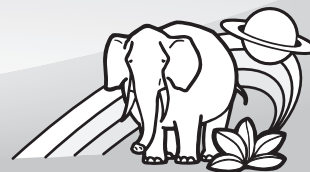


# Table of Contents



<b>Introduction</b> .....	3
<b>Using This Book</b> .....	4
The Stories—New Words—The Writing Link—The Questions—The Test Link—The Thrill of Science	
<b>Meeting Standards</b> .....	8
<b>Science Stories</b>	
A Tarantula and Duct Tape .....	9
Space Junk .....	12
Gorilla Lady .....	15
Why We Get Goose Bumps .....	18
Strange Partners .....	21
A Brilliant Element .....	24
Digging a Hole to China .....	27
A Picture to Remember .....	30
A Whale of a Fish .....	33
Saving Richard Herrick .....	36
Dressing for Survival .....	39
Two to Trigger .....	42
An Expedition for Bloodsuckers .....	45
All About Feet .....	48
Surviving Without a Head .....	51
The Substance Answer .....	54
The “She” in the Tongue Twister .....	57
Two Strange Eruptions .....	60
A Parasite’s Greatest Enemy .....	63
What Color Was the Bear? .....	66
A Different Walk .....	69
A Spy or an Alien? .....	72
Why Pig Bristles Were Glued on Ants .....	75
Getting Sick on Purpose .....	78
Where Days Are Different Lengths .....	81
All About Smelling .....	84
Name that Mammal! .....	87
The Eiffel Tower, Meteorites, and Our Diet .....	90
Out-of-Control Twitching .....	93
Pus—A Sign of Battle .....	96
An Inventor Who Was Paid Less .....	99
A Huge Area in a Small Space .....	102
The Changing Planet Number .....	105
Why a Termite Eats Its Skin .....	108
Making Bread Taste Sweet .....	111
Donya’s Guides .....	114
The Last Pigeon .....	117
A Doctor Who Listened with Fingertips .....	120
The Wrong Door .....	123
The Tall-Man Solution .....	126
The Cent with a Scent .....	129
Stopping Dizziness .....	132
The Rabbit Battle .....	135
Tornado Information .....	138
<b>Answer Sheets</b> .....	141
<b>Bibliography</b> .....	142
<b>Answer Key</b> .....	144

# Why Pig Bristles Were Glued on Ants



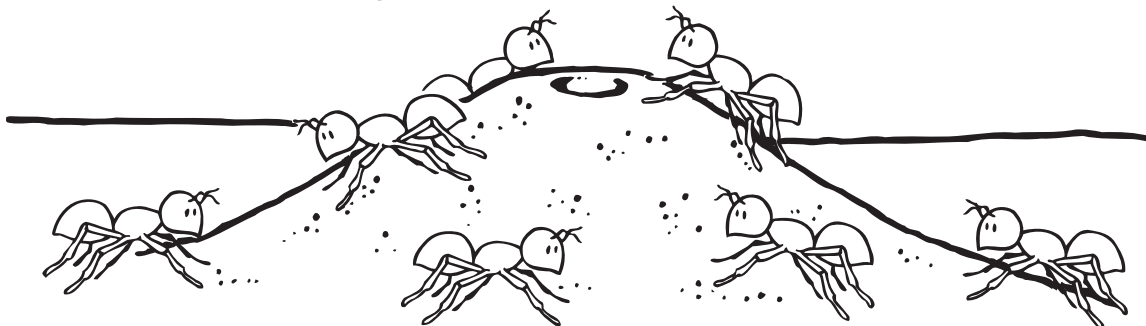
One scientist carefully extended ants' legs. When something is extended, it is made longer. The scientist extended the ants' legs by gluing pig bristles on to them. A bristle is a short, stiff, prickly hair. Why would a scientist extend ants' legs with pig bristles?

The scientist was studying ants that live in the Sahara desert. The Sahara desert is the largest desert in the world. It is on the continent of Africa. From east to west, it runs from the Atlantic Ocean to the Red Sea. From north to south, it stretches down around 1,200 miles (1,920 km). It gets extremely hot in the Sahara. In the daytime, it gets hot enough to fry an egg on the sand. High temperatures can go over 136°F (58°C). On winter nights, it can get extremely cold. Temperatures can fall below freezing.

To find food, the Saharan ants have to leave their nests and travel across the flat desert terrain, or land. Despite turns, twists, and terrain without landmarks, when it comes time for the ants to head home, they do not retrace their steps. They head home by the shortest possible route.

The scientist knew that the ants used sunlight to figure out direction. But direction and distance are two different things. The scientist wanted to know how the ants always knew the shortest possible route. The scientist caught the ants at a feeder 30 feet (9 m) away from the ants' nest. There, the scientist extended some ants' legs. He shortened others. Then he observed, or watched, the ants returning to their nest. The ants' with the attached pig bristles overshot their nest! They went too far! The ants with shortened legs did not go far enough.

The observations proved to the scientist that the ants had an internal pedometer. A pedometer keeps track of distance covered. It keeps track by responding to body motion at each step. The ants' internal pedometer was part of their nervous system. It allowed them to measure the distance. Using their internal pedometer, the ants could figure out the shortest way home.



# Why Pig Bristles Were Glued on Ants



After reading the story, answer the questions.  
Fill in the circle next to the correct answer.

1. This story is mainly about
  - (a) ants.
  - (b) the Sahara desert.
  - (c) using pig bristles.
  - (d) how ants figure out distance.
  
2. Sarah always seems to know what time to get up in the morning. It is as if she has a(n) \_\_\_\_\_ alarm clock.
  - (a) bristle
  - (b) terrain
  - (c) internal
  - (d) observation
  
3. Think about how the word *extend* relates to *shorten*. What two words relate in the same way?
 

**extend : shorten**

  - (a) route : way
  - (b) respond : ignore
  - (c) pedometer : step
  - (d) direction : north
  
4. The ants' with extended legs overshot their nest because
  - (a) the sand temperature got extremely hot.
  - (b) they needed to take more steps to get home.
  - (c) they went a greater distance with each step.
  - (d) they could not find their way without landmarks.
  
5. What is true about the Sahara?
  - (a) Temperatures are too extreme for life.
  - (b) You can fry an egg on the sand at night.
  - (c) It runs east to west around 1,200 miles (1,920 km).
  - (d) It stretches from the Atlantic Ocean to the Red Sea.