

UNIT 5

Unit 5, Sociology, The Q Classroom

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Teacher: The Unit 5 question is “What does it mean to be part of a family?” What do you think, Yuna? What does it mean to you?

Yuna: I always have my family. I can rely on them.

Teacher: OK, good. What else? How about you, Marcus? What does it mean to be part of a family?

Marcus: What Yuna said—I can rely on them, but also they always can rely on me. My family always has to come first.

Teacher: Do you agree with that, Sophy? Your family has to come first?

Sophy: Yes, I think that’s true. Maybe I want to go out with my friends or something, but if my family needs me, then they can count on me. Sometimes it’s difficult, but being part of a family means you’re not alone.

Teacher: What do you think, Felix? What does it mean to be part of a family?

Felix: I agree with what everyone says, but for some people their friends are their family. Sometimes you don’t have a good relationship with your parents and siblings. Instead, you create good relationships with other people. I don’t think your family has to be the people you’re related to.

Unit 5, Note-taking Skill, Activity A

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Good evening. It's good to be here with you tonight. As some of you may know, I am now making a trip around the world studying different kinds of families. I've visited countries in Africa, Asia, and the Americas, and I even went to Australia. Everywhere I go, I ask the same questions. How are families here different from families in other places? Why are they different? Then there is another even more important question: How are families the same? Or, in other words, what do families all around the world have in common?

Unit 5, Listening 1, Activity A

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Part 1

Interviewer: Today we’re talking with Dr. Mona Bashir about **twins** and their relationships with others in the family. Dr. Bashir is a psychologist and the mother of twin boys, so she has a lot of experience—both personal and professional. Dr. Bashir, I understand that twins **inherit** the same DNA from

their parents, but that they are not really exactly the same. Take your sons, for example. What differences do you see between them?

Dr. Bashir: Most twins *are* very similar in their **appearance**. For example, with my boys, Faris and Fahad, people outside the family often can't tell them apart. But there are some small differences. For one thing, Faris is about four centimeters taller than Fahad. He's also a little thinner.

Interviewer: What about their personalities? Do they like the same things or different things?

Dr. Bashir: Well, they both like sports. Faris plays soccer. He's more social, so he likes teams sports. Fahad prefers tennis. Oh, and music. They both play the piano.

Interviewer: How do the twins relate to the other children in the family? How is the twin relationship different?

Dr. Bashir: Faris and Fahad **get along** well with their older brother, but their own relationship is much closer. Like many twins, they can communicate with each other without speaking. They look at each other, and each one knows what the other is thinking. They can't do that with their brother. When they were babies, they had their own "twin" language. At first, we thought it was just "baby" talk because we couldn't understand it. But then we realized that *they* understood each other.

Unit 5, Listening 1, Activity B

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Part 2

Interviewer: Do you think it is important for each boy to have his own **identity**? And if you do, how did you help each boy find his own identity?

Dr. Bashir: My husband and I think it is important for each boy to see himself as a **separate** person, not just a twin. Starting in the first grade, we decided to put them in different classes in school. They had different teachers and school friends. These experiences helped them develop their own personalities.

Interviewer: How do they feel about being twins?

Dr. Bashir: You know, we asked them once how they felt about being twins. They said, "When we are together we feel like one person, but when we are apart, we feel like different people. That's partly because people treat us differently." I thought that was very interesting.

Interviewer: Hmm. That *is* fascinating. I guess twins make us think about bigger questions, like "Are we born to act and feel in certain ways?" or "How much do our families and friends influence us or change our personalities?"

Dr. Bashir: I've done some research on this. There is a famous case of twin boys, Jim Springer and Jim Lewis. They grew up with different families. They met for the first time at the age of 39. Neither man knew he had a twin.

Interviewer: Wow! I bet they were shocked. What did they learn about each other?

Dr. Bashir: Well, they found that they were very similar—both in physical **appearance** and their personalities. For example, they both liked math and making things out of wood. And there were also amazing **coincidences** in their lives. For instance, they both married women named Betty. They both had pets named Toy. The list of small coincidences like these goes on and on.

Interviewer: That is amazing. How can you explain those coincidences?

Dr. Bashir: Well, we really can't explain them. Maybe those things were just coincidences. However, in my view, stories like this show that we are born with a **tendency** to have certain personality characteristics. But in the end, our personalities probably come from a combination of tendencies we inherit and our life experiences.

