Reading Explorer 4 (2nd Edition) Teacher’s Guide

*Unit 1 – The Power of Image*

**Warm Up**

Answer Key

1.–3. Answers will vary. Important factors for a great photograph include composition, light, and subject matter. Write the sentence “A picture is worth a thousand words” on the board, and ask students what they think it means. Is it sometimes easier to tell a story with one picture, or with many words?

**Lesson 1A – The Visual Village**

Answer Key:

Before You Read

A. 1. document; 2. amateur; 3. shot; 4. app

B. b

Reading Comprehension

1. d (lines 32–36); 2. a (lines 46–48); 3. c; 4. c (lines 83–88); 5. c; 6. d; 7. b

Reading Skill

A. 1. b; 2. b; 3. a; 4. b; 5. b; 6. a; 7. a; 8. a; 9. b

Vocabulary Practice

A. 1. quality; 2. Amateur; 3. obsessed; 4. profound; 5. tremendous

B. 1. b; 2. b; 3. a; 4. a; 5. a

**Lesson 1B – My Journey in Photographs**

Answer Key:

Before You Read

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

B. Answers will vary. Challenges mentioned in the passage include: high expectations (lines

33–34), pressure to do well (lines 82–86), and transportation (lines 87–88).

Reading Comprehension

1. b; 2. c; 3. c (lines 24–25); 4. a (lines 34–38); 5. b (lines 55–68); 6. c (lines 87–88); 7. c (lines 123–124)

Reading Skill

A. 1. F (lines 8–10); 2. F (lines 29–31); 3. T (lines 27–28); 4. T (lines 32–33); 5. F (lines 44–45); 6. F (lines 60–64);

B. 1. Pulitzer; 2. year; 3. mule; raft; 4. two; 5. difference; 6. touch

Vocabulary Practice

A. 1. overcome; 2. expectations; 3. thus; 4. teamwork; 5. portrait; 6. projected

B. 1. turn out; 2. enrich; 3. project; 4. praise; 5. staff; 6. teamwork; 7. expectation; 8. portrait

**Viewing: A Photographer’s Life**

Answer Key:

Before You Watch

A. 1.–3. Answers will vary. Possible answers include: 1. people outside, in their natural environment; 2. natural, realistic, beautiful

While You Watch

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

B. 1. dark; 2. flexibility; 3. flexible; 4. wonderful; 5. terrible; 6. available; 7. communication; 8. creative; 9. artistically

After You Watch

A. 1. Answers will vary. 2. She means that it isn’t easy; in fact, it is very difficult. But it is very exciting at the same time. 3. Answers will vary. It might have been hard for them to be away from home and from their friends. They also might have had to make up a lot of school work.

*Unit 2 – Love and Attraction*

**Warm Up**

Answer Key:

1. Answers will vary. Some animals show magnificent displays of color and dance in order to attract a mate. Some animals bring “gifts” of sticks, berries, etc., to potential mates. 2. Answers will vary. Possible answers include: looks, personality, a sense of humor, wealth, and education. 3. Answers will vary. Possibilities include the idea that different parts of the brain and chemicals in the body might be responsible for feeling love.

**Lesson 2A – Love: A Chemical Reaction?**

Answer Key:

Before You Read

A. Answers will vary.

B. 1. d (lines 35–36); 2. a (lines 59–60); 3. b (lines 76–77); 4. c (lines 93–94)

Reading Comprehension

1. c; 2. c (lines 19–20); 3. c (lines 35–42); 4. b (lines 54–56); 5. a (lines 78–82); 6. b (lines 119–122); 7. a (lines 128–131)

Reading Skill

A. and B. 1. T; scientists believe; 2. F; 3. T; most Indians still believe; 4. T; Some psychiatrists; hypothesize; 5. T; According to this theory; 6. T; According to this hypothesis; 7. F; 8. T; According to other researchers; 9. F; 10. T; may; 11. T; Fisher has suggested; 12. F; 13. T; oxytocin is believed to be

Vocabulary Practice

A. 1. defiance; 2. romance; 3. desire; 4. recruit

B. 1. inherently; 2. trigger; 3. mutual; 4. inclination; 5. abundance; 6. chance

**Lesson 2B – Feathers of Love**

Answer Key:

Before You Read

A. 1. No; 2. No; 3. Yes; 4. Yes

B. Predictions will vary. The article covers all the information listed.

Reading Comprehension

1. b (lines 8–10); 2. a; 3. c (lines 45–47); 4. d; 5. a (lines 114–116); 6. c (lines 119–121); 7. d

