Unit 1 Amazing Talents!

Build Background p.6

1	Q	What is the girl doing?
1.	Α	She is playing the violin.
2.	Q	Do you have a special talent?
۷.	Α	Yes, I do. I am good at writing stories.
3.	Q	What do you do to develop your talent?
3.	Α	I read a lot of books. I practice writing every day.

Vocabulary p.7

В.

1. mathematician	2. tactic	3. complex	4. memory
5. train	6. composer	7. talent	8. prodigy

C.

1. to	2. at	3. at

Make Connections

Talk about how these child prodigies worked to develop their talents.

ESSENTIAL QUESTION

The composer Wolfgang Amadeus Mozart was born in 1756. At the age of three, he knew about chords, tone, and tempo. As he grew, he learned many styles of music and came up with his own style. People were amazed because his music was so rich and complex. Some believe Mozart wrote the greatest music ever.

Bobby Fischer learned to play chess at the age of six. He began to train when he was eight years old. Fischer had a great memory. He was able to remember all the tactics he read about. He could also do all kinds of chess moves. He was called "the Boy Robot."

Terence Tao has loved to learn since he was very young. He taught himself to read at the age of two. He took high school math at the age of seven. Later, Tao won a medal at the International Mathematical Olympiad. He was only ten years old, the youngest person ever to win it! Tao, who solves many hard math problems, is now one of the best mathematicians in the world.

Comprehension Check p.10

A.

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

B.

1. False	2. True	3. True	4. False

C.

1.	At the age of three, he knew about chords, tone, and tempo.
2.	His great memory made him such a great chess player.

Comprehension Strategy _{p.11}

Step 1

Bobby Fischer learned to play chess at the age of six. He began to train when he was eight years old. Fischer had a great memory. He was able to remember all the tactics he read about. He could also do all kinds of chess moves. He was called "the Boy Robot."

In 1957, Fischer won the U.S. Chess Championship. He was only fourteen years old. The next year, he won another contest.



At the age of fifteen, he became a chess

grandmaster. He was the youngest player ever to hold that title.



play chess, memory, remember, chess moves, Championship, grandmaster

Comprehension Skill p.12

Main Idea Tao is one of the best mathematicians in the world.



	He taught himself to read at the age of two.
	He took high school math at the age of seven.
Key Details	He won a medal at the International Mathematical
	Olympiad at the age of ten.
	He solves many hard math problems.

Summary p.13

1. tactics

5. trained

child prodigies, great talent for, very good memory, chess tactics, best mathematicians, to be great

Vocabulary Review

2. talents 3. mathematician 4. complex 6. composer 7. memory 8. prodigies

Answer Key

Unit 2 Inchworm's Tale

Build Background p.14

1	Q	What is unique about dolphins?
լ ⊥.	Α	They are very intelligent and can communicate with each other.
2	Q	How can a dolphin's unique features help it?
2.	Α	Its unique features can help it find food and protect itself from danger.
2	Q	What other unique features of an animal do you know?
3.	Α	Lizards can remove their own tails if caught by other animals.

Vocabulary p.15

В.

1. skillful	2. afraid	3. mysterious	4. cheer
5. squint	6. expand	7. disbelief	8. feature

C.

1. for	2. to	3. to

Make Connections

What unique feature does Inchworm have? How does she help?

ESSENTIAL QUESTION

Inchworm showed them how skillful she was at climbing. Hawk flew Inchworm to the top of the rock where the children were waiting. Inch by inch, she led the children carefully down the rock to the ground.

Comprehension Check $_{\rm p.18}$

A.

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

В.

1. False	2. True	3. False	4. True

C.

1.	Hawk used his sharp eyes and strong wings.
5	Inchworm led the children carefully down the rock to the ground.

Comprehension Strategy $_{\rm p.19}$

Step 1

1.	. expand, blue, white	
2.	. flew up, sunlight	
3.	. down	

Comprehension Skill $_{\rm p.20}$

Problem: The children needed to get down from the rock.		
Step 1: Isha asked all the animals to climb the tall rock.		
Step 2: Inchworm showed them how skillful she was at climbing.		
Solution: Inchworm led the children carefully down the rock to the ground.		

