STEAM READING 2 ANSWER KEY
Student Book

Unit 1. Broken Chopstick

Warm-up

It looks like the pencil is bent and wider.

Key Words

B.

2, 5, 8, 4, 3, 6, 1, 7

Reading

C.

1. a
2. a

Check Your Understanding

A.

1. b
2. c
3. b

B.

1. F; Light slows down when it enters water because it is denser than air.
2. F; When you put a chopstick in water, it looks bent and slightly wider.

C.

4, 2, 3, 1

D.

1. pass
2. slow down
3. enter
4. lawn
5. slightly
6. refract

Steam Project

Step 1

A. The arrow **changes** direction.

Step 2

Refraction is the bending of light as it **passes** from one transparent substance into another. When light **enters** the water in the glass, it bends. It bends again when it leaves the water and the glass. As a result, the light paths cross, and the image appears to be flipped **horizontally**.

Unit 2. Tall Boy, Short Legs

Warm-up

Light slows down and changes direction when it passes through water. This makes the things look bent.

Key Words

B.

8, 7, 5, 2, 4, 1, 6, 3

Reading

C.

1. c
2. b

Check Your Understanding

A.

1. c
2. c
3. c

B.

1. T
2. F; Amy wanted to keep talking, but Rick pulled her into the pool.

C.

Who: Rick, Ted, and Amy
What: How the brain sees light refraction in water
Where: They are at the swimming pool.
When: He realized it after he dove into the water.
Why: The refracted light makes the legs look curved and shorter.

D.

1. dive
2. swimming pool
3. line
4. come in
5. funny
6. refraction

Steam Project

Step 1

I see **the coin**.

Step 2

When there is no water, the light reflecting off the coin **doesn't refract**. It travels in a **straight** line. The wall of the cup hides the coin from you. When we pour water into the cup, the light reflecting off the coin **refracts**. It comes out of the water and bends. This **curved** light reaches your eyes, so you can see the coin. This is called refraction of light.

Unit 3. Pressure Changes, Volume Changes

Warm-up

The bag will pop.

Key Words

B.

4, 8, 6, 3, 5, 1, 2, 7

Reading

C.

1. b
2. c

Check Your Understanding

A.

1. b
2. b
3. a

B.

1. T
2. F; No matter the amount of pressure you put on it, the volume of water doesn't change. / The more pressure you put on a gas, the smaller the volume will get.

C.

1. change
2. smaller
3. harder
4. pressure

D.

1. repeat
2. changes
3. certain
4. based on
5. apply
6. No matter

Steam Project

Step 1

Water comes out of the straw.

Step 2

When you blow **into** the bottle, the air pressure **inside** the sealed bottle increases. This **higher** air pressure pushes on the water and forces it **up** and **out of** the straw.

Unit 4. A Bag of Chips

Warm-up

Yes, I climbed a tall mountain with my mom last year.

Key Words

B.

7, 3, 5, 1, 2, 6, 4, 8

Reading

C.

1. c
2. a

Check Your Understanding

A.

1. c
2. c
3. a

B.

1. F; Irene sat down to take a rest after reaching the top of the mountain.
2. F; Irene's mom told her the chips were safe to eat.

C.

2, 4, 3, 1

D.

1. suspicious
2. pack
3. proud
4. swell
5. burst
6. in case

Steam Project

Step 1

1. They fly in the **troposphere**.
2. No, they don't.
3. Planes

Step 2

Air pressure depends on the quantity of air molecules in the atmosphere. The **more** air molecules, the stronger the pressure. The **greatest** pressure is at ground level, because this is where there are the most air molecules. When you climb a mountain, you find it **difficult** to breathe because there are fewer air molecules. The higher you move up into Earth's atmosphere, the **fewer** air molecules there are.

Unit 5. Two Different Lenses

Warm-up

The magnifying glass will focus the light on one spot on the paper, and it will start a fire.

Key Words

B.

3, 4, 7, 1, 8, 5, 2, 6

Reading

C.

1. a
2. c

Check Your Understanding

A.

1. a
2. b
3. c

B.

1. F; If you point a laser beam toward the edge of a convex lens, the beam will bend inward.
2. T

C.

1. convex lens
2. laser beams
3. focus
4. bend inward
5. don’t bend
6. look bigger

D.

1. on the other hand
2. concave
3. bend
4. laser pointer
5. transparent
6. lens

Steam Project

1. convex
2. bigger
3. refracted
4. beams
5. focuses
6. heat

Unit 6. Telescopes, Microscopes, and More!

Warm-up

Yes, I do. I use both convex and concave lens in my camera.

Key Words

B.

7, 6, 4, 1, 2, 5, 8, 3

Reading

C.

