

Unit 1: The Strength to Survive

Before You Read

p. 2

2.

Bird	Fish	Insect	Grazing Animals	Feline	Canine
falcon ostrich roadrunner swift albatross dovekie loon puffin thick-billed murre	salmon eel	beetle	gazelle antelope wildebeest zebra	cheetah	coyote

Reading Comprehension

p. 5

1. F 3. T 5. T 7. F
2. T 4. T 6. F 8. T

Reading Skill: Skimming and Scanning

p. 5–6

Apply

1. *Earthquake* 5. yes. It reached 5,132
2. 220 Hz per second 6. Charles II
3. guitar 7. 1,197 pounds
4. National Sleep Awareness Week 8. Stanford University in California

Answers will vary.

Vocabulary Activities: A

p. 6–7

1. maintain 3. durations 5. excess 7. welfare
2. achieve 4. exceedingly 6. maintain 8. the elements

Vocabulary Activities: B

p. 7

1. a 3. a 5. a 7. b
2. a 4. b 6. a

Vocabulary Activities: C

p. 8

1. d 3. a 5. c 7. f
2. g 4. b 6. e

Vocabulary Activities: D

p. 8

Answers will vary. Possible answers:

2. They can maintain speeds between 30 and 45 miles per hour.
3. It can achieve speeds of 200 miles per hour.
4. They can travel for long durations.

Vocabulary Activities: E

p. 8

2. The sounds made by blue whales can exceed 150 decibels.
3. A squirrel's welfare depends on its ability to remember where it has individually hidden thousands of nuts.
4. Dall's porpoise, the fastest sea mammal, can achieve speeds of up to 56 miles per hour.
5. The marmot, a large rodent, can hibernate for durations of up to nine months a year.

Reading Comprehension

p. 11

1. T
2. F
3. F
4. F
5. T

Reading Skill: Outlining as You Read

p. 12

Apply A

- I. *Sprinting*
- II. Marathon
- III. *Diving*
- IV. Jumping
- V. Weightlifting

Reading Skill: Outlining as You Read

p. 12

Apply B

- I. *Sprinting*
 - A. Mammals
 - B. Birds
- II. Marathon
 - A. Birds
 - B. Fish
 - C. Mammals
- III. *Diving*
 - A. Mammals
 - B. Birds
- IV. Jumping
 - A. Long Jump
 - B. High Jump
- V. Weightlifting
 - A. African elephant
 - B. Rhinoceros beetle

Reading Skill: Outlining as You Read
Apply C

p. 13

Possible informal outline:

ways humans lose heat

- millions of sweat glands release heat
- no fur; sweat evaporates quickly
- upright posture
 - less area exposed to the sun
 - more area exposed to cooling wind

anatomical features that facilitate running

- long stride
- springy tendons in calves and ankles
- large muscle in hips prevents falling forward
- rapid standing and climbing made easy
- long neck, twisting shoulders counterbalance head to stay upright

possible reasons for long-distance running sometimes in hot conditions

- to run down prey
 - track prey and return for help quickly
 - extend hunting range while staying in established encampment
- to not become prey
 - able to return quickly before nighttime
 - springy muscles help fight more effectively

Vocabulary Activities: A

p. 13–14

- | | | |
|---------------|----------------|---------------|
| 1. undergo | 5. maintain | 9. release |
| 2. facilitate | 6. area | 10. exceeding |
| 3. transfer | 7. preliminary | |
| 4. releases | 8. transfers | |

Vocabulary Activities: B

p. 13

- | | | | | | |
|------|------|------|------|------|------|
| 1. c | 2. f | 3. e | 4. b | 5. a | 6. d |
|------|------|------|------|------|------|

Vocabulary Activities: C

p. 14

Answers will vary. Possible answers:

2. Using a good learners' dictionary, working with flash cards, and joining conversation groups can facilitate language learning.
3. Childhood development is facilitated by good nutrition, attentive parents, and good health care.
4. A social website can facilitate keeping in contact with friends.
5. The healing of a muscle injury can be facilitated by resting and icing the muscle.

Vocabulary Activities: D

p. 15

- | | | | |
|--------------|-------------|----------------|---------------|
| 1. welfare | 3. sole | 5. Preliminary | 7. elemental |
| 2. underwent | 4. exceeded | 6. excessive | 8. elementary |

Vocabulary Activities: E

p. 16

Sentences will vary.

Unit 2: Attention, Please

Reading Comprehension p. 20

- | | | | |
|------|------|------|------|
| 1. T | 3. F | 5. T | 7. F |
| 2. F | 4. T | 6. F | 8. F |

Reading Skill: Finding the Main Idea—Reading Past the “Pivot” p. 21

Apply A

Yet is the pivot word. The main idea is expressed in the sentence *Our interest concerns how the human brain manages multiple tasks simultaneously and factors that inhibit the successful completion of these tasks.*

Reading Skill: Finding the Main Idea—Reading Past the “Pivot” p. 21

Apply B

Answers will vary. Possible answers:

Pivot word: *But* (line 24)

Before pivot: We can do the dinner dishes while thinking about our next vacation, or chew gum while reading a newspaper.