Summary p.21

on a rock, rock had expanded, a way down, to find them, climb the rock, tiny Inchworm

Vocabulary Review $_{\rm p.21}$

1. skillful	2. features	3. cheered	4. afraid
5. mysterious	6. expand	7. squint	8. disbelief

Unit 3 Jane's Discovery

Build Background p22

1	Q	Who is the man in the picture?
1.	Α	He is John F. Kennedy.
2	Q	What do you know about him?
۷.	Α	He was the 35th President of the United States.
3.	Q	Who is your favorite world leader?
	Α	My favorite world leader is Mahatma Gandhi.

Vocabulary p.23

В.

1. trip	2. recall	3. belong to	4. amazement	
5. refuse	6. president	7. slam	8. insist	

C.

1. of	2. about	3. long

Make Connections

How did Abe change Jane's life? ESSENTIAL QUESTION

"I'm upset," said Jane. "My parents want me to learn to read, but I don't want to."

"I see," said Abe. "But believe me, reading can change your life! Let me show you."

At first, Jane felt nervous about reading, but that didn't last long. Reading became easier the more she read, and she started to enjoy it.

Comprehension Check $_{\rm p.26}$

A.

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

В.

1. False	2. False	3. True	4. True
		G	

C.

- 1. Reading became easier the more she read, and she started to enjoy it.
- 2. She recalled the day she tripped over him and smiled.

Comprehension Strategy $_{\rm p.27}$

Step 1

1.	slammed, tripped
2.	listened, president
3.	gave, amazement

Step 2	1,3,2			
The state of the s				

Comprehension Skill p.28

Cause		Effect
Abe helped Jane learn to read.	→	Jane felt nervous about reading, but as she read more, she started to enjoy it.

Summary _{p.29}

was unhappy, to go to school, learn to read, courageous leader, change her life, began to enjoy

Vocabulary Review _{p.29}

1. recalled	2. refuse	3. amazement	4. insists
5. president	6. tripped	7. slammed	8. belongs to

Unit 4 The Earth and Its Neighbors

Build Background p.30

1	Q	What do you see in the picture?
1.	Α	I can see the moon.
2	Q	What else can you see in the sky at night?
2.	Α	I can see the stars as well.
2	Q	What tools can you use to help you see faraway things?
3.	Α	I can use a telescope.

Vocabulary $_{\rm p.31}$

В.

1. planet	2. opportunity	3. satellite	4. astronomy
5. surface	6. orbit	7. launch	8. solar system

C.

Make Connections

How do we learn about the Earth and its neighbors in space? ESSENTIAL QUESTION

Telescopes: Looking Up

Astronomy is the study of space. More than 400 years ago, a scientist called Galileo Galilei made a telescope. This helped him look into the sky and see things up close. He could see the rocky surface of the moon. He also saw spots on the sun's surface.

Satellites: A Step Closer

In 1957, the first satellite was launched into space. More went up later. Today, they still orbit the Earth and take photos of planets.

Scientists learned a lot from these satellites, but they wanted to know more. That's why they found a way to send people into space.

One Giant Step

In 1961, the first man went into space and orbited the Earth. Then people started going farther into space. In 1969, some even walked on the moon. They took photos and collected moon rocks. These trips gave scientists the opportunity to learn a lot more about space.

Hubble and Beyond

Scientists then built the huge Hubble Space Telescope to know even more. In 1990, it was sent into space to orbit the Earth. It can get up close to take clear photos of stars and planets. Scientists study these photos to find out what's going on in space.

Comprehension Check p.34

A.

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

В.

1. False	2. False	3. False	4. True
----------	----------	----------	---------

C.

- 1. He could see the rocky surface of the moon and also saw spots on the sun's surface.
- 2. They took photos and collected moon rocks.

Comprehension Strategy $_{\rm p.35}$

Step 1

Scientists then built the huge Hubble Space Telescope to know even

more. In 1990, it was sent into space to orbit the Earth. It can get up close to take clear photos of stars and planets. Scientists study these photos to find out what's going on in space.

There are always more questions about space. However, scientists are always finding new ways to get the answers.



Step 2

understand more, space in 1990, stars and planets, questions about space

Comprehension Skill p.36

Key Detail	He could look into the sky and see things up close.	
Key Detail	He could see the rocky surface of the moon.	
Key Detail	He also saw spots on the sun's surface.	