1. a
2. c

Check Your Understanding

A.

1. c
2. a
3. c

B.

1. F; Fran saw many cool telescopes at the observatory.
2. F; Convex lenses help us see far away and small things by making them look bigger and closer.

C.

Convex Lenses: a, c

Concave Lenses: b, d

D.

1. gather
2. microscope
3. space
4. in detail
5. observatory
6. telescope

Steam Project

Step 1

1. microscope
2. camera
3. magnifying glass
4. binoculars
5. glasses
6. peephole
7. telescope
8. flashlight

Step 2

1. peephole
2. flashlight
3. glasses
4. magnifying glass
5. telescope
6. binoculars
7. camera

Unit 7. The Flow of Electricity

Warm-up

When you plug in a lamp, electricity creates light and the lamp is turned on.

Key Words

B.

5, 3, 4, 8, 2, 6, 1, 7

Reading

C.

1. a
2. c

Check Your Understanding

A.

1. b
2. c
3. a

B.

1. F; Electricity flows through an electrical circuit into a bulb.
2. F; The electrical circuit is complete when both poles are connected.

C.

1. ✓
2. X
3. X
4. X
5. ✓
6. X

D.

1. connect
2. complete
3. conductor
4. Electric currents
5. wires
6. electrical

Steam Project

Step 1

1. electricity
2. wires
3. conductors
4. electric current
5. pole
6. complete

Step 2

1. battery
2. wire
3. light bulb
4. switch

Unit 8. All of the Lights

Warm-up

Usually, you can make a string of lights longer by plugging a second strand into the end of the first strand. If you can't do that, you can cut open the wires from one end of each strand and twist them together so electricity can flow from one strand to the next.

Key Words

B.

1, 8, 4, 2, 7, 3, 5, 6

Reading

C.

1. b
2. c

Check Your Understanding

A.

1. a
2. b
3. a

B.

1. T
2. F; Liam was sure the wires were joined to the two poles of the battery.

C.

Who: Liam and his dad
What: How a sting of light lights up
Where: At their house
When: When his dad told him he couldn't
Why: Because thread is not a conductor.

D.

1. conduct
2. positive
3. light up
4. already
5. get ready
6. join

Steam Project

Step 1

Electrical Conductors: gold, seawater, copper, silver

Electrical Insulators: oil, glass, plastic, rubber

Step 2

1. silver / gold
2. gold / silver
3. copper
4. plastic / rubber
5. rubber / plastic

Unit 9. More Batteries

Warm-up

The television remote control and my flashlight use batteries.

Key Words

B.

7, 5, 3, 6, 4, 2, 8, 1

Reading

C.

1. a
2. a

Check Your Understanding

A.

1. a
2. c
3. a

B.

1. F; The bulb with the series connection was brighter than the bulb with the parallel connection.
2. F; Parallel connections last longer than series connections.

C.

1. connections
2. Series
3. voltage
4. last
5. Parallel
6. strong

D.

1. remaining
2. strong
3. brightness
4. voltage
5. connection
6. last

Steam Project

1. light bulb
2. wire
3. switch
4. battery
5. positive pole
6. negative pole

Unit 10. Electricity Everywhere

Warm-up

The outlet can get overheated and cause a fire.

Key Words

B.

3, 6, 4, 8, 7, 1, 5, 2

Reading

C.

1. a
2. c

Check Your Understanding

A.

1. a
2. a
3. a

B.

1. F; Sophia's phone battery was low, so she plugged her phone into the same outlet as the TV.
2. T

C.

2, 3, 1, 4

D.

1. heater
2. electronics
3. grocery store
4. overheat
5. run
6. outlet

Steam Project

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

Unit 11. Sea Breeze and Land Breeze

Warm-up

Wind is made when air moves from high pressure areas to low pressure areas.

Key Words

B.

6, 8, 3, 4, 7, 1, 5, 2

Reading

C.

1. b
2. c

Check Your Understanding

A.

1. c
2. b
3. c

B.

1. F; A sea breeze blows from the sea during the day.
2. F; Wind is the movement of air from high-pressure to low-pressure area.

C.

1. ✓
2. ✓
3. X
4. ✓
5. X
6. X

D.

1. movements
2. heats up
3. creates
4. daytime
5. lamp
6. land breeze

Steam Project

Step 1

1. sea
2. low pressure
3. cool air
4. high pressure
5. land

Step 2

1. land breeze
2. land
3. sea
4. warm air
5. low pressure
6. cool air

Unit 12. Flying a Kite

Warm-up

I think it's best to fly a kite at the park.

Key Words

B.

6, 5, 3, 1, 2, 7, 8, 4

Reading

C.