After pivot: Do multitasking humans operate effectively and efficiently when they really need to concentrate?

The author’s point: Humans probably cannot multitask effectively when concentration is required for both tasks.

Vocabulary Activities: A p. 22

- | | | |
|----------------|----------------------------------|------------------|
| 1. requirement | 4. mediate | 6. beneficial |
| 2. evidence | 5. Psychologists/
Researchers | 7. negative |
| 3. Research | | 8. psychological |

Vocabulary Activities: B p. 22–23

Answers will vary. Possible answers:

2. Issue: the reasons for the decline in violent crime
Question: What factors have contributed to the decline in violent crime?
3. Issue: changing the minimum age for driving
Question: What are some effects this change will have?
4. Issue: concerns about social websites
Question: What are some of the dangers of social websites?
5. Issue: violence in video games
Question: What’s the best way to deal with video game violence?
6. Issue: why workers and managers should work together on differences
Question: What kind of mediation can help workplace disputes?

Vocabulary Activities: C p. 23

- | | | |
|--------|------------|------|
| 1. but | 2. Whereas | 3. Ø |
|--------|------------|------|

Review a Skill: Outlining as You Read

p. 24

Possible outline:

Findings

- more sleep can benefit most adults
- adults require 7 or more hours of sleep but don't get it
- consequences of lack of sleep
 - impairs memory, concentration
 - increases stress, disrupts metabolism

Significance of lack of sleep

- responsible for over 100,000 car crashes per year
- evidence that daylight savings' loss of 1 hour causes crashes
- loss of worker productivity estimated at \$18 billion

Practical application

- National Sleep Awareness week established
- Drivers educated about drowsiness effects as well as intoxication effects

Reading Comprehension

p. 26

- | | | | |
|------|------|------|------|
| 1. F | 3. T | 5. T | 7. F |
| 2. F | 4. T | 6. F | 8. T |

Reading Skill: Isolating Causes and Effects

p. 27

Apply A

- | | |
|----------------------------------|-----------------------------------|
| AS improves memory | CD disrupts the body's metabolism |
| AS increases concentration | AS improves cognitive functioning |
| AS strengthens the immune system | CD cuts their lives short |
| AS decreases accidents | CD taxes the immune system |
| CD impairs memory | CD wreaks havoc on human safety |

Reading Skill: Isolating Causes and Effects

p. 27

Apply B

- | | | |
|------------|------------|-------------|
| 1. lead to | 3. show | 5. leads to |
| 2. show | 4. lead to | 6. show |

Reading Skill: Isolating Causes and Effects

p. 27

Apply C

Answers will vary. Possible answer:

Sleep deprivation can be dangerous. For example, chronic sleep deprivation can have a negative effect on our mind and body. People who sleep less than 8 hours a night show a diminished ability to pay attention and make decisions. As a result, they are more likely to have accidents and endanger others. Sleep deprivation also harms the body's immune system, a condition that can lead to disease and premature aging.

Vocabulary Activities: A

p. 28

information: U

benefits: C

safety: U

consequences: C

knowledge: U

study: U

suggestions: C

understanding: U

advice: U

health: U

Vocabulary Activities: B

p. 29

Answers will vary. Possible answers:

1. They are inconsistent. The employee says he could not tell what color jacket the suspect was wearing but then says he knows it was not a blue jacket. Also the employee says that he was cleaning the mirrors when the man approached him. He should have been able to see the man in the mirror.
2. The employee did not call the police right away. This seems unusual.
3. No. The employee says the man ran out. The witness says the man walked calmly.
4. No, it seems like the employee is lying.

Vocabulary Activities: C

p. 30

1. facts

5. information

9. understanding

2. suggestions

6. Studies

10. consequences

3. instructions

7. evidence

4. advice

8. research

Vocabulary Activities: D

p. 30–31

Answers will vary. Likely to be checked:

1, 3, 4, 7

Discussions will vary.

Vocabulary Activities: E

p. 31

Answers will vary. Possible answers:

2. We can benefit from the results of psychological research.
3. The findings of this study are consistent with the evidence from other research.
4. Businesses are required to maintain accurate records of all transactions.
5. There is evidence that sleep deprivation negatively affects performance at work.
6. It is increasingly evident that getting adequate sleep is beneficial.

Vocabulary Activities: F

p. 32

Answers will vary. Possible answers:

2. Students must fulfill strict requirements in order to qualify for a scholarship.
3. This exercise program, if done regularly, should provide long-term benefits.
4. Psychologists have gathered compelling evidence against the claim that multitasking increases productivity.
5. They are carrying out research on the negative effects of chronic sleep deprivation.