Reading Skill

A. 1. M/P; 2. M/P; 3. S; 4. S; 5. M/P

B. 1. h; 2. g; 3. f; 4. i; 5. a; 6. d; 7. e; 8. b; 9. c; 10. j

Vocabulary Practice

A. 1. ritual; 2. bouncing; 3. prominent; 4. absurd; 5. harsh

B. 1. breed; 2. commence; 3. undergo; 4. evoke; 5. noble; 6. absurd; 7. prominent; 8. ritual

**Viewing: Singing Mice**

Answer Key:

Before You Watch

A. 1. tunes; 2. frequencies; 3. break into song; 4. vocalizations; 5. ultrasonic; 6. courtship

B. 1. Answers will vary.; 2. Answers will vary. Possibilities include birds, whales, dolphins, frogs, cats, and insects. 3. Answers will vary. Possibilities include dancing, displaying colors, fighting, and producing scents.

While You Watch

A. 1. T (It’s believed . . .); 2. F; 3. T (It’s not known yet why male mice . . .); 4. T (. . . but whether it actually enhances their mating success is something we don’t know yet.)

B. 1. mate; 2. mammals; 3. complex; 4. researchers; 5. genes; 6. future; 7. opposite; 8. Bolder

After You Watch

A. Answers will vary.

*Unit 3 – Food and Health*

**Warm Up**

Answer Key:

1. Answers will vary.; 2. Answers will vary. Possible answers include: foods that are not properly stored, such as foods that need to be refrigerated; meats; 3. Answers will vary. Possible answers include: growing genetically modified foods; being less wasteful; improving farming efficiency.

**Lesson 3A – How Safe is Our Food?**

Answer Key:

Before You Read

A. 1. toxins; 2. bacteria; 3. immune system; 4. foodborne

B. An E. coli O157:H7 outbreak was responsible for 732 illnesses and the death of four children.

Reading Comprehension

1. c; 2. c (lines 14–16); 3. b (lines 46–49); 4. a (lines 87–91); 5. a (lines 120–125); 6. b (lines 139–143); 7. b

Reading Skill

A. 1. I didn’t go to the doctor because I forgot about the appointment.; 2. The medicine in our cabinet was old, so we threw it out.; 3. The reason I didn’t go to school was that I had a stomach ache.; 4. The scientist published her findings. Consequently, she was able to help many people.; 5. Due to new health guidelines, all food will be removed from the staff fridge on weekends.; 6. Investigators believe improper hand washing led to the disease outbreak at the school.

B. 1. c (lines 41–44); 2. e (lines 57–64); 3. a (lines 122–125); 4. d (lines 131–143); 5. b (lines 146–152)

Vocabulary Practice

A. 1. compulsory; 2. integral; 3. nationwide; 4. diligent; 5. contaminated

B. 1. a; 2. b; 3. a; 4. b; 5. a

**Lesson 3B – Genetically Modified Foods**

Answer Key:

Before You Read

A. Answers will vary. Possible benefits include: eliminating world hunger; possible risks include: potential health issues.

B. Answers will vary. Answers mentioned in the passage include: 1. biotech foods appear to be safe or even safer than conventional varieties (lines 56–65); 2. people have mixed opinions (lines 88–96); 3. although there are skeptics, many scientists think so (lines 110–114 and lines 130–133).

Reading Comprehension

1. b; 2. d (lines 31–35); 3. c; 4. a (lines 61–62); 5. d (lines 99–103); 6. d (lines 120–122); 7. a

Reading Skill

A. Possible answers: Arguments for: potential to improve the quality and nutritional value (lines 6–8); help farmers deal with age-old farming problems (lines 46–48); problems have been few (line 50); safer than conventional varieties (lines 56–57); may actually be good for the land (lines 91–96); can help address the urgent problems of food shortage and hunger (lines 110–114) Arguments against: rushed to market (lines 9–12); problems in the past (lines 67–68); harmful proteins (lines 69–74); developed too quickly and released before they’ve been adequately tested (lines 88–90); golden rice is little more than a public relations exercise (lines 127–130)

B. 1. genetic; 2. allergic; 3. pesticides; 4. grow crops; 5. slip by undiscovered; 6. health effects; 7. adequately tested; 8. public relations exercise

Vocabulary Practice

A. 1. modified; 2. revolutionary; 3. pests; 4. diminished; 5. skeptics; 6. allergic; 7. notwithstanding

B. 1. diminish; 2. trait; 3. modify; 4. notwithstanding; 5. allergy; 6. nutrition/nutrient; 7. revolution; 8. conventional

**Viewing: The Smelliest Fruit**

Answer Key:

Before You Watch

A. 1. Answers will vary. 2. Answers will vary. Other examples may include kimchi, anchovies, caviar, olives, and liver. 3. Answers will vary.

