



### PATHON PATHON Reading, Writing, and Critical Thinking

TRACES OF

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MARI VARGO LAURIE BLASS KRISTIN SHERMAN

### ON THE COVER

The elevated metro line in Medellin, Colombia. © John Coletti/The Image Bank/Getty Images



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**KRISTIN SHERMAN** 





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### Scope and Sequence

### **Unit Title and Theme**

SOCIAL RELATIONSHIPS page 1

**Behavioral Science** 

**SCIENCE AND** 

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INVESTIGATION

Technology/Genetics

**CITY SOLUTIONS** 

Sociology/Urban Studies

Explore the Theme Social Animals

Reading 1 What Are They Thinking? **VIDEO** The Secret Lives of Orangutans

Reading 2 Gender in the Wild

Explore the Theme Putting a Face to a Case

Reading 1 Tech Detectives VIDEO Secrets in the Ice

Reading 2 Face to Face with the Past

Explore the Theme City Living

Reading 1 Living on an Urban Planet VIDEO Farming Underground

Reading 2 A City Up Against the Wall

Explore the Theme A Rising Problem

Reading 1 Sensing Disaster VIDEO Hurricanes 101

Reading 2 Yellowstone's Smoking Bomb

Explore the Theme Trends in Travel

Reading 1 The New Face of Tourism VIDEO A Pledge to Palau

Reading 2 Geotourism in Action





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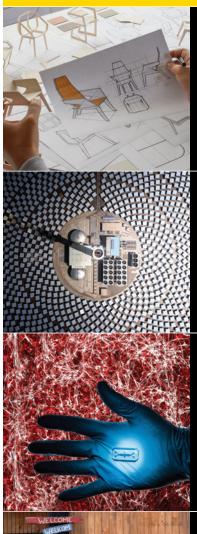


**DANGER ZONES Earth Science** 

THE TRAVEL BUSINESS page 99 **Economics/Business** 

Reading	Critical Thinking	Vocabulary	Writing
<b>Reading Skill</b> Identifying Main and Supporting Ideas Understand Main Ideas, Summarize, Identify, Identify Evidence, Analyze Evidence, Identify Main and Supporting Ideas, Understand Details	<b>Critical Thinking</b> <b>Skill</b> Analyzing Evidence Justify, Evaluate Evidence, Predict, Infer Meaning, Personalize, Recall	<b>Vocabulary Extension</b> Compound Nouns; <i>pre-</i>	Language for Writing Making Comparisons Writing Skill Writing Body Paragraphs GOAL Write two body paragraphs comparing animal and human behavior
<b>Reading Skill</b> Identifying a Sequence of Events Understand Main Ideas, Understand Details, Categorize, Identify, Understand the Main Idea, Summarize, Identify a Sequence of Events, Reflect	<b>Critical Thinking</b> <b>Skill</b> Analyzing Levels of Certainty Predict, Analyze Certainty, Speculate, Apply	<b>Vocabulary Extension</b> <i>-ist</i> ; Changing Nouns into Adjectives with <i>-al</i> and <i>-ial</i>	Language for Writing Paraphrasing Writing Skill Writing a Summary GOAL Write two summaries on how technology can solve crimes
<b>Reading Skill</b> Analyzing Visual Information Summarize, Understand Main Ideas, Identify Pros and Cons, Scan for Details, Analyze Visual Information, Understand Quotes	Critical Thinking Skill Analyzing Quotes Predict, Analyze Quotes, Justify Your Opinion, Infer Meaning, Analyze Levels of Certainty, Reflect	Vocabulary Extension Expressions with <i>income</i> ; Compound Adjectives	Language for Writing Using the Simple Past and the Present Perfect Writing Skill Writing Introductory and Concluding Paragraphs GOAL Write a problem-solution essay about how a city or town solved a problem it faced
<b>Reading Skill</b> Understanding Referencing and Cohesion Brainstorm, Summarize, Understand a Sequence, Understand Main Ideas, Understand Details, Analyze Visual Information, Understand a Process	<b>Critical Thinking Skill</b> Making Inferences Predict, Infer Meaning, Infer, Analyze Evidence	Vocabulary Extension Changing Nouns and Adjectives into Verbs with <i>-en</i> ; Changing Nouns and Adjectives into Verbs with <i>-ize</i>	Language for Writing Using Parallel Structures Writing Skill Writing a Process Essay GOAL Write a process essay about how people can prepare for a natural hazard
<b>Reading Skill</b> Analyzing Causes and Effects Understand Key Terms, Understand Details, Understand Purpose, Identify Arguments, Skim, Understand Main Ideas, Analyze Causes and Effects	Critical Thinking Skill Evaluating an Argument Predict, Evaluate Arguments, Infer Meaning, Synthesize, Evaluate	Vocabulary Extension Adjectives and Nouns ending in <i>-ive</i> ; Guessing the Meaning of a Word from Its Parts	Language for Writing Using <i>if</i> , ( <i>then</i> ) Writing Skill Writing a Cause-Effect Essay GOAL Write a cause-effect essay about the positive or negative effects of tourism on a place