Unit 3: Movie Magic

Review a Skill: Pivot Words

p. 37

Paragraph 2: Rather than launch Smell-O-Vision as the next evolution in entertainment, the film flopped.

Paragraph 3: In practice, most of Castle's gimmicks were only marginally successful and often got more giggles than screams

Paragraph 4: Unlike Smell-O-Vision and Castle's inexpensive tricks, the problem with Sensurround was that it was too successful.

Paragraph 5: However, the process was not free from technical glitches . . .

Reading Comprehension: A

p. 37

- | | | | | |
|------|------|------|------|------|
| 1. F | 3. T | 5. T | 7. F | 9. F |
| 2. F | 4. F | 6. T | 8. F | |

Reading Comprehension: B

p. 37

2. No. He died in 1977.
3. pipe smoke and food
4. *House of Wax*
5. *Earthquake, Midway, Rollercoaster, and Battlestar Galactica*
6. *Thirteen Ghosts*

Vocabulary Activities: A

p. 38

- | | | | |
|------------|---------------|-----------------|---------|
| 1. vision | 3. Eventually | 5. highlighting | 7. seek |
| 2. margins | 4. retain | 6. forthcoming | |

Vocabulary Activities: B

p. 39

- | | | | | |
|------|------|------|------|------|
| 1. b | 2. a | 3. b | 4. a | 5. a |
|------|------|------|------|------|

Vocabulary Activities: C

p. 39

- | | | | |
|------|------|------|------|
| 1. d | 3. a | 5. d | 7. c |
| 2. c | 4. c | 6. a | |

Reading Comprehension: A

p. 42

- | | | | |
|------|------|------|------|
| 1. T | 3. T | 5. T | 7. F |
| 2. F | 4. T | 6. T | 8. F |

Reading Comprehension: B

p. 43

2. Performance-capture animation is one technique.
3. *The Beast from 20,000 Fathoms, It Came from Beneath the Sea, and 20 Million Miles to Earth.*
4. *The Seventh Voyage of Sinbad, Mysterious Island, and Jason and the Argonauts.*
5. Peter Jackson
6. Lifetime Achievement
7. 15
8. Willis O'Brien

Reading Skill: Uses of the Present Tense

p. 44

Apply

- | | | |
|--------------|-----------------------|----------------|
| 1. used, H | 5. created, H | 9. used, H |
| 2. has, C | 6. move and behave, C | 10. crowded, H |
| 3. faced, H | 7. design, C | |
| 4. called, H | 8. animate, C | |

Vocabulary Activities: A

p. 45

- | | | | |
|------|------|------|------|
| 1. c | 2. a | 3. c | 4. b |
|------|------|------|------|

Vocabulary Activities: B

p. 46

- | | |
|-----------------------------------|---------------------------------------|
| 2. Int | 4. T (<i>elements</i> is the object) |
| 3. T (<i>prey</i> is the object) | 5. Int |

Vocabulary Activities: C

p. 46

- | | | | |
|------|------|------|------|
| 1. a | 3. e | 5. f | 7. d |
| 2. g | 4. b | 6. c | |

Vocabulary Activities: D

p. 47

- | | | |
|----------------|-------------------|----------|
| 1. adjustments | 4. subordinate | 7. final |
| 2. forthcoming | 5. component | 8. bond |
| 3. retain | 6. vision, scheme | |

Vocabulary Activities: E

p. 48

Stories will vary.

Unit 4: The Power of Music

Reading Comprehension: A p. 52

- | | | | |
|------|------|------|------|
| 1. F | 3. F | 5. F | 7. F |
| 2. T | 4. T | 6. F | 8. T |

Reading Comprehension: B p. 52

- | | | |
|----------|----------|----------|
| 1. 24–26 | 3. 46–47 | 5. 68–71 |
| 2. 39 | 4. 66–67 | 6. 97–98 |

Reading Skill: Finding the Perpetrator p. 53

Apply

- | | | | |
|--------------|-----------|---------------|---------------|
| 1. the brain | 3. nature | 5. unknown | 7. artists |
| 2. the brain | 4. nature | 6. medication | 8. scientists |

Vocabulary Activities: A p. 54

- | | | |
|------------------|---------------|-----------------|
| 1. fundamentally | 4. foundation | 7. diminish |
| 2. primed | 5. physical | 8. incorporates |
| 3. conference | 6. transmit | |

Vocabulary Activities: B p. 54

- | | | |
|------|------|------|
| 1. b | 2. c | 3. a |
|------|------|------|

Vocabulary Activities: C p. 55

- | | | | | |
|------|------|------|------|------|
| 1. d | 2. b | 3. c | 4. a | 5. e |
|------|------|------|------|------|

