shape as light waves.

For Review Only

Math Talk

1. How can estimating help you compare lengths?
2. When would it make more sense to measure something in centimeters instead of meters?
3. How are the equations 42 + _____ = 51 and 51 – 42 = _____ similar and different?
4. Why do rulers start at 0 instead of 1?
5. When comparing lengths, do you prefer to find out which object is longer or which object is shorter? Why?
6. Create a plan to help people decide which units to use when measuring objects.

For Review Only