While You Watch

A. precious; king of fruit; smelly; bad for business; unique

B. 1. compulsory; 2. diligently; 3. diminishes; 4. feasible; 5. contaminated; 6. notwithstanding

After You Watch

A. 1.-3. Answers will vary.

*Unit 4 – Design and Engineering*

**Warm Up**

Answer Key:

1. Answers will vary. Possible answers include: Google glass, smartwatches, sneakers that help you jump higher.2. Answers will vary. The first clothes were made from animal skins and furs. Cotton has been used since around 5000–4000 B.C., silk since around 4000 B.C., and wool from about 3000 B.C. In the 14th century, advances in dyeing made clothing more of a fashion item, and in the 18th century, the Industrial Revolution initiated the mass production of textiles. The

20th century saw the rise of synthetic fibers such as nylon and polyester, and there are now sweat-resistant and even self-cleaning fabrics.3. Answers will vary. Possible answers include: 3-D printed fabric, new synthetic material, recycled material.

**Lesson 4A – Design by Nature: Biomimetics**

Answer Key:

Before You Read

A. 1. draw inspiration; 2. unimaginably complex; 3. have the potential; 4. concrete purpose

B. 1. an evolutionary biologist (line 2); 2. it can drink through its foot (line 13); 3. to create a device to collect water in the desert (line 20)

Reading Comprehension

1. c; 2. b (lines 16–17); 3. a (lines 74–77); 4. a; 5. a (lines 120–121); 6. c; 7. D

Reading Skill

A. 1. d; 2. b; 3. a; 4. f; 5. c; 6. e

B. 1. a; 2. c; 3. b; 4. b; 5. a; 6. c

Vocabulary Practice

A. 1. Nonetheless; 2. insight; 3. device; 4. reproduce; 5. riddle

B. 1. vital; 2. gradual; 3. military; 4. vertical; 5. gap

**Lesson 4B – The Future of Fashion: Dreamweavers**

Answer Key:

Before You Read

A. 1. textiles; 2. high-tech; 3. fiber; 4. synthetic

B. Predictions may vary. Topics mentioned in the passage are: high-tech protective clothing (lines 23–27); extremely strong fabrics (lines 43–44); intelligent clothes (lines 60–104).

Reading Comprehension

1. b; 2. a (lines 35–37); 3. a; 4. d (lines 92–96); 5. c; 6. b; 7. a

Reading Skill

A. 1. a; 2. c; 3. b; 4. a

B. 1. always; 2. modern; 3. high-tech; 4. past; 5. protected; 6 women’s; 7. future; 8. active; 9. sell; 10. give

Vocabulary Practice

A. 1. thereby; 2. fantasies; 3. realities; 4. suspended; 5. forthcomi

**Viewing: Kinetic Sculpture**

Answer Key:

Before You Watch

A. 1. literally; 2. obstacle course; 3. contestants

B. Answers will vary.

While You Watch

A. 1. T; 2. T; 3. F; 4. T

B. 1. sculpture; 2. engineering; 3. participation; 4. older; 5. obstacles; 6. support; 7. excitement

After You Watch

A. 1. and 2. Answers will vary. 3. Possible answers include: Hobart Brown feels that the most important aspect of the race is that people of all ages can participate. 4. Answers will vary.

*Unit 5 – Human Journey*

**Warm Up**

Answer Key:

1. Answers will vary (depending on students’ countries). Refer to the map on page 82.2. Answers will vary. Possible answers include: DNA samples; ancient artifacts; preserved fossils and bones. 3. Answers will vary. Possible answers include: islands and land masses near the North and South Poles.

**Lesson 5A – The DNA Trail**

Answer Key:

Before You Read

A. 1. Africa; 2. South America; 3. Asia; 4. 40,000–30,000 years ago

B. genetic mutations (lines 39–43), archeological evidence (line 92); genetic traces in the DNA of indigenous people (lines 94–96)

Reading Comprehension

1. c; 2. a; 3. b (lines 80–81); 4. c (lines 75–79); 5. a; 6. a (lines 92–102); 7. d

Reading Skill

A. and B. (Optional relative pronouns in parentheses) 1. (that) our ancestors left behind on their journeys; 2. who lived roughly 150,000 years ago in Africa; 3. which would last tens of thousands of years; 4. (which) they possess; 5. that had paused in the Middle East; 6. who crossed from Siberia to Alaska in the last ice age; 7. that is richer and more complex than any ever written

Vocabulary Practice

A. 1. roughly; 2. scattered; 3. immense; 4. bulk; 5. conquered; 6. proof; 7. descendants

B. 1. mainland; 2. identical; 3. trace; 4. proof; 5. descendants; 6. conquer

**Lesson 5B – Fantastic Voyage**

Answer Key:

Before You Read

A. 1. expanded; 2. anthropologists; 3. canoes; 4. horizon; 5. colonize

B. 1. a (page 89); 2. a (page 91); 3. b (page 91)

Reading Comprehension

1. a; 2. b; 3. d (lines 52–55); 4. b (lines 107–110); 5. b (lines 99–104); 6. a; 7. c

Reading Skill

A. 1. b; 2. a; 3. c; 4. a

Vocabulary Practice

A. 1. stretched; 2. intervals; 3. navigated; 4. conceivable; 5. stubborn; 6. disrupts

B. 1. a; 2. a; 3. b; 4. b; 5. a

**Viewing: Journey of Discovery**

Answer Key:

Before You Watch

A. 1.–3. Answers will vary. Possible answers include: 1. to replicate the past; 2. yes, because boats similar to this have made great journeys in the past

While You Watch

A. a. 4; b. 3; c.1; d. 2

B. 1. South; 2. Built; 3. modern; 4. ocean; 5. rough; 6. Flooding; 7. drowning; 8. flexible/strong; 9. Small; 10. boredom

After You Watch

A. 1.–3. Answers will vary.

*Unit 6 – Conservation Challenges*

**Warm Up**

Answer Key:

1. Answers will vary. Possible answers include: places that aren’t very populated. 2. Answers will vary. Possible answers include: logging, overfishing, poaching. 3. Answers will vary. Possible answers include: pass new laws to protect them, spread the word through advertising and fundraising, educate people about the issues.

**Lesson 6A – Racing to Rescue Koalas**

Answer Key:

Before You Read

A. 1. T; 2. F; 3. F; 4. T

B. Predictions will vary. Actual answers are: getting caught in fences (lines 1–2); the loss of eucalyptus trees (lines 52–53); dog attacks (line 51); getting hit by vehicles (line 51); disease (line 68).

Reading Comprehension

1. b; 2. b (lines 17–28); 3. b (lines 33–37); 4. c (lines 61–66); 5. b; 6. c (lines 116–117); 7. d

Reading Skill

A. 1. if they feel threatened (lines 19–20);2. it will be taken to the zoo (lines 31–33); 3. it will be released near where it was found (lines 33–35); 4. koalas and humans can live together (lines 61–63); 5. it can make reproduction impossible for females (lines 71–75); 6. there’s still hope (lines 123–125)

Vocabulary Practice

A. 1. suburban; 2. suitable; 3. devastating; 4. get on board; 5. resist

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

**Lesson 6B – For the Love of Elephants**

Answer Key:

Before You Read

A. 1. b; 2. a; 3. Answers will vary. Possible answers include: poaching, hunting.

B. An Encounter at Sunset: a description of Samburu National Reserve; an elephant attack Saving the Elephants: a short biography of Douglas-Hamilton; conflict between Douglas-Hamilton and African authorities

Reading Comprehension

1. a; 2. b; 3. a; 4. c; 5. c (lines 82–87); 6. b (lines 91–96); 7. d (lines 119–122)

Reading Skill

A. Mwaniki continued to run to camp to get help. Douglas-Hamilton ran as well, but then turned back and threw his arms in the air, yelling. Mwaniki continued to run to camp to get help. The elephant didn’t stop. Douglas-Hamilton turned around and ran. The elephant lifted him up and threw him to the ground. The elephant tried to stab him with her tusks, but missed. The elephant lifted him up and threw him to the ground.

B. a. 5 (lines 115–118); b. 2 (lines 77–79) c. 6 (lines 119–126); d. 4 (lines 100–106); e. 1 (lines 74–76); f. 3 (lines 97–100)

Vocabulary Practice

A. 1. withdraw; 2. weapons; 3. agitated; 4. evade; 5. abolish

B. 1. agitated; 2. genuine; 3. chaos; 4. withdraw; 5. abolish; 6. evade; 7. collapse; 8. instinct; 9. compile

**Viewing: A Match Made in Africa**

Answer Key:

Before You Watch

A. 1. b; . a; 3. a; 4. b; 5. a

B. Answers will vary. Possible answers include: perhaps the elephant and the sheep became friends because they are both orphans.

While You Watch

A. Numbers from top to bottom: 2, 5, 4, 1, 3, 9, 10, 7, 8, 6

B. 1. protective; 2. drink milk; 3. don’t get along; 4. “hope”

After You Watch

A. 1 and 2. Answers will vary.

*Unit 7 – Ritual Lives*

**Warm Up**

Answer Key:

1. Answers will vary. 2. Answers will vary. Possible answers include: Oftentimes, people find it difficult to be in large crowds, and so they may act in an irritable way by pushing and shoving others. However, not all people behave like this, and some people enjoy the community spirit that a crowd can offer. 3. Answers will vary.