Vocabulary Activities: D p. 55

- | | | | | |
|------|------|------|------|------|
| 1. d | 2. a | 3. c | 4. e | 5. b |
|------|------|------|------|------|

Reading Comprehension p. 59

- | | | | |
|------|------|------|------|
| 1. E | 3. B | 5. A | 7. B |
| 2. B | 4. A | 6. E | 8. A |

Reading Skill: Point of View p. 60

Apply

1. Insert, Insert, run
2. runs
3. guitarist, guitar, amplifier
4. is plucked, is transmitted, is delivered, is converted

Review a Skill: Cause and Effect **p. 60**

Answers will vary. Possible answers:

Its opening; a saddle to transmit vibrations; wooden sides of the body to vibrate the air inside and create an echo; the shape and dimensions of the guitar body; a strengthened neck to use steel strings

Vocabulary Activities: A **p. 61**

- | | | |
|------------------|---------------|------------|
| 1. theoretically | 3. stress | 5. refined |
| 2. manipulated | 4. projecting | |

Vocabulary Activities: B **p. 61**

2. The teacher stressed that we should read Chapter 5 very carefully.
3. Assigning too many tasks at once can be stressful.
4. We must place greater stress on opening new markets for our products.
5. The psychologist stressed that multitasking is not a reliable strategy for saving time.
6. The student felt a lot of stress from working and going to school at the same time.

Vocabulary Activities: C **p. 62**

Discussions and paragraphs will vary.

Vocabulary Activities : D **p. 62**

Project

- | | | | | | |
|------|------|------|------|------|------|
| 1. a | 2. b | 3. b | 4. c | 5. d | 6. a |
|------|------|------|------|------|------|

Manipulate

- | | | | | | |
|---------|------|------|------|------|------|
| 1. d, c | 2. a | 3. b | 4. c | 5. c | 6. d |
|---------|------|------|------|------|------|

Vocabulary Activities: E **p. 63**

- | | | |
|-------------------|-----------------|----------------|
| 1. theory, confer | 4. fundamentals | 7. fundamental |
| 2. intrinsic | 5. intrinsic | |
| 3. diminishing | 6. refined | |

Unit 5: Sensory Perception

Reading Comprehension p. 68

1. F 2. T 3. T 4. F 5. F 6. T

Reading Skill: Categorizing p. 68

Apply A

Answers will vary. Possible answers:

- | | |
|--|--|
| <p>2. <i>What entities are being categorized?</i>
 <i>What is the basis for the categorization?</i>
 <i>Are the categories mutually exclusive?</i></p> | <p>Acoustic guitars.
 The material used to make the strings.
 Yes.</p> |
| <p>3. <i>What entities are being categorized?</i>
 <i>What is the basis for the categorization?</i>
 <i>Are the categories mutually exclusive?</i></p> | <p>Non-offensive odors.
 The type of material producing the smell.
 No. Some odors may seem a mixture.</p> |
| <p>4. <i>What entities are being categorized?</i>
 <i>What is the basis for the categorization?</i>
 <i>Are the categories mutually exclusive?</i></p> | <p>Odors.
 The way the odor feels in our nose.
 No. Some odors may seem a mixture.</p> |
| <p>5. <i>What entities are being categorized?</i>
 <i>What is the basis for the categorization?</i>
 <i>Are the categories mutually exclusive?</i></p> | <p>Odors.
 Pleasantness.
 No. Pleasantness may depend on context.</p> |

Reading Skill: Categorizing p. 69

Apply B

Answers will vary.

Reading Skill: Categorizing p. 69

Apply C

Answers will vary.

Vocabulary Activities: A p. 70

- | | | | |
|----------------|----------------|-------------|--------------|
| 1. categorized | 3. minimum | 5. minimal | 7. dimension |
| 2. entity | 4. dimensional | 6. category | |

Vocabulary Activities: B p. 70

- | | | | |
|---------|-------------|---------|---------|
| 1. Plus | 2. Likewise | 3. Plus | 4. Plus |
|---------|-------------|---------|---------|

Vocabulary Activities: C p. 71

- | | | | |
|--------------|---------------|---------------|-------------|
| 1. entity | 3. parameters | 5. parameters | 7. entities |
| 2. dimension | 4. dimension | 6. dimensions | |

Vocabulary Activities: B

1. a 2. a 3. b 4. a 5. a 6. b

p. 78

Vocabulary Activities: C

Answers will vary.

p. 78

Vocabulary Activities: D

1. principal 3. minimum 5. cycle 7. concurrently
2. stable 4. unified 6. cyclical 8. minimum

p. 78

Unit 6: Boom and Bust

Reading Comprehension

p. 84

1. T 2. F 3. F 4. F 5. T 6. T

Reading Skill: Describing Trends

p. 85

Apply

Answers will vary. Possible answers:

- | | | | |
|------------|--------------|-------------|--------------|
| 1. rose | 4. grew | 6. topped | 8. dropped |
| 2. grow | 5. increased | 7. declined | 9. plummeted |
| 3. climbed | | | |

Vocabulary Activities: A

p. 86

- | | | |
|-------------------|--------------|------------------------|
| 1. security | 4. attitudes | 7. estate, commodities |
| 2. infrastructure | 5. file | |
| 3. secure | 6. trendiest | |

Vocabulary Activities: B

p. 87

- | | | | |
|------|------|------|------|
| 1. b | 3. b | 5. a | 7. a |
| 2. a | 4. b | 6. b | 8. a |

Vocabulary Activities: C

p. 87

Answers will vary.

Reading Comprehension

p. 90–91

1. F 2. T 3. T 4. F 5. T

Review a Skill: Uses of the Present Tense

p. 91

Answers will vary. Possible answers:

- In his book *Tulipomania* (1999), Mike Dash agrees the Dutch tulip market was a speculative bubble driven by inexperienced investors. But he also reveals why rational people might have become caught up in it.
- Mackay also neglects to mention the Thirty Years War in Europe.

Reading Skill: Summarizing and Reporting

p. 91

Learn A

1. N 2. N 3. A 4. N 5. N 6. A

Reading Skill: Summarizing and Reporting

p. 92

Apply A

Answers will vary. Possible answers:

1. Line numbers 106-116; Mike Dash's work: The tulip market was a speculative bubble driven by inexperienced investors; in addition, the beauty of some rare varieties and the length of time that it took to increase the number of rare bulbs caused an increase in value.
2. Line numbers 138-156; Thomson and Treussard's work: The bubonic plague, the Thirty Years War in Europe, and government policies allowing buyers to default on their contracts affected the prospects for profit and loss in the tulip trade.

Vocabulary Activities: A

p. 92-93

- | | | |
|-------------|---------------|------------------|
| 1. specific | 3. underlying | 5. ideologically |
| 2. dispose | 4. accurately | 6. compound |

Vocabulary Activities: B

p. 93

- | | | | |
|------|------|------|------|
| 1. d | 2. a | 3. b | 4. c |
|------|------|------|------|

Vocabulary Activities: C

p. 94

Answers will vary. Possible answers:

2. Autumn leaves can symbolize approaching old age.
3. A raven might represent death or the fear of it.
4. A deep, cold lake might stand for something unknown and mysterious.
5. A bright yellow tulip denotes renewal or hope.
6. A single wolf hunting in winter might signify desperation and isolation.
7. A distant mountain could symbolize a significant goal.

Vocabulary Activities: D

p. 94-95

- | | | | |
|---------------|----------------|-------------|----------|
| 1. underlying | 3. filed | 5. specific | 7. norms |
| 2. attitude | 4. disposed of | 6. compound | |

Vocabulary Activities: E

p. 95

Stories will vary.

Unit 7: Decisions, Decisions

Reading Comprehension: A p. 100

- | | | | |
|------|------|------|------|
| 1. T | 3. F | 5. T | 7. T |
| 2. T | 4. F | 6. T | 8. F |

Reading Comprehension: B p. 100

- They found that after we've turned over about fifty cards, most of us . . .
- That much is straightforward.
- We think about what we've learned, and eventually . . .
- It has the drawback, however , that it operates . . .
- The adaptive unconscious can be thought of as a kind of giant computer . . .

Reading Skill: Evaluating Generalizations p. 101

Apply

- | | | | | |
|------|------|------|------|------|
| 1. S | 2. T | 3. T | 4. S | 5. N |
|------|------|------|------|------|

Review a Skill: Summarizing and Reporting p. 101

Gladwell agrees with the other writers and researchers.

Vocabulary Activities: A p. 102

- | | | |
|-----------|-------------|----------|
| 1. deduce | 3. options | 5. mode |
| 2. adapt | 4. response | 6. imply |

Vocabulary Activities: B p. 103

Answers will vary. Possible answers:

- people won't get colds if they eat oranges.
- people will perform better on tests after drinking a small amount of coffee.
- we can deduce that people who lose just one hour of sleep won't be as alert as they should be while driving.

Vocabulary Activities: C p. 103

Answers will vary.

Vocabulary Activities: D p. 103

Answers will vary.