### Scope and Sequence



### **Unit Title and Theme**

PRODUCT DESIGN
 page 123

**GLOBAL CHALLENGES** 

**MEDICAL INNOVATIONS** 

**Environmental Science** 

Design/Technology

page 147

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page 171

Health/Medicine

### **Explore the Theme** Suiting Up

Reading 1 For All Humankind VIDEO A Helping Hand

Reading 2 Remote-Controlled Dogs?

Explore the Theme Climate vs. Cuisine

Reading 1 A Need for Change VIDEO The Snow Guardian

Reading 2 Eight Steps to a Sustainable Future

Explore the Theme Medical Firsts

Reading 1 A World of Pain VIDEO Nanotechnology

**Reading 2** The Future of Medicine

**Explore the Theme** World Languages

Reading 1 The Future of English VIDEO The Power of Language

Reading 2 A World of Stories

**Explore the Theme** The Savage Mountain

Reading 1 Deadly Summit VIDEO Surviving a Night Outdoors

**Reading 2** Survival Tips from Experts

**LANGUAGES AND CULTURE** *page 197* Anthropology/Linguistics

**10** SURVIVAL INSTINCT page 221

Psychology

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Reading	Critical Thinking	Vocabulary	Writing
<b>Reading Skill</b> Identifying Problems and Solutions Summarize, Understand Details, Identify Speculation, Apply, Understand Main Ideas, Identify Examples, Identify Problems, Discover	Critical Thinking Skill Understanding Speculation Predict, Analyze Quotes, Infer Meaning, Analyze, Speculate, Infer Purpose	<b>Vocabulary Extension</b> <i>auto-;</i> Phrasal Verbs <i>back up, stick out,</i> <i>try out</i>	Language for Writing Using Language for Speculation Writing Skill Writing a Problem-Solution Essay GOAL Write a problem-solution essay about a product that solves a problem
<b>Reading Skill</b> Understanding Appositives Understand Main Ideas, Understand Details, Analyze Visual Information, Identify Problems and Solutions, Identify Appositives	<b>Critical Thinking Skill</b> Inferring Attitude Predict, Infer Attitude, Evaluate, Infer Meaning	Vocabulary Extension Expressions with cut; in-, il-, im-, non-, ir-, un-	Language for Writing Using Relative Clauses Writing Skill Writing an Opinion Essay GOAL Write an opinion essay about the best way to ensure a sustainable future
<b>Reading Skill</b> Understanding Passive Sentences Understand the Main Idea, Understand Main Ideas, Understand Details, Understand Referencing, Identify	<b>Critical Thinking</b> <b>Skill</b> Applying an Idea to a Real-World Situation Predict, Infer, Apply, Infer Meaning, Reflect	Vocabulary Extension Synonyms; Acronyms and Initialisms	Language for Writing Introduction to Quoting and Citing Sources Writing Skill Evaluating Information Online GOAL Write a research-based essay about a current medical innovation and its significance
<b>Reading Skill</b> Understanding Predictions Understand Main Ideas, Understand Details, Analyze Visual Information, Skim, Identify, Categorize	<b>Critical Thinking Skill</b> Inferring a Writer's Purpose Predict, Infer Meaning, Infer Purpose, Reflect	Vocabulary Extension mono-, bi-, tri-, multi-; Onomatopoeia	Language for Writing Presenting Counterarguments Writing Skill Planning an Essay Using a T-Chart GOAL Write a persuasive essay about whether everyone in the world should speak the same language
<b>Reading Skill</b> Identifying Adverbial Phrases Skim, Summarize, Understand Main Ideas, Sequence, Understand Details, Identify Adverbial Phrases, Apply, Categorize	Critical Thinking Skill Interpreting Figurative Language Infer Meaning, Interpret Figurative Language, Reflect, Predict, Personalize	Vocabulary Extension Expressions with stay; Changing Verbs into Nouns with -ance and -tion	Language for Writing Using Past Forms for Narratives Writing Skill Writing a Descriptive Narrative Essay GOAL Write a descriptive narrative essay about someone who survived a dangerous situation