Unit 5, Listening 1, Activity C

Page 80

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Unit 5, Listening 1, Activity D; Listening Skill, Activity A

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Unit 5, Listening Skill, Activity B

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Host: Good afternoon everyone, and welcome to today's edition of Afternoon Chat. Today we're discussing the question, "Do you think your friends are part of your family?" And now, to our first caller. We have Hal on the line. So, Hal, what do you think? Do you think your friends are part of your family?

Hal: Well, you know what they say, "You can choose your friends, but you can't choose your family." I mean, I have some very good friends, and I feel closer to them than I

do to my brothers and sisters. I don't know why, but there are things I don't say to my family that I tell my friends. Maybe it's because my friends are less critical. Your family is more likely to tell you that you're doing or saying the wrong thing.

Host: Thanks for that opinion. And now to our next caller, Marielena. What do you think? Are your friends part of your family?

Marielena: Well, I agree that close friends are wonderful, but still, it's not really the same thing as being part of a family. It's like the old saying "Blood is thicker than water." Family members are responsible for each other in a way that friends aren't. Maybe that's why families are more critical. If you get into trouble, they almost have to help you out. In other words, your problems are their problems. That's not as true with friends. For me, friends and family are different, even though I love both.

Host: Interesting thoughts, Marielena.

Unit 5, Listening 2, Activity A, B, D

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Speaker: At one time or another, everyone asks the questions, "Who am I? What makes me, well . . . me?" As some say, we **search for** our **identity**. Part of our identity, of course, comes from our family—our present-day family and from our **ancestors**—our grandparents, great grandparents, great-great grandparents, and so on. From these people we inherited our hair, skin, and eye color, our height, and even our personalities.

However, some people have little information about their ancestors. For example, the ancestors of most African Americans came to America as **slaves**. There are very few written **records** of their family history, especially before they came to America. For this reason, historian Henry Louis Gates recently used DNA to study the family history of several famous African Americans. **Participants** in the study wanted to know what part of Africa their families came from. Who were their African ancestors?

Putting it as simply as possible, a DNA study of family history works like this. There is now a large **database** of DNA samples from people all over the world. When a person gives a DNA sample, it is possible they will find a match in the database. Scientists will find another person (or people) with the same "markers" in their DNA. This means they share a common ancestor. They are, therefore, part of the same family. DNA makes it possible to study hundreds or maybe even thousands of years of a family's history.

The results of Gates's study of African Americans were surprising. For one thing, everyone in the study discovered that they had some white ancestors as well as African ancestors. For example, Gates found that he was actually 50 percent white. In fact, some of his ancestors were from Ireland.

Some participants were a little uncomfortable with this mix of black and white. They always thought of themselves as “black.” They asked, “Will this change my identity? Will others see me differently?” Others, like writer Chris Rock, welcomed the information. He felt it helped him get a more complete picture of himself. Another person in Gates’s study, author Bliss Broyard, had a different experience. Everyone in her family looked “white.” But, her father actually had African-American ancestors. He told her this just before he died. Her DNA showed that she is almost 18 percent black. However, she says, “Being black is not a result of DNA tests. It’s experiences and the way that you’ve lived. I feel that I’m sort of a cousin to blackness. I haven’t earned the right to call myself ‘black’.”

Gates’s study showed that identity is not just a simple matter of DNA. DNA plays a part in it, but our life experiences are also important. As one person said, “We are all a mix of **input** from different people at different times. Each of our stories is the human story.”

Unit 5, Listening 2, Activity E **Page 87**

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Unit 5, Pronunciation, Examples **Page 92**

Are we just born that way or is it the influence of our families?
Is the man in the picture your brother or your cousin?
Does your twin brother like the same food as you or different food?
Are you more similar to your mother or your father?

Unit 5, Pronunciation, Activity A **Page 93**

1. Do you look more like your mother or your father?
2. Which do you think is more important: your DNA or your life experience?
3. Was the meeting a coincidence, or did they plan it?
4. Do you spend more time with your friends or your family?