1. b
2. a

Check Your Understanding

A.

1. c
2. a
3. a

B.

1. F; Daniel was surprised because the kite flew above the land in the morning.
2. F; In the evening, the sand's temperature is lower than the water's temperature.

C.

Sea Breeze: b, c
Land Breeze: a, d

D.

1. check out
2. dinner
3. take a trip
4. flow
5. above
6. kite

Unit 13. The Height of the Sun

Warm-up

It's hot in summer because the tilt of Earth makes us closer to the sun. It's cold in winter because we are tilted farther away from the sun.

Key Words

B.

4, 8, 5, 7, 2, 6, 1, 3

Reading

C.

1. a
2. a

Check Your Understanding

A.

1. a
2. c
3. b

B.

1. T
2. F; The sand's temperature was highest when the lamp was highest.

C.

1. differs
2. length
3. steep
4. heat energy
5. rises

D.

1. shallow
2. seasons
3. differ
4. steep
5. once
6. rises

Steam Project

a. The **Northern** Hemisphere
b. The **Southern** Hemisphere
c. Africa

Unit 14. The Length of the Day

Warm-up

No, it's not. The position of the sun is always different because Earth is rotating while orbiting around the sun.

Key Words

B.

4, 2, 8, 6, 3, 5, 1, 7

Reading

C.

1. a
2. c

Check Your Understanding

A.

1. c
2. c
3. c

B.

1. F; Emily realizes that in winter the days are shorter than in summer.
2. F; In winter, the days are shorter because solar altitude is at its minimum.

C.

Who: Emily
What: How solar altitude affects the seasons and the length of days
Where: At home
When: She notices it when it gets dark at 5 p.m.
Why: Days are shorter in winter because solar altitude is at its minimum. Days are longer in summer because solar altitude is at its maximum.

D.

1. bright
2. minimum
3. during
4. revolve
5. set
6. at an angle

Steam Project

a. 31°C
b. 17°C
c. 100 mm

Unit 15. Electricity from the Sun

Warm-up

If you put water with a teabag under the sun, the sun will slowly make a cup of tea.

Key Words

B.

4, 7, 3, 2, 8, 5, 1, 6

Reading

C.

1. c
2. b

Check Your Understanding

A.

1. c
2. c
3. b

B.

1. F; The cost for using solar power is expensive.
2. T

C.

1. ✓
2. ✓
3. X
4. ✓
5. ✓

D.

1. effective
2. implement
3. imagine
4. climate change
5. coal
6. essential

Steam Project

1. solar panels
2. electricity
3. inverter
4. suitable
5. passes
6. home appliances

Unit 16. Web Developer

Warm-up

My favorite website is the online shopping mall where I usually get my clothes.

Key Words

B.

4, 3, 8, 1, 5, 7, 2, 6

Reading

C.

1. a
2. a

Check Your Understanding

A.

1. b
2. b
3. c

B.

1. T
2. F; The best websites have text that is easy to read and buttons that are easy to find.

C.

3, 2, 1, 4

D.

1. load
2. annoying
3. scroll
4. manage
5. technical
6. website

Steam Project

Step 1

1. look for information
2. watch TV
3. play video games
4. learn online
5. send emails

Workbook

Unit 1. Broken Chopstick

Vocabulary Practice

A.

1. Make sure you call Aunt Sally before you enter her house.
2. The pencils look funny because water refracts light.
3. Grandmother takes good care of her lawn. It is really green and wonderful.
4. This map shows you the position of some of these dams.

B.

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

Comprehension Practice

1. b
2. b
3. a

Summary

1. light
2. slows
3. enters
4. refracts
5. straight
6. slightly
7. wider

Unit 2. Tall Boy, Short Legs

Vocabulary Practice

A.

1. refraction
2. brain
3. lines
4. swimming pool

B.

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

Comprehension Practice

1. c
2. b
3. b

Summary

1. swimming pool
2. dive
3. funny
4. tallest
5. refraction
6. brains
7. curved

Unit 3. Pressure Changes, Volume Changes

Vocabulary Practice

A.

1. Press the plunger to push out the liquid in the syringe.
2. Can you repeat what you said, please? I couldn't hear you.
3. Mom and Dad touched their son lightly on the cheek.
4. Some animals undergo a change of color according to their environment.

B.

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

Comprehension Practice

1. c
2. a
3. b

Summary

1. applies
2. volume
3. plunger
4. no matter
5. repeated
6. based on
7. smaller

Unit 4. A Bag of Chips

Vocabulary Practice

A.

1. proud
2. chips
3. swell
4. burst

B.