**Lesson 7A – A Crowd in Harmony**

Answer Key:

Before You Read

A. 1. stampede; 2. Pilgrims; 3. bathe; 4. overcrowded

B. 1. b; 2. a; 3. c

Reading Comprehension

1. c; 2. d (lines 31–35); 3. c; 4. a; 5. a (lines 63–66); 6. d (lines 80–89); 7. b (lines 95–97)

Reading Skill

A. 1. line 7; 2. line 8; 3. line 10; 4. line 11; 5. line 13; 6. line 16; 7. line 18; 8. line 19; 9. line 20

B. 1. b; 2. a; 3. b; 4. b; 5. a; 6. c; 7. c; 8. c; 9. b

Vocabulary Practice

A. 1. faith; 2. organized; 3. sacred (see Teaching Notes); 4. prospective

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

**Lesson 7B – Why We Celebrate**

Answer Key:

Before You Read

A. 1. d; 2. e; 3. b; 4. c; 5. a

B. Predictions will vary. Answers mentioned in the passage include: spiritual reasons (lines 12–13); success in finding food, clothing, and shelter (lines 17–18); to demonstrate military power (lines 34–35); entertainment (lines 36–37); ethnic affiliation and holidays (line 38).

Reading Comprehension

1. c; 2. a (lines 24–25); 3. a (lines 58–63); 4. c; 5. c (lines 97–104); 6. b (lines 128–130); 7. d (lines 107–116)

Reading Skill

A. Prefix only: disappear, ensure, Internet, unknown

Suffix only: spiritual, popularity, joyful, religious

Both prefix and suffix: inhabitant, undeniable, prehistoric, unknowable

Neither prefix nor suffix: people, harvest, holiday, music

B. 1. cent, c; 2. cycl, e; 3. termin, g; 4. nov, b; 5. phon, f; 6. port, a; 7. scrib, d

Vocabulary Practice

A. 1. inhabitants; 2. solemnly; 3. undeniably; 4. striking; 5. spiritual; 6. commercial

B. 1. b; 2. b; 3. b; 4. a; 5. a

**Viewing: Festival of Lights**

Answer Key:

Before You Watch

A. 1. d; 2. e; 3. a; 4. c; 5. b

While You Watch

A. The following should be checked: create garlands of flowers; visit temples with their families; dress up in nice outfits; create pictures made of sand; share food with neighbors; go shopping; watch fireworks.

B. 1.New Year’s Eve Christmas; 2.good light; 3.people’s bodies people’s homes; 4.happinesswelcome

After You Watch

A. 1.–3. Answers will vary.

*Unit 8 - Investigations*

**Warm Up**

Answer Key:

1. Answers will vary. Possible answers include: DNA testing, CCTV cameras, robotic cameras, scanners. 2. Answers will vary. 3. Answers will vary. Famous unsolved mysteries include the murders committed by Jack the Ripper, and the death of Napoleon Bonaparte.

**Lesson 8A – Who Killed the Emporer?**

Answer Key:

Before You Read

A. 1. present; 2. Cancer; 3. prisoner, prison

B. Predictions will vary. The following questions are included in the headings: 1. Political Murder?: Was Napoleon poisoned by the British and French royalists?; 2. Poisoned by His Wallpaper?: Did the wallpaper in his house contain arsenic?; 3. Doctors’ Mistake?: Did the doctor give him too large a dose of medicine?; 4. Disease?: Did Napoleon have cancer?; 5. A Case of Revenge?: Was he murdered due to his actions?

Reading Comprehension

1. d; 2. a (lines 16–20); 3. c (lines 40–44); 4. b (lines 36–44 and 69–72); 5. a; 6. d (lines 94–97 and 100–101); 7. c (lines 109–110)

Reading Skill

A. 1. b; 2. a; 3. a and b; 4. a; 5. a and c

B. Answers will vary.

Vocabulary Practice

A. 1. cease; 2. Symptoms; 3. compelling; 4. dispute; 5. proponent

B. 1. a; 2. b; 3. b; 4. b; 5. a

**Lesson 8B – In the Lab with Marcella and Alphonse**

Answer Key:

Before You Read

A. 1. dozen; 2. antidote; 3. Paralysis

B. 1. b; 2. c; 3. a

Reading Comprehension

1. a (lines 9–13); 2. d; 3. d (lines 21–25); 4. b (lines 51–52); 5. d (lines 67–77); 6. d (lines 83–89); 7. b

Reading Skill

A. 1. c; 2. d; 3. h; 4. a; 5. b; 6. g; 7. f; 8. e

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

Vocabulary Practice

A. 1. Frankly; 2. deprived of; 3. in terms of; 4. suspicious; 5. allegations; 6. motive B. 1. suffocation; 2. motive; 3. deprived of; 4. allegation; 5. manipulative; 6. suspicious; 7. candidate; 8. remorse