Unit 5, Speaking Skill, Activity A

Page 94

1. I think that adopted children should think carefully before they look for their biological families. Those people may not want to connect with them.
2. Last year I was in the hospital. No one in my family came to see me, but my friends did. That's why I feel that friends are more important than family.
3. In my view, it's more important to understand who I am now. I don't care about ancestors who lived hundreds of years ago.
4. For me, the Henry Louis Gates study was fascinating. I want to have a DNA analysis and learn more about my ancestors.
5. These days people think too much about being black or white, or Asian or whatever. As I see it, we're all the same. We're all human, aren't we?

UNIT 6

Unit 6, Business, The Q Classroom

Page 97

Teacher: The Unit 6 question is “Why do things yourself?” So let’s get some examples first. What are some things people do by themselves instead of paying other people to do them? Yes, Sophy?

Sophy: Repairing things around the house.

Teacher: Great idea! How about you, Felix?

Felix: Car washing. Gardening.

Teacher: OK, good. Yes, Marcus?

Marcus: Making things, like clothes or furniture.

Teacher: Those are good examples. So what do you think, Yuna? Why do people fix things themselves?

Yuna: Well, it's usually because they want to save money. It costs a lot to hire a repair person.

Marcus: Yeah, but you have to know what you’re doing! If you don't, you can make it worse, and then it will cost more.

Teacher: That’s true, Marcus. I remember the time my husband . . . Well, that's a long story. What else? Sophy? Why do things yourself?

Sophy: For some people, it's a hobby. For example, I love gardening. I enjoy growing vegetables, and my family loves eating our own fresh food all summer.

Teacher: What do you think, Felix? Why do things yourself?

Felix: It's very satisfying. My dad likes to make furniture in his free time. He can look at something and say, “I made that.”

Unit 6, Note-taking Skill, Activity B

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Reporter: The year was 1976, and two young men were working in a garage. Their names were Steve Jobs and Steve Wozniak. The garage was at Jobs's parents' home. They were busy inventing one of the first personal computers for home use. They introduced their computer to the world in 1977, and they called it Apple II.

The rest, as they say, is history. Apple Computer went on to become one of the most successful companies in the world. Steve Wozniak left the company in 1987. Steve Jobs continued to lead the company as it produced things like the well-known iPhone and iPad. Sadly, Jobs died in 2011.

Unit 6, Listening 1, Activity A
Page 100

Part 1

Speaker: In the past, people fixed many of the machines they owned. They **repaired** televisions, radios, or even their cars. This saved money, of course, but it was more than that. For example, fathers and sons often worked in the garage on the family car. When doing this, skills, “how-to” knowledge, and a love of fixing things passed from parent to child.

In recent **decades**, this changed. Many everyday objects are now too **complicated** for most owners to repair. Cars have complicated computer systems. TVs do not have simple parts the owner can replace. With many objects, it is more expensive to repair an old one than to buy a new one.

Unit 6, Listening 1, Activity B
Page 101

Part 2

Saul Griffith, an **inventor**, thinks this is a problem. Saul Griffith prepared for his career as an inventor at the Massachusetts Institute of Technology in Cambridge, Massachusetts. Children are losing what Griffith calls a “culture of innovation and repair.” For Griffith, this means having a feeling of creativity and a “can do” attitude. Griffith invented an inexpensive system for making eyeglasses and a giant, 3,000-square-foot kite that can **produce** electricity. He says that do-it-yourself brings people closer to the objects they own. They “**get involved** emotionally” with the things around them.

Griffith and some **colleagues** created *Howtoons* to pass this idea on to today’s kids. *Howtoons* is a cartoon series that helps kids learn to think like inventors. Kids can find *Howtoons* online or buy the cartoons in book form. With the help of *Howtoons*, kids use soda bottles to create rockets or to make “waterscopes” for looking at objects underwater. They can learn to make their own pens, paper, and ink and to create many other interesting things.

Howtoons makes science and invention fun. Griffith often travels to science **fairs** and museums to present *Howtoons* to kids. He likes working with kids. He says, “Get them then, and you get them for life.” For most adults, he feels it is probably too late.

Unit 6, Listening 1, Activity D
Page 101

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Unit 6, Listening Skill, Activity A
Page 103

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Unit 6, Listening Skill, Activity B

Page 103

Speaker: Here’s the latest, greatest thing in do-it-yourself ideas for kids. It’s a computer program called Scratch. Scratch contains simple programming tools designed for kids from age 8 to 16, although many adults enjoy using it as well. With Scratch, users can create things like greeting cards, games, and animated cartoons. They can even add sound to their creations.