Summary p.37

studying space, see things in, orbit the Earth, send people into, clear photographs, we live in

Vocabulary Review _{p.37}

1. astronomy	2. opportunity	3. orbit	4. launched
5. planet	6. surface	7. satellite	8. solar system

Answer Key

Unit 5 Ideas from Nature

Build Background p.38

1	Q	What is the boy looking at?
1.	Α	He is looking at a spider.
2	Q	What is one idea you have after looking at the picture?
۷.	Α	I have an idea of weaving cloth using spider web.
2	Q	What inventions can people come up with after observing animals?
3.	Α	People can come up with an idea of a submarine after observing whales.

Vocabulary _{p.39}

В.

1. observe	2. vibrate	3. echo	4. inspire
5. device	6. imitate	7. blind	8. lightweight

C.

1. in 2. out	3. as
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Make Connections

How did bats inspire a cane that helps blind people?
ESSENTIAL QUESTION

Bats send sound waves out of their mouth or nose. These sound waves hit objects around them. Then they bounce back as an echo. The echo tells bats how far away things like trees are. It also helps them know where to find bugs to eat.

The cane sends out signals. When an echo bounces back, the cane's handle vibrates. This helps the person holding the cane know how far away an object is. They will also know how big the object is.

This cane shows that great ideas really can come from nature!

Comprehension Check p.42

A.

4 6	2 -	2 6	4
1. D	2. C	3. <mark>0</mark>	4. <mark>D</mark>

В.

1. True	2. False	3. False	4. True

C.

- 1. He came up with an idea of the lightweight cane by observing how bats fly.
- 2. The cane sends out signals and when an echo bounces back, the cane's handle vibrates.

Comprehension Strategy p.43

Step 1

Bats make sounds when they fly at night. People cannot hear these sounds, but they help bats fly in the dark.

Bats send sound waves out of their mouth or nose. These sound waves hit objects around them. Then they bounce back as an echo. The echo tells bats how far away things like trees are. It also helps them know where to find bugs to eat.



Step 2

sound waves, dark, mouth or nose, echo, where objects are, find bugs

Comprehension Skill p.44

Key Details

- •The cane sends out signals.
- •The echo bounces back.
- •The person holding the cane knows how far away and how big an object is.

Summary p.45

their best ideas, observed the way, a special cane, sends out sound, bounce back to, how far away

Vocabulary Review _{p.45}

1. echo	2. observe	3. blind	4. device
5. lightweight	6. imitate	7. vibrate	8. inspire

Answer Key

Unit 6 To the South Pole

Build Background p46

1	Q	How do people learn about different places on Earth?
1.	Α	People can learn about different places by reading books or looking on the Internet.
2	Q	Why is it difficult to be the first person to visit a place?
۷.	Α	It is difficult because the first person has less information about it.
2	Q	Why was travel more difficult in the past?
3.	Α	It was difficult because people had less information and slower ways to travel.

Vocabulary _{p.47}

В.

1. sled dog	2. navigate	3. continent	4. gain
5. resolve	6. extremely	7. harsh	8. challenging

C.

1. tor 2. to 3. made

Make Connections	The trip was long and
What made Amundsen's exploration of South Pole unique in history? ESSENTIAL QUESTION	challenging, but finally in 1911, he and his team reached the South Pole. They were the first! They placed the flag of Norway there. It took them ninety-nine days to return, but they all made it!

Comprehension Check $_{\rm p.50}$

A.

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

В.

1. False	2. False	3. False	4. True

- He picked strong, healthy sled dogs to pull the supplies and also chose a strong, smart team of men who were trained to survive in the freezing weather.
- They placed the flag of Norway there.

Comprehension Strategy p.51

Step 1

To gain experience, Amundsen first explored other places. In 1903, he led a trip through the frozen seas of the Arctic Ocean.

In 1907, another explorer tried to reach the South Pole, but failed. Amundsen studied what he did wrong. Then, he planned his own journey carefully.



Step 2

planned his trip, explored other places, gain experience, learned from

Comprehension Skill p.52

First,	in 1910, a British team was planning to get to the South Pole, too.
Next,	Amundsen got his team ready to go.
Then,	in 1911, he and his team reached the South Pole.
Finally,	they all returned after ninety-nine days.