## Welcome to *Pathways Reading, Writing, and Critical Thinking,* Third Edition

### NEW AND UPDATED IN THE THIRD EDITION

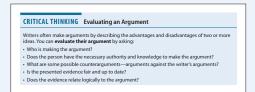
Compelling photography and infographics in **Explore the Theme** draw students into the unit, develop their visual and information literacy skills, and get them speaking.



New videos and readings provide academic content with close connections to students' lives beyond the classroom.

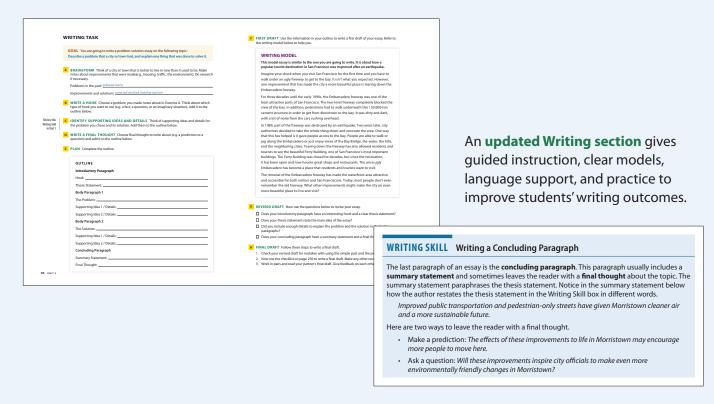


Academic competency skills like collaboration, communication, and problem-solving help students develop the skills and behaviors needed to succeed in school and their lives.



#### READING SKILL Identifying a Sequence of Events then you are trying to understand an article about a crime or a mystery, look for nd phrases in the story to help you understand the sequence, or order, of events Time markers such as days, months, years, and times of day: on Monday in March in 1991 nt 5-30 rds that indicate that one event happened before another earlier hafon (one year) ag ords that indicate that one event happened after another en later after now rds and phrases that indicate that two eve nts occurred at the at the time of at that moment at the same time rds and phrases that indicate that something ha onened much for some time a long time ago in ancient (times A ANALYZE Scan the section "A Robbery in Australia." Ur indicate when events happened.

DEVELOPING READING SKILLS



### Assessment

Pathways Reading, Writing, and Critical Thinking supports teachers and learners with various forms of assessment, with the goal of helping students achieve real-world success.

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### A new Review section provides

additional opportunities for formative assessment and encourages students to take control of their learning journey through guided self-assessment.

Opportunities for online assessment on the **new Spark platform** include:

- The NGL Online Placement Test, which places students into the correct level of *Pathways*
- Interactive Online Practice activities and online tests from the Assessment Suite, for formative and summative assessment
- A Course Gradebook that tracks student and class performance against learning objectives, providing teachers with actionable insights to support students' progress

# spark

Bring the world to the classroom and the classroom to life with the Spark platform – where you can prepare, teach and assess your classes all in one place!

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## **SOCIAL RELATIONSHIPS**

King penguins during a blizzard

### IN THIS UNIT, YOU WILL:

- · Read an article about animal and human behavior
- · Watch a video on the lives of orangutans
- Read an article about gender in the wild
- Write about how animal and human behaviors are similar and different

### THINK AND DISCUSS:

- 1. The photo above shows a large group of penguins gathering together. What other animals live in social groups?
- 2. Can you think of any animal behavior that is similar to human behavior?