Scratch is based on a system of blocks. On screen, the blocks look a lot like building blocks. There are blocks for sound, animation, and several other features. To create an animation in Scratch, you arrange blocks one on top of the other. When you’re finished, you click a green flag and the program then performs all of the steps in order.

You can create a simple animation in Scratch in only a few minutes. Objects in Scratch are called “sprites.” You start by selecting a sprite, for example a cat, and then you choose a motion block to make the sprite move. Add a “start” block and in less than a minute your sprite is moving. You can create several sprites at the same time and they can interact with each other.

One of the advantages of Scratch is that it’s easy to create simple things like greeting cards, but it can also be used for complicated projects, such as long stories. Scratch provides students with a good introduction to the basics of computer programming. In fact, some colleges are using Scratch in beginning computer science classes. Teachers say that it also improves students’ math and reading skills.

Unit 6, Listening 2, Activity A, B, D

Page 106

Host: Today we’re talking with small-business **advisor** Harry Watkins about some of the latest business trends. You all know about DIY, or do-it-yourself, where people make and repair things themselves. Well, now people are talking about “sell-it-yourself.” You know, Harry, in the past, when people made things, they had to look for other people to sell them or **market** them. Nowadays all that is changing.

Harry: That’s absolutely true. People today are more **self-sufficient** when it comes to starting a new business. One person can make a new product and sell it to **consumers**, with little help from other people.

Host: Can you give us an example?

- Harry:** Of course. One great example is what we call the "indie" or independent **craft** movement. Artists and craftspeople still sell their works at fairs and in stores, but now they are selling them online as well.
- Host:** Can you explain how this works? It seems to me that most people don't have the skills they need to create their own websites and sell things online.
- Harry:** That's not really what I meant. You don't have to have your own website. You can sell through other sites that do the work for you. Here's just one example. There's a website called Etsy.com. By joining Etsy.com, people can sell their items online, everything from jewelry to furniture to paintings.
- Host:** Doesn't it cost a lot?
- Harry:** Not when you compare it with other methods. Etsy charges a small fee for each sale, and the seller is responsible for mailing the item to the buyer. Still, sellers usually keep more of their profits this way. More than 185,000 craftspeople from all over the world sell their products on Etsy to more than a million customers. And, Etsy isn't the only site. There are other similar sites.
- Host:** Hmm. Now that I think of it, this is happening in other areas as well, for example, in book publishing. Now almost anyone can **publish** a book online.
- Harry:** Right! Online publishing is a good example of being self-sufficient in a new business. On some websites you can publish your book for free.
- Host:** For free? But how does the website make money?
- Harry:** Let me explain. The website takes the money from the sales and then gives a percentage of it to the author.
- Host:** OK. So, suppose I want to publish a book online. How do I do it?
- Harry:** Well, it is a big DIY project. First you have to edit the book very carefully. Then you have to design a cover for it and write a blurb about it.
- Host:** Excuse me. A blurb? What's that?
- Harry:** It's a short paragraph or two that describes the book. It has to make people want to buy it. Oh, and I almost forgot, both craftspeople and writers have to decide on a price for their product.
- Host:** Don't people have to **promote** their books? You know, put ads in magazines or on television. That can be expensive.
- Harry:** That's another part of the DIY process, but it's not that hard. First, people see the book on the website. That's a kind of free advertising. That's why it's important to have good covers and blurbs. Then people use social media to tell everyone they know about the book. Also when people read the book, they write **reviews** to say if they liked it or not. If the book gets good reviews, more people will want to read it, and so on. A friend of mine published a cookbook online.
- Host:** A cookbook?
- Harry:** That's right, a cookbook with foods that are healthy and also delicious. The book is doing very well. He's even getting invitations from TV programs to come and cook some of his foods on their shows.