Summary p.53

interested in exploring, left his studies, his experience, trained a team, survive in the, placed the flag

Vocabulary Review _{p.53}

1. gained	2. extremely	3. harsh	4. challenging
5. sled dogs	6. continent	7. navigated	8. resolved

Unit 7 Helping Hands

Build Background p.54

1	Q	What do you see in the picture?
1.	Α	I can see a volunteer taking care of an old woman.
2	Q	What are some ways that you have helped others?
2.	A I have helped an old man carry some heavy luggage.	
2	Q	How did you feel when you helped others?
3.	Α	I felt satisfied and proud of myself.

Vocabulary _{p.55}

В.

1. attach	2. expert	3. situation	4. impairment
5. improve	6. participant	7. impressed	8. available

C.

1. from 2. with	3. around
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Make Connections

How did the Flying Monkeys help Danielle with her challenge? ESSENTIAL QUESTION

Without fingers on her right hand, Danielle could not hold a pen. The girls looked for a way to attach a pen or a pencil to her hand.

The girls worked hard to find out more. They talked to people with physical impairments and to medical experts. Then, they made models and tested them.

The girls soon settled on a design. They called it the BOB-1. It was simple and cheap to make. It fit Danielle's hand well and helped her write. The judges of the contest were impressed. The Flying Monkeys won!

Comprehension Check $_{\rm p.58}$

A.

F.			
4 1	2	2 1	
1 1 n	l / a	1 3 n	1 4 C
±. v	2. u	J. N	1. 0

В.

1. True	2. False	3. True	4. True

C.

- 1. They got the idea from a story about a girl named Danielle Fairchild who had no fingers on her right hand and needed something to help her write.
- 2. They plan to use the money to improve the *BOB-1* and make it available to everyone who needs it.

Comprehension Strategy $_{p.59}$

Step 1

1.	(b)	
2.	(d)	
3.	(c)	

Step 2 physical impairments, write, tested

Comprehension Skill p.60

Cause

The Flying Monkeys wanted to invent something to help Danielle write.

The judges of the contest were impressed by the *BOB-1* that helped Danielle write.



Effect

The girls looked for a way to attach a pen or pencil to her hand.

 \rightarrow

The Flying Monkeys won the contest!

Summary $_{\rm p.61}$

the human body, inspired the team, medical experts, created a device, won the contest, available to

Vocabulary Review _{p.61}

1. available	2. impressed	3. expert	4. participants
5. impairment	6. situation	7. improve	8. attached

Answer Key

Unit 8 Nail Soup

Build Background p.62

1	Q	What is in the girl's hand?
1.	Α	She has some carrots in her hand.
2	Q	What is your favorite healthy food?
۷.	Α	My favorite healthy food is blueberries.
2	Q	What are some good choices you can make for a healthy life?
3.	Α	I can go jogging every morning for a healthy life.

Vocabulary _{p.63}

В.

1. approach	2. suggest	3. spare	4. variety
5. flavorful	6. impossible	7. enthusiastically	8. curious

C.

2

Make Connections

Why is making nail soup a smart choice?

ESSENTIAL QUESTION

Papa winked at me. He knew a way to get us a warm meal. "If you could spare a cup of boiling water, I'll cook my delicious nail soup," he said.

Comprehension Check $_{\rm p.66}$

A.

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

В.

1. False	2. False	3. True	4. True

- They believe that the soup is made from just one nail and a pot of boiling water. 1.
- 2. Papa winked because nail soup is just a way to get them a warm meal.

Comprehension Strategy $_{\rm p.67}$

Step 1

1.	Who answered	
2.	What made	
3.	How did	

Step 2

Answer A	2
Answer B	1
Answer C	3
Your Question	What did Papa ask the man and the woman?
Your Answer	He asked if they could spare some food for his son.

Comprehension Skill $_{\rm p.68}$

Details

The woman said it was amazing that the soup was made from just one nail and a pot of boiling water.