Reading Comprehension p. 106

- | | | | |
|------|------|------|------|
| 1. T | 3. T | 5. F | 7. T |
| 2. F | 4. F | 6. T | |

Reading Skill: Understanding Analogies p. 107–108

Apply

- | | | | |
|------|------|------|------|
| 1. A | 2. I | 3. I | 4. A |
|------|------|------|------|

Vocabulary Activities: A

p. 108–109

- | | | |
|------------------|-----------------------|----------------|
| 1. thesis | 4. consensus; conform | 7. statistical |
| 2. excluded | 5. implications | |
| 3. statistically | 6. Nonetheless | |

Vocabulary Activities: B

p. 109

Answers will vary. Possible answers:

- The mayor was implicated in a scheme that misused public funds.
- What are some implications of the city's plan to expand the airport?
- He objected to the article's implication that he caused the city's financial crisis.
- Corrupt building inspectors were implicated in the building's collapse.
- The report implies that the city council is not working hard enough.

Vocabulary Activities: C

p. 110

Answers will vary. Possible answers:

- In *Blink*, Malcolm Gladwell claims that we underestimate the accuracy of snap judgments and first impressions.
- In *The Wisdom of Crowds*, James Surowiecki argues that collective judgments can be quite accurate under certain circumstances.

Vocabulary Activities: D

p. 111

- | | | | |
|---------------|-------------|------------|--------------|
| 1. mode | 3. consent | 5. adapt | 7. conform |
| 2. statistics | 4. response | 6. options | 8. enforcing |

Vocabulary Activities: E

p. 111

Answers will vary. Possible answers:

- She adapted quickly to the changing situation at work.
- The university collected statistics on how many students changed their major after their first year.
- The city council elicited a favorable response when it announced plans to develop a new recreation program for the elderly.
- You must obtain the consent of the university before changing your major.
- Your only option is to conform to the standards of the university community if you wish to have your research project approved.

Unit 8: Searching for Success

Reading Comprehension: A p. 117

- | | | | |
|------|------|------|------|
| 1. F | 3. T | 5. F | 7. T |
| 2. T | 4. F | 6. T | 8. F |

Reading Comprehension: B p. 117

2. It “crawls” the web to rank pages.
3. Google was founded in 1998.
4. No, it didn’t.
5. IPO stands for Initial Public Offering.
6. No, it didn’t.

Reading Skill: Analyzing Criteria p. 118

Apply A

Answers will vary. Possible answers:

- | | | | | | |
|--------|--------|--------|--------|--------|-------|
| 1. Yes | 3. Yes | 5. Yes | 7. Yes | 9. Yes | 11. ? |
| 2. Yes | 4. ? | 6. Yes | 8. No | 10. ? | |

Reading Skill: Analyzing Criteria p. 118

Apply B

Answers will vary.

Vocabulary Activities: A p. 119

- | | | |
|-------------|-------------|-------------|
| 1. founded | 3. computes | 5. relevant |
| 2. constant | 4. formula | 6. edited |

Vocabulary Activities: B p. 119

- | | | | | |
|------|------|------|------|------|
| 1. a | 2. e | 3. c | 4. b | 5. d |
|------|------|------|------|------|

Vocabulary Activities: C p. 119

Answers will vary. Possible answers:

1. The researchers called at a time when most working people are not home. Candidate B was more popular among working people. Candidate A may have appealed more to older, retired people.
2. No. We need to know whether the average age of the populations in those states is the same. As it turns out, Utah has a much more youthful population than Florida, a popular place for retired people to live. Retired people are more likely to suffer from arthritis, so the sample is biased.

Vocabulary Activities: D

p. 120

Answers will vary. Possible answers:

1. No. Driving is a specialized motor skill, but parenting requires no specialized motor skill training. It is easy to demonstrate driving ability in a short test. Parenting would be much more difficult to test fairly.
2. No. Children only attend school for a portion of their day and have days and weeks off, whereas prisoners typically spend 24 hours of every day in prison. Requiring someone to stay in a location for a part of a day is not the same as imprisonment. Compulsory schooling is mandated by law and upheld by courts, so the action is legal.
3. No. Secondary smoke can directly bother non-smokers. Non-eating pedestrians suffer no ill effects from those eating. The argument overlooks the fact that eating and drinking are restricted in areas where they can harm buildings, furnishings, and equipment.

Reading Comprehension

p. 123

1. T 2. F 3. T 4. F 5. T 6. F

Reading Skill: Determining Degree

p. 124

Apply A

1. A 2. C 3. A 4. C 5. C

Reading Skill: Determining Degree

p. 124

Apply B

Answers will vary.

Reading Skill: Determining Degree

p. 124

Apply C

Answers will vary. Possible answers:

- 1 Are the company's products and services typically used to cheat people?
- 3 Does the company disclose its policy on scanning of all email coming and going through Gmail?
- 2 Can the company do anything to prevent government surveillance of users?
- 5 Does the company monitor for click fraud?
- 4 Are copyright holders notified before their work is scanned and digitized?

Reading Skill: Determining Degree

p. 124

Apply D

Answers will vary.