Unit 6, Vocabulary Skill, Activity A
Page 110

1. These skills, “how-to” knowledge, and a love of fixing things passed from parent to child. Knowledge
2. Saul Griffith is an inventor with a degree from the Massachusetts Institute of Technology. Technology
3. *Howtoons* is a cartoon series that helps kids learn to think like inventors. Series
4. At an online site called Etsy.com, people can sell their handmade items online, everything from jewelry to woodworking. Jewelry
5. I know an author who writes modern versions of folk tales. Folk
6. With Scratch, it’s easy to create greeting cards with animated cartoons. Animated

Unit 6, Pronunciation, Examples
Page 114

Many authors sell their work online.
His car had a flat tire.
He’s flying a big black kite.
I’m reading an online newspaper.

Unit 6, Pronunciation, Activity A
Page 114

1. Their business advisor recommended that they raise their prices.
2. The business became more successful after they started the website.
3. I think customers prefer to shop in real stores most of the time.
4. I don’t think companies are going to stop publishing paper books soon.
5. There are several great crafts stores on Main Street.
6. He hopes to sell lots of books online.

UNIT 7

Unit 7, Environmental Studies, The Q Classroom

Page 118

- Teacher:** Today we're going to talk about the Unit 7 question: "What happens to our trash?" So, what do you think, Yuna? What happens to our trash?
- Yuna:** It goes to the dump. Or we recycle it.
- Teacher:** How much do you think gets recycled? Felix?
- Felix:** I think that depends on where you live. Some places collect recycling for you, but in other places you have to take it somewhere. In some places, people care about where they put their trash. In other places, people throw it on the street.
- Teacher:** What happens to trash you throw into the street?
- Sophy:** Oh, that's very bad. Some of it gets into storm drains and goes into the ocean.
- Marcus:** That's true. A lot of trash ends up in the ocean. The water gets very polluted.
- Teacher:** What about the trash that goes to the dump? What happens to it?
- Felix:** A lot of it just stays there. Some things like plastic never break down. Those things will be there for hundreds of years.
- Teacher:** What else happens to our trash? Sophy?
- Sophy:** Sometimes it gets burned. That pollutes the air.

Unit 7, Listening 1, Activity B, C

Page 121, 122

- Ari:** Don't throw that soda can in there.
- Jon:** Why not, Ari?
- Ari:** It goes in the **recycling bin**.
- Jon:** Oops. Sorry, I forgot.
- Ari:** I'll tell "**Sustainable Dave**" about you.
- Jon:** Uh, Sustainable Dave? Who's he?
- Ari:** I read about him online. He's this guy who's saving all of his trash for a year as an experiment. He wants to find out how much trash he's really producing. He's saving everything, bottles, newspaper, plastic bags, banana peels, used tea bags, everything. The only **exceptions** are meat and milk products.
- Jon:** But for a year? No way! What's he doing with it all?
- Ari:** He's putting it down in the basement under his house.
- Jon:** In his basement! It must be a real mess down there.
- Ari:** Not really. Look, here's the website. You can see from these pictures that it's pretty well organized. Also, Dave says that the whole project is making him use less and less all the time. He even does things like bring his own cup and spoon with him when he goes out to buy a cup of coffee. That way he doesn't use paper cups and plastic spoons.

- Jon:** OK, I can see the idea about the plastic and the glass and so on—but food! How can you keep food **waste** in your basement? That’s dangerous for your health. It can cause all kinds of problems! Yuck!
- Ari:** That’s the most interesting thing. He has something called an earthworm composter or worm farm. He puts all his paper and food waste in it, and the worms eat it. This process produces something called **compost**. He uses it in his garden. I mean, he thinks of everything.
- Jon:** But doesn’t it **smell** terrible?
- Ari:** Well, I never actually saw one, but he says it doesn’t smell as long as he doesn’t put any meat or milk products in it.
- Jon:** Hmm. I think he’s taking this whole thing a little too far, but anyway, what will he do with all this stuff when the year ends?
- Ari:** First, he’ll **weigh** it all and calculate how much there is of each type of trash. He’ll write a report about how much he really threw away in one year for the website. When that’s done, he’ll take most of it to the recycling center. The rest? I don’t know. I guess he’ll take it to the local **landfill**, or maybe he’ll sell it online.
- Jon:** Yeah, right!

Unit 7, Listening Skill, Activity A, Part 1
Page 124

- Ari:** Don’t throw that soda can in there.
- Jon:** Why not, Ari?
- Ari:** It goes in the recycling bin.
- Jon:** Oops. Sorry! I forgot.
- Ari:** I’ll tell “Sustainable Dave” about you.
- Jon:** Uh, Sustainable Dave? Who’s he?