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

Comprehension Practice

1. c
2. b
3. a

Summary

1. chips
2. in case
3. reached
4. swollen
5. low
6. inflated
7. burst

Unit 5. Two Different Lenses

Vocabulary Practice

A.

1. John is very strong. He can bend a bar of metal!
2. “What’s that?” “It’s a transparent smartphone we’re experimenting with.”
3. Different types of lenses refract light in different ways.
4. The beam of this laser pointer is really bright.

B.

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

Comprehension Practice

1. c
2. c
3. b

Summary

1. lenses
2. transparent
3. thick
4. On the other hand
5. concave
6. laser pointer
7. bigger

Unit 6. Telescopes, Microscopes, and More!

Vocabulary Practice

A.

1. space
2. gathered
3. observatory
4. telescope

B.

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

Comprehension Practice

1. c
2. b
3. b

Summary

1. observatory
2. telescopes
3. explained
4. convex
5. gathers
6. microscopes
7. binoculars

Unit 7. The Flow of Electricity

Vocabulary Practice

A.

1. The technician was connecting the telephone wires to the central network.
2. The number 6 bus connects our neighborhood to the city center.
3. Many years ago, there was no electricity, so people had to read by candlelight.
4. Our school library has the complete works of William Shakespeare.

B.

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

Comprehension Practice

1. a
2. c
3. c

Summary

1. flows
2. electrical
3. bulb
4. wires
5. connected
6. circuit
7. complete

Unit 8. All of the Lights

Vocabulary Practice

A.

1. positive
2. gets ready
3. already
4. join

B.

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

Comprehension Practice

1. a
2. c
3. a

Summary

1. getting ready
2. string
3. copper
4. conducts
5. negative
6. connected
7. lit up

Unit 9. More Batteries

Vocabulary Practice

A.

1. How long will the film last? Mom told us to be home by 6 p.m.
2. Add the remaining sauce to the pot.
3. Emily goes to the gym every day. She wants to be really strong.
4. Check the brightness and contrast settings on your monitor.

B.

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

Comprehension Practice

1. c
2. b
3. a

Summary

1. series
2. parallel
3. brightness
4. increase
5. voltage
6. strong
7. last

Unit 10. Electricity Everywhere

Vocabulary Practice

A.

1. heater
2. throws
3. plug
4. grocery store

B.

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

Comprehension Practice

1. b
2. b
3. a

Summary

1. heater
2. plugged
3. play
4. threw
5. electrical
6. outlet
7. overheat

Unit 11. Sea Breeze and Land Breeze

Vocabulary Practice

A.

1. It's hot inside. Luckily, there is a sea breeze blowing, so it's cooler outside.
2. It's dark outside. Take that lamp if you want to read.
3. In the daytime during summer, the temperature never falls under 30°C.
4. Be careful when you do that movement. Yoga can be difficult if you're not careful.

B.

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

Comprehension Practice

1. b
2. a
3. c

Summary

1. daytime
2. sea breeze
3. quickly
4. creates
5. movement
6. land breeze
7. incense

Unit 12. Flying a Kite

Vocabulary Practice

A.

1. dinner
2. go out
3. took a trip
4. above

B.

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

Comprehension Practice

1. b
2. c
3. b

Summary

1. took a trip
2. kite
3. above
4. land
5. check out
6. dinner
7. opposite

Unit 13. The Height of the Sun

Vocabulary Practice

A.

1. You can't park the car here! The street is too steep.
2. Convection and conduction are two examples of the transfer of heat energy.
3. The twins differ in their personalities.
4. It's beautiful to see the moon rise above the sea.

B.

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

Comprehension Practice

1. b
2. a
3. c

Summary

1. seasons
2. steep
3. heat energy
4. rises
5. shallow
6. differed
7. angle

Unit 14. The Length of the Day

Vocabulary Practice

A.

1. at an angle
2. revolved
3. solar altitude
4. during

B.

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

Comprehension Practice

1. a
2. a
3. c

Summary

1. set
2. bright
3. solar altitude
4. during
5. revolves
6. at an angle
7. maximum

Unit 15. Electricity from the Sun

Vocabulary Practice

A.

1. You need to put more coal in the fire if you want to cook food on the barbecue.
2. What's the most effective treatment for bee stings?
3. Close your eyes and imagine you're at the beach.
4. The teachers will implement the new science program for this school.

B.

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

Comprehension Practice

1. c
2. c
3. c

Summary

1. electricity
2. climate change
3. coal
4. solar
5. effective
6. solve
7. implement

Unit 16. Web Developer

Vocabulary Practice

A.

1. managed
2. website
3. load
4. crashes

B.

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

Comprehension Practice

1. a
2. c
3. a

Summary

1. website
2. crash
3. manage
4. find
5. annoying
6. developers
7. load