Review a Skill: Categorizing

p. 125

Answers will vary. Possible answers:

Legal not policing click fraud as they should
 scanning and digitizing books
 compromising on presence in China

Ethical buying YouTube
 analyzing email to trigger ads
 data mining email accounts

Both not following copyright laws
 viewing people/places in real time
 may crush competitors

Vocabulary Activities: A

p. 125

- | | | |
|--------------|----------------|------------------|
| 1. potential | 3. distributed | 5. investigation |
| 2. format | 4. scope | 6. clarify |

Vocabulary Activities: B

p. 126

- | | | | |
|------------------|-------------|--------------|------------------|
| 1. investigative | 3. constant | 5. relevance | 7. clarification |
| 2. scope | 4. clarify | 6. format | 8. formulated |

Vocabulary Activities: C

p. 127

- | | | | | |
|------|------|------|------|------|
| 1. e | 2. c | 3. b | 4. a | 5. d |
|------|------|------|------|------|

Vocabulary Activities: D

p. 128

Answers will vary.

Unit 9: Modeling Nature

Reading Comprehension: A

p. 133

1. F 3. F 5. T 7. T
2. T 4. F 6. F

Reading Comprehension: B

p. 134

From *The Swarm Bots Are Coming*:

- line 7: Thus, ants provide an excellent illustration of how simple devices can achieve complex results.
- line 15: Consider the way ants forage.
- line 26: This route-finding capability is remarkably handy.

From *Social Robots*:

- line 31: Several of Hanson’s robots are incredibly lifelike.
- line 65: And of course the robots must be able to speak and give relevant responses.

Reading Skill: Analyzing Advantages and Disadvantages

p. 134

Apply A

Answers will vary. Possible answers:

Advantages

gives employment to several people
can be used indoors and outdoors
uses normal electrical plugs

Disadvantages

profits divided by more people
outdoor use determined by weather
doesn’t work without electricity

Reading Skill: Analyzing Advantages and Disadvantages

p. 135

Apply B

Answers will vary. Possible answers:

Solutions	Advantages	Disadvantages
ant algorithms	can solve complex logistical problems can adapt to new situations	limited applications
robots that look non-human	are obviously machines, so people needn’t worry about making them work too hard	can make people feel uncomfortable
robots that look human	humans more willing to interact with them	people could have unrealistic expectations of human behavior and social interaction from the robots

Vocabulary Activities: A

p. 135–136

2. shift 4. bulky 6. method
3. methodically 5. consist

Vocabulary Activities: B p. 136

- 1. a 3. a 5. b 7. b
- 2. a 4. b 6. b

Reading Comprehension: A p. 139

- 1. T 2. T 3. T 4. F 5. F 6. F 7. T

Reading Comprehension: B p. 139

Answers will vary. Possible answers:

- 2. L'Écrivain was a mechanical child that could write with a pen. It was built in 1772.
- 3. Wilhelm Leibniz was the philosopher who speculated that the brain was a mechanical system.
- 4. Karel Capek was Czech.
- 5. There are 100 billion neurons in the human brain.
- 6. At the time Kurzweil wrote the article, he thought it would take about 20 years to create an exhaustive model of the human brain.
- 7. Kurzweil thinks that we can expect to see a machine with human-level intelligence by 2029.

Reading Skill: Identifying Ethics and Values p. 140

Apply A

Answers will vary. Possible answers:

- | | |
|---|---|
| encourage, promote, or increase: | discourage, prevent, or decrease |
| kindness | ignorance |
| truthfulness | wastefulness |

Reading Skill: Identifying Ethics and Values p. 141

Apply B

- 1. d 2. e 3. b 4. c 5. a

Reading Skill: Identifying Ethics and Values p. 141

Apply C

Answers will vary. Possible answers:

- 1. Being able to redesign ourselves could help humans eradicate most if not all diseases.
- 2. This kind of change would threaten food supplies and resources all over the world as population growth exploded. People would stop cooperating and sharing. This might lead to mass riots and chaos.

Review a Skill: Analyzing Criteria

p. 141

Answers will vary. Possible answers:

Ideas from the readings: The robot should be able to understand human moods and react sympathetically. The robot must look similar to humans. The robot should make facial expressions in response to how people around it behave. The robot should have an “authentic” smile. The robot must be able to speak and give relevant responses. The robot could have vision, touch sensitivity, pattern recognition, decision-making, world knowledge, fine motor coordination, and even a measure of common sense.

Other ideas: Answers will vary.