Unit 7, Listening Skill, Activity A, Part 2
Page 124

- Jon:** OK, I can see the idea about the plastic and the glass and so on—but food! How can you keep food **waste** in your basement? That’s dangerous for your health. It can cause all kinds of problems! Yuck!
- Ari:** That’s the most interesting thing. He has something called an earthworm composter or worm farm. He puts all his paper and food waste in it, and the worms eat it. This process produces something called **compost**. He uses it in his garden. I mean, he thinks of everything.
- Jon:** But doesn’t it **smell** terrible?

Unit 7, Listening Skill, Activity A, Part 3
Page 124

- Jon:** Hmm. I think he's taking this whole thing a little too far, but anyway, what will he do with all this stuff when the year ends?
- Ari:** First, he'll **weigh** it all and calculate how much there is of each type of trash. He'll write a report about how much he really threw away in one year for the website. When that's done, he'll take most of it to the recycling center. The rest? I don't know. I guess he'll take it to the local **landfill**, or maybe he'll sell it online.
- Jon:** Yeah, right!

Unit 7, Listening Skill, Activity B
Page 125

- David:** Hey, Joe, look at this! I can't believe it!
- Joe:** What is it, David?
- David:** It's a bill for \$100 from my apartment building. It says I threw a big bag of old magazines and empty bottles into the trash, and not into the recycling bin.
- Joe:** Well, did you?
- David:** Uh, yeah, I did, but so what? They can't charge me for that.
- Joe:** Oh, yes, they can. Recycling is a law here. The building had to pay a fine to the city because of you. They probably saw your name and address on the magazines. So they knew you did it, and they're charging you.
- David:** I still don't think it's fair. Who cares about recycling, anyway?
- Joe:** Sorry, David, but I have to disagree with you on this. I think recycling is important.

Unit 7, Note-taking Skill, Activity B, C
Page 126

Professor: As you read in your assignment last night, Robin Nagle is an **anthropologist** who works for the New York City Department of **Sanitation**. She's the author of the book *Picking Up: On the Streets and Behind the Trucks with the Sanitation Workers of New York City*. Nagle's interest in **garbage** began with some simple questions. She asked, "Who cleans up after us? What is it like to be a sanitation worker?" To answer the questions, Nagle started to ride with the workers in the trucks. But that was not enough for her. To learn more, she actually got a job as a sanitation worker. She drove the trucks and picked up the trash bags. She learned that most people don't **appreciate** the work that sanitation workers do. Also they don't respect the workers. They think, "You collect garbage, so you must be garbage!"—a really ridiculous idea.

According to the Bureau of Labor statistics, the job of sanitation workers is one of the ten most dangerous occupations—more dangerous than being a police officer. One of the biggest **hazards** is traffic. Workers are in streets all day, and they are

sometimes hit by cars. Garbage sometimes contains poisonous chemicals and other dangerous materials.

Nagle wants everyone to realize that garbage pickup is one of the basic **requirements** to make **survival** in the city possible. Instead of looking down on sanitation workers, we should thank them for the work they do. So the questions we will discuss today are: How can cities make this job safer and . . .

Unit 7, Listening 2, Activity B, D
Page 128

Speaker: Where is the world's biggest collection of **garbage**? In the United States? In China? No. It's in the middle of the Pacific Ocean.

In the Pacific Ocean, there's an area called the Northern Pacific Gyre. Here ocean **currents** come together and move in a large circle. In this circular movement, the currents collect garbage—lots and lots of garbage. People call it the Great Pacific Garbage Patch. And, 90 percent of this garbage is plastic.

Where did all this garbage come from? Did boats come and throw it here **on purpose**? No. Eighty percent of it comes from land. Garbage **floats** down rivers and streams and into the ocean. It comes from every country whose shoreline touches the Pacific. Plastic bags are carried out to sea with the wind. Then the ocean currents carry all of this garbage to the great garbage patch. Actually, there are two patches, an eastern patch and a western patch.

A sailor named Charles Moore discovered the patches in 1997, when sailing near Hawaii. He suddenly found himself traveling day after day through waters filled with garbage, most of it plastic. At that time, he calculated that there were more than three million tons of plastic floating in the water. At one point he found the patch was 100 feet **deep**. In 2005, Moore estimated the size of the two patches together as 10 million square miles, an area the size of Africa.