Summary p.69

ask for food, winked at his son, delicious nail soup, make nail soup, variety of vegetables, sharing his food

Vocabulary Review _{p.69}

1. impossible	2. approach	3. suggest	4. spare
5. enthusiastically	6. flavorful	7. variety	8. curious

Unit 9 The Impossible Pet Show

Build Background p70

1	Q	What do you see in the picture?	
1.	Α	I see a dog swimming.	
2	Q	What are some ways you have helped others?	
2.	Α	I have worked for a nursing home as a volunteer.	
2	Q	How do you feel when you help others?	
3.	Α	I feel happy and satisfied.	

Vocabulary _{p.71}

В.

1. disaster	2. achievement	3. crowd	4. confidence
5. apologize	6. gigantic	7. embarrassed	8. uncomfortable

C.

1. off	2. over	3. well

p.72

Make Connections

How did Daniel use his skills to help others?
ESSENTIAL QUESTION

"Sit, Perro," said Carla. But Perro didn't listen to Carla. He was too busy watching Rob's rabbits! Suddenly, he leaped at the rabbits and knocked over a hamster's cage. Kyle's dog began howling. It was a disaster! I had to do something to stop it.

"Sit!" I yelled. "Stay!" The animals suddenly stopped. The audience stared at me.

"Wow, you got the pets to settle down!" said Carla. "That's a big achievement."

Comprehension Check $_{\rm p.74}$

A.

1 2	2 2	3 c	4 h
1. a	Z. 0	J. U	7. U

В.

1. True	2. False	3. True	4. False

C.

- 1. She thought that Daniel had a strong voice and he would be a good announcer.
- 2. He didn't want to be an announcer at first, but he agreed because Carla kept asking.

Comprehension Strategy p.75

Step 1

1.	Who asked
2.	What did
3.	Why was

Step 2

Answer A	2
Answer B	3
Answer C	1
Your Question	How did Daniel feel around Perro?
Your Answer	He felt uncomfortable around Perro.

Comprehension Skill p.76

Details
Daniel got the pets to settle down.
Daniel has more confidence when he speaks in front of people.



have a pet show, crowds and animals, he agreed, to settle them, an achievement, speaking in front of

Vocabulary Review _{p.77}

1. embarrassed	2. disaster	3. crowd	4. gigantic
5. uncomfortable	6. confidence	7. apologize	8. achievements

Unit 10 Gray Wolf! Red Fox!

Build Background p.78

1	Q	What color is the chipmunk in this picture?
1.	Α	It is the same color as the tree bark.
2	Q	How does the color of their fur help chipmunks?
۷.	Α	Their enemies may have difficulty finding them.
2	Q	How do adaptations help other animals?
3.	Α	Fish in the deep sea have adapted to their environment by being dark in color.

Vocabulary p.79

B.

1. pack	2. adapt	3. habitat	4. alert
5. environment	6. communicate	7. related	8. bushy

C.

1. alike	2. from	3. in

Make Connections

How have the gray wolf and the red fox adapted to the environment they live in? ESSENTIAL QUESTION Both foxes and wolves have bushy tails and thick fur to keep warm. The wolf's tail can be up to 70 cm long. The fox's tail is shorter, with a white tip. The color of their fur is different, too. Red foxes have red fur while the gray wolf's fur is gray and brown.

These animals live in many habitats. As people build roads and buildings in new places, both foxes and wolves have lost their homes. But the red fox has adapted to its changed environment. Many foxes now make their homes near towns.

Comprehension Check $_{\rm p.82}$

A.

1 6	2 2	2 2	1 6
1. C	Z. d	3. d	4. C

В.

1. False	2. True	3. True	4. False

C.

^{2.} Gray wolves howl to alert others while red foxes wave their tails.

Comprehension Strategy $_{\rm p.83}$

Step 1

1.	(c)
2.	(a)
3.	(b)

Step 2

1.	adapted, towns
2.	thick, warm
3.	gray wolf, red fox

Comprehension Skill $_{\rm p.84}$

Wolves	Foxes
 They keep away from people. They live in packs of four to seven. They hunt and travel together. They sleep in dens for shelter. 	 They make their homes near towns. They like to live alone in fields or empty holes. They prefer to hunt for small animals alone.