**Viewing: Frog Licker**

Answer Key:

Before You Watch

A. 1. diversity; 2. toxin; 3. exotic; 4. amphibian

B. 1. She is licking a frog. 2. Answers will vary.

While You Watch

A. 1. F; 2. F; 3. T; 4. T

B. 1. small creatures; 2. samples; 3. poison;4. helpful; 5. medicines; 6. variety; 7. chemicals

After You Watch

A. Answers will vary. Possible answers include: 1. scorpions, snakes, spiders. 2. Your body takes in nutrients and chemicals through what you eat. It’s important to eat in a healthy way. 3. To protect the environment and the indigenous people who live there.

*Unit 9 – Rediscovering the Past*

**Warm Up**

Answer Key:

1. Answers will vary. Possible answers include: studying ancient ruins and artifacts, reading about people in the past, looking at evidence to form theories. 2. Answers will vary. Possible answers include: with digital scanning technology, 3-D images. 3. Answers will vary.

**Lesson 9A – Virtually Immortal**

Answer Key:

Before You Read

A. 1. heritage; 2. laser beam; 3. 3-D; 4. scan

B. Predictions will vary. The following information is included in the passage: Rani ki Vav is a magnificent well built in India in the 11th century. It was built as a memorial to Queen Udyamati's dead husband, but had been hidden under sand since 1300. It was dug out in the 1960s, and people were amazed at what they found.

Reading Comprehension

1. a (lines 8–12); 2. c (lines 25–26); 3. b (lines 33–41); 4. d; 5. a (lines 108–115); 6. b; 7. b

Reading Skill

A. 2. Then, during the summer, rain arrives suddenly and the water seeps down through the sandy soil. 3. These step wells were simple at first, but some later became architectural works of art. Rani ki Vav is among the most magnificent works of art. 4. There are also apsarasfemale spirits of the clouds and water—putting on lipstick or putting on earrings, gazing at mirrors, or drying their hair. 5. A stairway leads to the lowest levels, and a dark passage leads into the well itself.

B. 1. “Wise men talk because they have something to say; fools talk, because they have to say something.” 2. “To err is human, to forgive is divine.” 3. “If you don’t love something, you’re not going to go the extra mile, you’re not going to work the extra weekend, you’re not going to challenge the status quo as much.”

Vocabulary Practice

A. 1. firsthand; 2. encounter; 3. stunned; 4. garments; 5. gazed; 6. vandals; 7. virtual

B. 1. b; 2. b; 3. b

**Lesson 9B – In Search of Genghis Khan**

Answer Key:

Before You Read

A. 1. Answers will vary. Possible answers include: discoveries about ancient history and how people lived in the past; 2. Answers will vary.

B. 1. Predictions will vary. Family members of a great leader were buried there (lines 21–24).

Reading Comprehension

1. c (lines 10–12); 2. a (lines 21–26); 3. a (lines 40–52); 4. a; 5. d; 6. a (lines 101–102); 7. d

Reading Skill

A. Sentences 2 and 3 cannot be reduced. 1. Genghis Khan united a kingdom of tribes that were at war with each other. 4. This has led many to the conclusion that his body lies in a tomb in this zone. 5. One in every 200 men who are on the planet today is related to Genghis Khan. 6. It allows us to empower researchers with tools that they might not have access to.

B. 1. Genghis Khan is a hero to the people who/that are living in Mongolia today. 2. The men who/that were scanning the earth found plenty of artifacts. 3. They scanned the earth which/that was near some recently fallen trees. 4. The research methods which/that he used were noninvasive.

Vocabulary Practice

A. 1. Initial; 2. spotted; 3. accounts; 4. cutting-edge; 5. took over

B. 1. a; 2. b; 3. a; 4. b; 5. b

**Viewing: Secrets of Stonehenge**

Answer Key:

Before You Watch

A. 1. timber; 2. solitary; 3. complex; 4. plain

B. Answers will vary.

While You Watch

A. c

B. 1. c; 2. a; 3. b; 4. c

After You Watch

A. 1. Answers will vary. 2. Answers will vary. Possible answers include: no theory has been proven, the history is so ancient, the stone structure is so massive. 3. Answers will vary.

*Unit 10 – Earth and Beyond*

**Warm Up**

Answer Key:

1. Answers will vary. Possible answers include: Astronomers use telescopes and photographs to study our solar system. NASA (National Aeronautics and Space Administration) is an example of an organization which funds space missions which go to other planets and beyond. 2. Answers will vary. Possible answers include: We can learn more about how Earth was formed, and potential risks there might be to our planet. 3. Answers will vary. Possible answers include; meteors and solar flares.