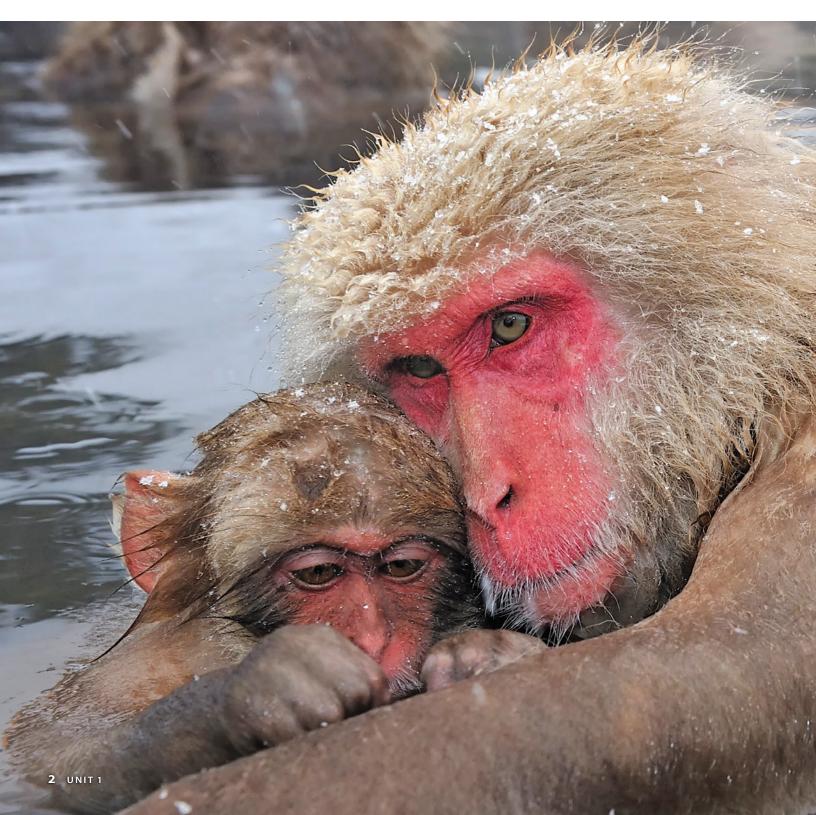
### **EXPLORE THE THEME**

### Read the information on these pages and answer the questions.

- 1. What are some examples of nonhuman primates?
- **2.** What similarities have researchers discovered between humans and other primates?
- **3.** Look at the photo. What behaviors do you see that are similar to human behavior?

## **Social Animals**

Researchers have discovered that humans share certain behavioral characteristics with other primates—the group of mammals that includes humans, monkeys, and apes.



### **Basic Communication**

Primatologists—scientists who study primates have found that some apes are capable of basic communication using human sign language. Researchers have also observed apes inventing and using tools to get food and complete other tasks.

### **Social Behavior**

Both humans and other primates tend to live in social groups. Researchers today are looking at the similarities and differences in how humans and animals behave within their own social groups, for example, how they act toward each other and take care of their young.

> Families of wild macaques often bathe in the hot springs in Yamanouchi, Japan.

### Reading 1

### PREPARING TO READ

A **BUILD VOCABULARY** The words in **blue** are used in the reading passage. Read the paragraph. Then write the correct form of each word next to its definition.

People often form strong **bonds** with the animals they frequently interact with, such as dogs or horses. These people usually say that animals have feelings. Other people, however, believe emotions like sadness or kindness are too **complex** for nonhuman species. But even rats show human-like **behavior**. In an experiment, rats pulled a lever and received food. After the rats had done this **repeatedly**, the researchers added something: When the lever was pulled, another rat received a painful shock. The rats then stopped pulling the lever, suggesting they wanted to prevent the other rats' **suffering**.

- 1. \_\_\_\_\_: (n) pain, either mental or physical
- 2. \_\_\_\_\_: (adj) involving a lot of different parts; difficult to understand
- 3. \_\_\_\_\_: (adv) occurring many times
- 4. \_\_\_\_\_: (n) a feeling of connection with someone or something else
- 5. \_\_\_\_\_: (n) the way someone or something acts
- **BUILD VOCABULARY** Choose the best definitions for the words in blue.
  - Regular exercise can help with physical fitness and cognitive function.
     a. relating to one's lifestyle
     b. relating to thinking and understanding
  - 2. There's a growing recognition that all species are important for the health of the planet.a. a belief that something is falseb. an understanding that something is true
  - 3. People should treat animals with kindness because they are living creatures, too.
    - a. to behave toward someone or something in a particular way
    - b. to give advice or suggestions about a problem
  - 4. Some animals appear to express grief when a member of their family dies.a. a very confused feelingb. a very sad feeling
  - 5. The idea that animals might feel emotions is **controversial** and has resulted in some intense debate.
    - a. causing disagreement b. easily understood
- **C USE VOCABULARY** Discuss the questions with a partner.
  - 1. How is the way you treat animals different from how you treat your friends or family?
  - 2. When you were a child, how did your parents reward good behavior?
- Critical Thinking D JUSTIFY Do you think studying emotions in animals is important? Why or why not? Discuss with a partner.