Summary _{p.85}

the wild dog family, in different habitats, adapted to, stay away from, live and hunt, others of danger

Vocabulary Review _{p.85}

1. bushy	2. alert	3. adapt	4. communicate
5. pack	6. habitat	7. environment	8. related

Answer Key

Unit 11 Firsts in Flight

Build Background p.86

1	Q	What are the people in the picture doing?
1.	Α	They are flying in a glider.
2	Q	What are some other ways of flying?
۷.	Α	We can fly in balloons, airplanes, helicopters, and so on.
2	Q	How do you think people learned to fly?
3.	Α	I think they learned to fly by watching birds.

Vocabulary _{p.87}

В.

1. motion	2. control	3. engine	4. passenger
5. glider	6. experiment	7. instead	8. popular

C.

|--|

Make Connections

How did the Wright brothers help people fly?
ESSENTIAL QUESTION

The brothers kept making better planes. Soon, other people followed them and tried to make their own planes.

In 1906, a pilot made the first flight in front of people. The study of flight started to become **popular**. People started making better and better airplanes. In 1909, a French pilot flew an airplane across the English Channel.

Comprehension Check $_{\rm p.90}$

A.

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

В.

1. False	2. True	3. False	4. False

C.

- 1. The winds were not strong enough in the place where they were testing it and the machine could not stay in motion.
- 2. Orville started the engines and controlled the plane and Wilbur watched from the ground.

Comprehension Strategy $_{\rm p.91}$

Step 1

1.	(b)	
2.	(a)	
3.	(c)	

Step 2

1.	Strong enough	
2.	in 1899	
3.	work well either	

Comprehension Skill $_{\rm p.92}$

Cause		Effect
In 1906, a pilot made the first flight in	_	The study of flight became popular.
front of people.	7	
People started making better planes.		In 1909, a French pilot flew an airplane across
	→	the English Channel.
Bigger airplanes were built.	\rightarrow	By 1920, passengers began flying on airplanes.

Summary _{p.93}

their flying machines, did not give up, with an engine, it worked, study of flight, learned to fly

Vocabulary Review _{p.93}

1. control	2. instead	3. motion	4. glider
5. experiment	6. passenger	7. popular	8. engine

Unit 12 Thinking Differently

Build Background p94

1	Q	What is the man in the picture doing?
1.	Α	He is writing and drawing his ideas to invent something.
2	Q	What are some inventions that people use in everyday life?
2.	Α	We use phones in everyday life.
2	Q	How do ideas and inventions change our world?
3.	Α	Ideas and inventions can make our world more comfortable.

Vocabulary _{p.95}

B.

1. company	2. entrepreneur	3 disagree	4. argue
5. transport	6. personal	7. animated	8. expensive

C.

1. then	2. to	3. in
---------	-------	-------

Make Connections

Talk about how Steve Jobs and Apple changed people's lives. ESSENTIAL QUESTION After he came back, Apple made a new smaller and faster computer. Then it came up with the iPod and the iPhone. These were small and easy to transport. They could play music, take photos, and go online. People loved these devices and soon, everyone was using them.

Steve Jobs died in 2011. But today the things he made are found everywhere, and Apple is a huge success. Steve Jobs changed our world forever!

Comprehension Check _{p.98}

A.

1 h	2 c	3 a	4 h
⊥. ∨	∠. ∪	J. u	T. 0

В.

1. True	2. False	3. True	4. False

C.

- 1. He started a new computer and software company called NeXT and then bought Pixar.
- 2. It made a new smaller and faster computer, then the iPod and iPhone. People loved these devices and soon, everyone was using them.

Comprehension Strategy p.99

Step 1

Jobs stayed busy though. First, he started a new computer and software company called NeXT. Then he bought Pixar. This company used computers to make animated movies like *Toy Story* and *Finding Nemo*. They were a big success.

Meanwhile, Apple was in trouble. Its sales were poor. It needed new and creative products that people would like. In 1997, Apple asked Jobs to return.

Step 2 left Apple, was very successful, wasn't doing well, to return

Comprehension Skill p.100

in 1997, Steve Jobs came back to Apple.

First, Apple made a new smaller and faster computer.

Then, Apple made the iPod and the iPhone.

In 2011, Steve Jobs died.



an entrepreneur, easy to use, a huge success, to disagree with, smaller and faster, take anywhere

Vocabulary Review p.101

1. expensive	2. argue	3. entrepreneur	4. company
5. animated	6. transport	7. disagrees	8. personal