**Lesson 10A – Black Holes**

Answer Key:

Before You Read

A. 1. T; 2. F; 3. T; 4. NG

B. 1. b (lines 14–18); 2. a (line 20–23); 3. e (lines 23–25); 4. d (lines 42–44); 5. c (lines 116–118)

Reading Comprehension

1. d (lines 71–75); 2. b; 3. d (lines 14–15); 4. b (lines 57–62); 5. d (lines 123–135); 6. b (line 85); 7. c

Reading Skill

A. and B. Answers will vary.

Vocabulary Practice

A. 1. preposterous; 2. spy on; 3. abruptly; 4. layer; 5. spinning

B. 1. Squashing; 2. squeeze; 3. vice versa; 4. sprout; 5. spy on; 6. infinitely; 7. abruptly; 8. spinning

**Lesson 10B – The Threat from Space**

Answer Key:

Before You Read

A. 1. crater; 2. meteorite; 3. diameter

B. 1. b (lines 2–6); 2. d (lines 39–41); 3. a (lines 104–112); 4. c (lines 136–141)

Reading Comprehension

1. a; 2. a (lines 18–22); 3. b (lines 63–66); 4. b; 5. c (lines 97–99); 6. d (lines 111–119); 7. c (lines 147–151)

Reading Skill

A. 1. b; 2. a; 3. a; 4. b

B. 6. bigger than a sports arena; 3. grapefruit-sized; 4. the length of a car; 2. the size of an apple; 1. the size of grains of sand; 5. as big as a 15-story building

Vocabulary Practice

A. 1. collided; 2. drawbacks; 3. scenario; 4. deflected; 5. catastrophic

B. 1. rotates; 2. engage; 3. dilemma; 4. atmosphere; 5. motor

**Viewing: Solar System**

Answer Key:

Before You Watch

A. 1. d; 2. h; 3. a; 4. c; 5. b; 6. f; 7. g; 8. e

B. Answers will vary. Possible answers include: On Mercury, days are longer than years; Venus rotates in the opposite direction from all other planets; The red spot on Jupiter is a storm that has been raging for a very long time; The rings on Saturn are made of ice; Uranus was probably knocked on its side by a collision.

While You Watch

A.1. a; 2. h; 3. c; 4. d; 5. f; 6. e; 7. b; 8. g

B.1. 4.5 billion; 2. 99; 3. 150; 4. 480; 5. 70; 6. 4; 7. 1,300; 8. 1; 9. 27; 10. 1,200; 11. 7 billion; 12. billions

After You Watch

A. Answers will vary.

*Unit 11 – Green Concerns*

**Warm Up**

Answer Key:

1. Answers will vary. 2. Answers will vary. Possible answers include: they end up in the dump; they get recycled; they are reused by others. 3. Answers will vary. If you do not waste things, you will always have enough.

**Lesson 11A – Water Worries**

Answer Key:

Before You Read

A. 1. 2.5; 2.10; 3. farming; 4. faster; 5. 5,000; 6. the same amount of

B. Spain, India, and South Africa. Predictions will vary. Answers included in the text are: water shortages due to wells being dug; lack of rain; lack of dams; broken water pipes and poor plumbing.

Reading Comprehension

1. c; 2. b; 3. b (lines 27–29); 4. a (lines 60–65); 5. d (lines 77–79); 6. d (lines 101–105); 7. b

Reading Skill

A. 1. a; 2. b; 3. b; 4. c; 5. a; 6. c; 7. b; 8. b

B. Answers will vary. There may be differing opinions on whether first-hand accounts are more reliable than those of leading authorities.

Vocabulary Practice

A. 1. surpass; 2. shortages; 3. leaks; 4. replenished; 5. diverted; 6. whereby

B. 1. discern; 2. shortage; 3. replenish; 4. inherit; 5. leak; 6. surpass; 7. dam; 8. dedicated

**Lesson 11B – Technology as Trash**

Answer Key:

Before You Read

A. 1. lead, PVC, mercury; 2. 26.1%

B. 1. Answers will vary. The passage discusses the dangerous substances that waste electronic products can leave behind.; 2. Answers will vary. The passage mentions landfills and parts being melted down and recycled.