A Japanese macaque stares at its reflection in a motorcycle mirror.

## What Are They Thinking?

- A I Humans often think of themselves as being special and different from other animals. Over the past half century, though, scientists have found more evidence of intelligence in many nonhuman species, and we now know that many animals have impressive cognitive abilities. For example, some crows use sticks to pull insects from tree trunks, and octopuses have been observed solving puzzles.
- B A growing number of studies—combined with observations in the wild reveal that many species have much more in common with humans than previously thought. Elephants appear to be sad when another dies. Cuttlefish have individual personalities. Many primates, like chimps, form strong friendships. Elder elephants and orca whales share knowledge with their young.
- **c** Until the early 1990s, the minds of animals—especially their emotions—were not considered a topic worth researching. Frans de Waal is an Emory University researcher who has spent a lifetime studying primate behavior. He was one of the earliest voices to argue for the recognition of animal consciousness.<sup>1</sup>
- D Now, some scientists are becoming convinced that "the inner processes of many animals are as complex as those of humans," as de Waal says. "The difference is that we can express them in language; we can talk about our feelings." This new understanding, if it becomes widely accepted, could cause a complete rethinking of how humans relate to and treat other species.

<sup>&</sup>lt;sup>1</sup>**Consciousness** is the state of using your senses and thinking, and being aware of the world and oneself.

- **E** However, the scientific mission to understand the inner lives of animals is still relatively new. It's also controversial. In the view of some scientists, knowing what another species is thinking is almost impossible. Researchers investigating emotions such as grief and empathy<sup>2</sup> in nonhumans face the criticism that they are giving human characteristics to animals.
- F "If you look anecdotally<sup>3</sup> through the ages, the notion that dogs have tight bonds to specific individuals is very clear," says David Scheel, a marine biologist at Alaska Pacific University who studies octopuses. "But they are domesticated.<sup>4</sup> Can a fox do the same thing? Does a wolf have that emotional range? Does an orca feel that level of attachment to the members of its own pod? Can a dolphin become friends with a group of fish or a scuba diver? Our intuitions<sup>5</sup> lead us astray here all the time. You will get people whose intuition is, *That's fake*. *Whatever it is, that's not friendship,* and other people who think, *Well, that's just silly. You are denying animals their inner lives.*" The way to get closer to the truth is to test inferences made from animal behavior.
- **G** Like human emotions, animal emotions may depend on relationships. Scientists have investigated this concept in experiments with rats. In one study by neuroscientist Inbal Ben-Ami Bartal, a rat is trapped inside a transparent plastic tube with a door that can be opened from the outside. The researchers place the tube inside a cage with another rat that is free to move around. The rat inside the tube tries but fails to escape, its **suffering** visible to the free rat. The free rat circles the tube, bites it, and tries to dig underneath it. After a few attempts, the free rat figures out how to open the door and quickly releases the trapped rat.
- H This helpful behavior, though, depends on the free rat's connection with the trapped one. A free rat will help a trapped rat if they are of the same genetic type, even if they are strangers. If the trapped rat is of a different type, the free rat will not help it. However, if the free rat grew up with rats of a different type, it will help rats of that type, including strangers, while ignoring its own. "So, it's not about biological similarity," Ben-Ami Bartal says. "It's about loving who you're with. It's about having your family and knowing that that's your family."

<sup>&</sup>lt;sup>5</sup> Your intuition is what you feel or believe without having to think about the facts.



<sup>&</sup>lt;sup>2</sup> If you have **empathy**, you are able to understand and connect with someone else's experiences.

<sup>&</sup>lt;sup>3</sup> If you look at something anecdotally, you look at individual observations rather than thorough scientific research.