Vocabulary Activities: A

p. 141–142

- | | | | |
|-------------|-------------|-------------|---------------|
| 1. proceeds | 3. comprise | 5. document | 7. procedures |
| 2. notion | 4. code | 6. encoded | 8. capacity |

Vocabulary Activities: B

p. 142

- | | | | | | |
|------|------|------|------|------|------|
| 1. b | 2. b | 3. a | 4. b | 5. b | 6. a |
|------|------|------|------|------|------|

Vocabulary Activities: C

p. 142–143

- | | | | |
|-------------|---------------|-----------|----------|
| 1. code | 3. project | 5. notion | 7. shift |
| 2. capacity | 4. procedures | 6. bulk | |

Unit 10: The Mystery of Easter Island

Reading Comprehension: A

p. 149

1. T 2. F 3. F 4. T 5. F

Reading Comprehension: B

p. 149

2. The islanders Roggeveen met were totally isolated, unaware . . .
3. Roggeveen himself quickly recognized . . .
4. Pollen analysis shows that during the early years of Polynesian settlement, . . .
5. With fewer food sources, Easter Island could no longer feed the chiefs, . . .

Reading Skill: Identifying Multiple Causes

p. 150

Apply A

Answers will vary. Possible answers:

2. The Easter Island palm could be used for making sleds to move statues and for building canoes.
3. Hard stones could be used for making chisels to carve the statues from softer rock.
4. Quarries provided stones large enough to make the statues. The material had to be soft enough to carve with stone tools.
5. These conditions could support a large population and a complex social structure. A large population would be needed to carve the hundreds of statues.

Reading Skill: Identifying Multiple Causes

p. 150

Apply B

Answers will vary. Possible answers:

1. Some factors that led to the cessation of statue building on Easter Island were the loss of the palm tree to make sleds for transporting the heavy statues and setting them in place, the reduction of a rope-yielding tree that was used to haul the statues, and the loss of population to work on the statues due to resources that were not renewed.
2. Factors that contributed to the collapse of the population on Easter Island were loss of the palm tree as a source to build canoes to feed the population by fishing, island wildlife diminished as a source of food, and cannibalism.

Vocabulary Activities: A

p. 151

- | | |
|----------------|----------------------------------|
| 1. collapsed | 4. unceasing/ceaseless/incessant |
| 2. ceased | 5. unceasing/ceaseless/incessant |
| 3. transported | 6. cite |

Vocabulary Activities: B

p. 151–152

1. a 2. b 3. b 4. b

Vocabulary Activities: C

p. 152

Answers will vary. Possible answers:

1. Diamonds are extremely hard crystals derived from carbon either through natural or synthetic processes.
2. Paper is derived from a pulp made from plant fibers.
3. Plastics are derived from synthetic polymers. The word *plastic* is derived from the fact that this material can be formed into shapes.
4. Silk is derived from cocoons made by silkworm larvae.
5. Cocoa is derived from seeds of the cacao tree.
6. The word *salary* is derived from the Latin word for salt.

Vocabulary Activities: D

p. 152

Answers will vary.

Reading Comprehension: A

p. 156

1. T 2. F 3. F 4. T 5. T

Reading Comprehension: B

p. 156

1. Around 1200.
2. Later.
3. By about 1500.
4. There is general agreement on the date.
5. In 1805.
6. No.

Reading Skill: Synthesizing Information from Several Sources

p. 157

Apply A

Condition	Diamond	Hunt and Lipo	Both
Polynesian colonists began to arrive on Easter Island around the year A.D. 1200.		X	
Forests were destroyed to support agriculture.			X
The destruction of forests played a major role in the population's decline.	X		
Rats contributed to deforestation.			X
The island's population peaked at somewhere between 7,000 and 20,000.	x		
The statues could have been constructed by smaller tribal groups.		x	

The island is littered with around 700 statues that were never completed or erected.			X
Destructive civil wars broke out on the island that left the culture in a weakened state.	X		
The most severe decline in the island's population occurred as result of disease and forced migration caused by contact with outside societies of Europe and Latin America.		X	
The island was functioning smoothly when Europeans first arrived.		X	

Reading Skill: Synthesizing Information from Several Sources p. 157
Apply B

Answers will vary. Possible answer:
 The history of Easter Island remains mysterious, but scholars agree on several points. All agree that massive deforestation occurred and that both rats and agriculture contributed to the loss of forests. They also agree that statue construction ceased before the Europeans arrived, and around 700 statues were never completed or never erected. All agree that by the 1860s the once-substantial population had declined greatly.

Vocabulary Activities: A p. 158

1. b 2. a 3. a 4. a 5. b 6. b

Vocabulary Activities: B p. 159

2. confirmed 4. denied 6. widespread
 3. confirmation 5. concepts 7. cited

Vocabulary Activities: C p. 160

- Answers will vary. Possible answers:
2. He doubts the validity of the anthropologist's claim.
 3. The papers quoted several authorities who confirmed the claim.
 4. The researchers made an incessant effort to validate their theory.
 5. They deny the role of speculation in the stock market's collapse.
 6. The critics made some valid complaints. Nevertheless, this concept is widely accepted.
 7. The fact that they ceased transporting the statues is evidence that the culture had collapsed.