Reading Comprehension

1. c; 2. b(lines 8–11); 3. d; 4. b (lines 57–59); 5. c (lines 88–95); 6. d (lines 104–109); 7. a

Reading Skill

A. Positive: attractive, fortunately, ideal, well-earned; Neutral: typical, ultimately, secretly; Negative: arrogantly, selfish, sadly

B. 1. – (sadly); 2. + (ideal); 3. – (the problem is); 4. – (unfortunately); 5. – (while . . . ethically questionable); 6. – (distressing)

Vocabulary Practice

A. 1. infrastructure; 2. piles; 3. discarded; 4. substances; 5. hazardous

B. 1. a; 2. a; 3. b; 4. a; 5. b

**Viewing: Your Water Footprint**

Answer Key:

Before You Watch

A. 1. most popular; 2. 70; 3. Australia and Egypt; 4. paper; 5. China; 6. 7,000 years ago;7. 27

B. 1. Answers will vary. 2. Answers will vary. Possible answers include: it is durable; it is soft; it is comfortable; it is inexpensive. 3. Answers will vary. Possible answers include: towels, carpets, sheets, plastics, cotton swabs, furniture packing.

While You Watch

A. Cotton is used in food; Cotton has a major impact on the planet; It takes a lot of energy to manufacture and transport cotton

B. 1. 2,700; 2. 900; 3. 5; 4. 40; 5. 97; 6. 2; 7. 1; 8. 70; 9. 1/3

After You Watch

A. 1. Answers will vary. 2. Answers will vary. 3. Answers will vary. Possible answers include: Take showers instead of baths. Turn off the faucet while you’re brushing your teeth. Use less water to do the dishes.

*Unit 12 – Living Longer*

**Warm Up**

Answer Key:

1. Answers will vary. Students may point to a link between life expectancy and quality of life. Countries with a high average life expectancy include Japan, Singapore, Iceland, Sweden, and Australia. 2. Answers will vary. Students may highlight differences in areas such as diet, health, family, and entertainment. 3. Answers will vary. Possible answers include: healthy diets, exercise.

**Lesson 12A – Genes, Health, and Lifespan**

Answer Key:

Before You Read

A. 1. isolated; 2. gene; 3. centenarians; 4. syndrome; 5. Diabetes B. Answers will vary. The passage mentions that new information suggests genes are very important.

Reading Comprehension

1. a; 2. c (line 15; line 61; line 87); 3. b (lines 35–37); 4. b (lines 51–52); 5. a; 6. c (lines 94–95); 7. d (lines 105–108)

Reading Skill

A. and B.

1. Asked about the reasons for his long life, the centenarian smiled and said in Italian, “No drinking, no smoking, no women.”

2. They may have such long lives because of a gene that affects their sense of taste.

3. Because of a single gene.

4. Due to a lack of roads, phones, and electricity until the 1980s.

5. . . . since he couldn’t see through the windshield.

6. . . . “because we know we are immune to cancer and diabetes.”

7. Because he broke his leg 88 years ago.

Vocabulary Practice

A. 1. passed down; 2. lifespan; 3. slightly

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

**Lesson 12B – In Search of Longevity**

Answer Key:

Before You Read

A. Answers will vary. B. Information mentioned in the passage includes: Food and Drink: tea, red wine, fish, limited red meat, fruits and vegetables, milk products, cheese, nuts; Family and Social Life: hard work, friends, love; Hobbies and Activities: walking, exercise, swimming, no smoking, yoga

Reading Comprehension

1. c; 2. a; 3. c (lines 75–76); 4. b; 5. c; 6. c; 7. c

Reading Skill

A. 1. family; 2. twice; 3. food or diet; 4. lifestyle; 5. 4; 6. Californians; 7. 86; 8. climate; 9. network

B. Quantitative date includes: Sardinians: 91 of 17,865 people born between 1880 and 1900 have lived to 100; rate is more than twice as high as average Italian; genetics—80% directly related to first Sardinians; Adventists: drinking five glasses of water a day; four servings of nuts; live 4–10 years longer than average; Okinawans: lifespan of 78 (men) and 86 (women); lower cancer and heart disease rates.

Remaining data is qualitative.

Vocabulary Practice

A. 1. longevity; 2. lean; 3. barely; 4. guideline; 5. ironic

B. 1. b; 2. a; 3. a; 4. b; 5. b

**Viewing – The Science of Stress**

Answer Key:

Before You Watch

A. 1. deplete; 2. kick in; 3. treadmill; 4. boost; 5. physiological

B. 1. Answers will vary. 2. Answers will vary. Possible answers include: teenagers because they have to study for their future jobs; adults because they have to work to support their families. 3. Answers will vary. Possible answers include: A little stress is good because it helps motivate, but there should be a balance.

While You Watch

A. The following should be checked: what adrenaline does to our body; two different types of stress; tests that show the effects of stress on the body.

B. 1. breathing; 2. levels; 3. stress; 4. physical; 5. chemicals; 6. burn; 7. longevity; 8. exercise

After You Watch

A. 1.–3. Answers will vary.