<sup>&</sup>lt;sup>4</sup>An animal that is **domesticated** is used to being around humans.

Beluga whales create their own "toys" by blowing bubble rings and playing with them.

- Research into playful behavior in animals also shows some similarities to humans. Scientists have observed dolphins and beluga whales blowing bubble rings and playing with them in different ways, as well as chasing one another just for fun. They're one of many species—in addition to dogs and cats—that play. Baboons have been seen teasing cows by pulling their tails. While studying elephants in Africa, Richard Byrne—who researches how cognitive processes evolve—often observed young elephants following animals that didn't threaten them, such as wildebeests and egrets. Scientists have also collected evidence of playful behavior in fish and frogs, according to Gordon M. Burghardt, a scientist at the University of Tennessee, Knoxville. He's observed Vietnamese mossy frog tadpoles<sup>6</sup> repeatedly riding air bubbles released from the bottom of a tank all the way to the top.
- Play uses energy and even risks injury, and its immediate purpose is not very clear. Researchers believe it evolved because it helps strengthen bonds between members of social groups. It also helps animals practice skills, such as running and jumping, that improve their chances of survival. That's the explanation for why play evolved, but what makes an animal want to engage in it? One answer—according to Vincent Janik, a biologist at the University of St. Andrews in Scotland—is the attempt to find joy. "Why does an animal do something? Well, because it wants to," he says. Without an obvious benefit, it seems likely that play gives animals pleasure, making their lives more interesting.
- κ What scientists now recognize is that emotions didn't evolve in humans alone. Essentially, emotions are internal states that drive an animal to act a certain way. We may not think of hunger and thirst as emotions, but they are similar in that they are internal states that encourage action. Even though emotions like love and sadness might seem more important, they are not all that different.
- L It's not hard to appreciate that a wide variety of species have emotions, basic in some and advanced in others. As we observe more and more species, what other similarities will we find, and how will that change the way we see ourselves?

<sup>&</sup>lt;sup>6</sup>A tadpole is the young form of a frog and looks like a fish.

### **UNDERSTANDING THE READING**

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**A UNDERSTAND MAIN IDEAS** Match each heading with the correct paragraphs from the reading passage.

. . .

1.	Paragraphs A–B	a.	A New Appreciation
2.	Paragraphs C–F	b.	Inside the Animal Mind?
3.	Paragraphs G–H	c.	The Importance of Play
4.	Paragraphs I–J	d.	It's All About Family
5.	Paragraphs K–L	e.	How Special Are Humans?

**B SUMMARIZE** Complete the summary using information from the reading passage. Write no more than one word in each space.

Recent research shows that other species have much more in common with humans than we used to think. One example is how 1\_\_\_\_\_\_\_\_ seem to be sad when a member of their herd dies. However, it is 2\_\_\_\_\_\_\_\_ to suggest that animals feel emotions in the same way as humans. One experiment involving 3\_\_\_\_\_\_\_ showed that, in certain cases, they tried to prevent others' suffering—a possible example of empathy. Other research involving baboons, tadpoles, and dolphins showed that they engaged in behavior resembling 4\_\_\_\_\_\_. It isn't clear why animals engage in it, but some researchers think it's just for sheer joy. One way to think of the concept of emotions is that feelings like love and sadness might not be very different from hunger and thirst, as they are all 5\_\_\_\_\_\_\_ states that make us do something. This understanding of the inner lives of other species may make us treat them differently.

### **C IDENTIFY** Match each researcher (a–f) with the correct main idea.

a. Inbal Ben-Ami Bartal	c.	Richard Byrne	e.	David Scheel
b. Gordon M. Burghardt	d.	Vincent Janik	f.	Frans de Waal

- 1. People have different beliefs about the idea of emotion in other species.
- 2. Animals find joy in play.
- 3. Humans express emotions through language, whereas animals do not.
- 4. Rats want to help others that they recognize as being "family." \_\_\_\_\_
- 5. Young elephants playfully follow other species that aren't threatening.
- 6. Tadpoles like to play by riding air bubbles.

### **CRITICAL THINKING** Analyzing Evidence

When a writer is making a claim or an argument, it is important to analyze the evidence (examples, statistics, research, etc.) that they provide. As you read, think about and evaluate the evidence mentioned. Does this evidence clearly support the writer's main ideas?