

ELL ENVIRONMENTAL STUDIES

NF



ROBOBEEs

BY EMILY SCHLESINGER



TABLE OF CONTENTS

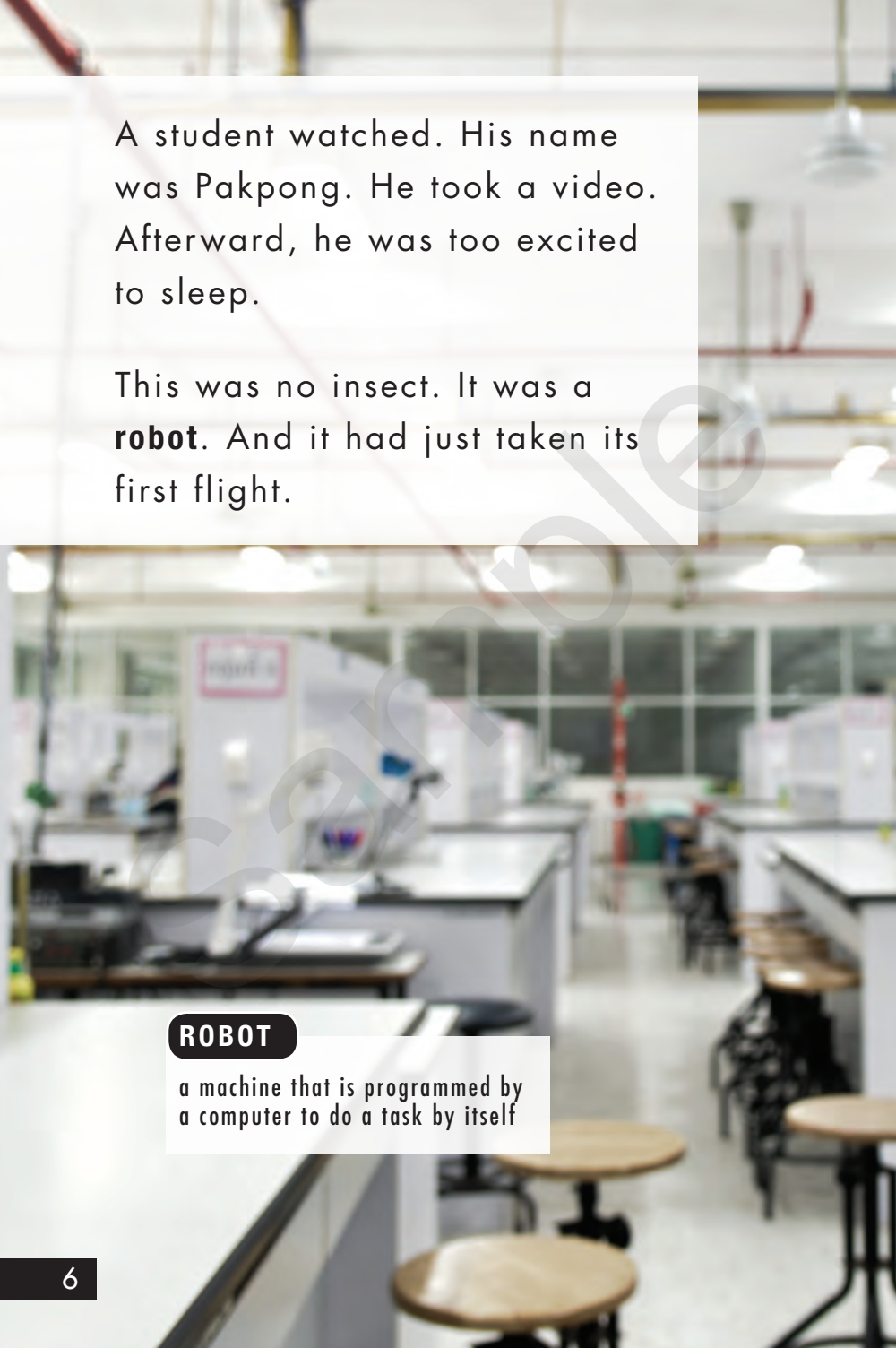
Chapter 1	FIRST FLIGHT.....	4
Chapter 2	THE TROUBLE WITH BEES.....	12
Chapter 3	TINY MACHINES	30
Chapter 4	BIG PLANS FOR SMALL ROBOTS	44
Glossary	64

CHAPTER 1

FIRST FLIGHT

It was 3^{AM}. A tiny bug flapped its wings. The bug rose into the air. It floated for a bit. Then it flew across the lab.





A student watched. His name was Pakpong. He took a video. Afterward, he was too excited to sleep.

This was no insect. It was a **robot**. And it had just taken its first flight.

ROBOT

a machine that is programmed by a computer to do a task by itself





Pakpong is part of a team. They work at Harvard University. The goal is simple. Create robots that act like bees. The project is called "RoboBees."



ELL EVERYDAY MATH

NF



BASEBALL MATH

BY EMILY SCHLESINGER



TABLE OF CONTENTS

Chapter 1	SHAPES AND DISTANCE	4
Chapter 2	NUMBERS AND SPEED	16
Chapter 3	MEASUREMENT AND WEIGHT	34
Chapter 4	STATISTICS AND MONEY	48
Glossary	64



CHAPTER 1

SHAPES AND DISTANCE

Baseball is an American tradition. It started as a simple game. Players used a stick and a ball. Now it is a major sport. Millions watch. There are 30 professional teams.

Math plays a big part in baseball. Just look at the rules.



The field is called a baseball diamond. There are four bases. These form the shape of a diamond.





The bases are 90 feet apart. This is measured out. It must be exact.



US MEASUREMENT

The US uses standard measurement. Many other countries use the metric system. Here are some common conversions.

1 inch = 2.54 centimeters

1 foot = 30.48 centimeters

1 mile = 1.6 kilometers

1 ounce = 28 grams

1 pound = 0.45 kilograms



90 FEET

90 FEET