All of this garbage is hurting the environment. Plastics **attract** poisons like DDT and PCBs that are already in the water. This is a serious danger to all kinds of **marine** life. Fish and seabirds often think little pieces of plastic are a kind of food and they eat it. Scientists now often find plastic in the stomachs of dead fish and birds. Plastic kills more than one million seabirds every year.

Most plastic is not biodegradable. That means it does not go away. Almost all the plastic produced in the world in the last 60 years is still in the environment. Scientists say that cleaning up the garbage patches is impossible. The only thing that will help the situation at all is better control of waste on land. We need to **reduce** the amount of plastic we produce and use. We must control the amount of

wastewater that goes into the ocean. We also have to keep beaches, in fact the whole shoreline, clean.

Unit 7, Pronunciation, Examples

Page 134

wastewater
tea bag
seafood
fish tank
bedroom
living room

Unit 7, Pronunciation, Activity A

Page 134

1. seabird
2. website
3. coffee cup
4. shoreline
5. landfill
6. newspaper

Unit 7, Speaking Skill, Activity B, Part 1

Page 136

- 1. Tom:** I just heard about something called “Zero Waste.” It’s a new idea for dealing with all the garbage in the world.
- Mike:** “Zero Waste”? Do you mean that there is no garbage at all?
- Tom:** Yeah, it sounds a little crazy, but that’s the goal. In other words, we recycle everything, and nothing goes to places like landfills. Some cities like San Francisco already recycle 68 percent of their trash. Buenos Aires in Argentina is also trying it.
- Mike:** Yeah, you know, I read about a company that’s recycling food waste. They put it all together and turn it into compost. Then they sell the compost to farmers. So in the end, they make money. I guess Zero Waste is possible. We just have to try.

Unit 7, Speaking Skill, Activity B, Part 2

Page 136

- 2. Speaker:** Well, Chris Jeavans from the UK did something about it. She and her husband tried to live for one month without plastic. Before they started, Chris and her

husband counted all the plastic items they used in a month. The total was 603. So for one month, they tried to live without plastic. Here are just a few examples of what they did. They bought milk in glass bottles. They didn't buy food or any other product in plastic wrapping. They used cloth diapers for their baby. Did they succeed in not using any plastic? Not entirely, but they did bring the number of items down to 106. That's about 80 percent less than the month before. Chris says the project changed the way she thinks about using plastic and throwing things away. She'll never go back to her old habits.

Unit 7, Unit Assignment, Consider the Ideas, Activity A
iQ Online Resource

Speaker: Your last caller said that recycling was the solution to our garbage problems. Well, I think that recycling is a great thing, but it's not really the answer to our problems. The problem is that we produce too much garbage in the first place. Here's my solution. I think the city should charge customers by the weight of their garbage. What I mean is if I have 40 pounds of garbage in one week, maybe the city charges me \$15. If my neighbor has only 10 pounds of garbage in the same week, the city charges him \$3.75 for his garbage. In other words, produce less garbage—pay less money! Some people will say that this is unfair because large families will pay more than people living alone. Sure, that's true, but it's also true of other things like water and electricity. Your bills are based on the amount you use. No one complains about that. We can all do so much more to reduce waste. It just takes a little time, thought, and planning. What do you think?

UNIT 8

Unit 8, Public Health, The Q Classroom

Page 138

- Teacher:** Today we're going to talk about the Unit 8 question, which is "How important is cleanliness?" What do you think, Yuna?
- Yuna:** Very important!
- Teacher:** Why?
- Yuna:** It's healthy to be clean. It protects you from germs.
- Teacher:** Certainly. Felix, what do you think? How important is it to be clean?
- Felix:** I guess that depends. I think it's possible to be too clean. Some germs are good germs. They actually help you stay healthy. But if you're too clean, you kill the good germs and the bad ones. Of course it's unhealthy to be really dirty.
- Teacher:** Marcus, what do you have to say? How important is it to be clean?
- Marcus:** It's very important for the people around you! If you're not clean, you don't smell good. You can make a very bad impression.
- Teacher:** Sophy? How important is it to be clean?
- Sophy:** It's important, but I agree with Felix. Different people have different ideas of clean. My mother doesn't think the house is clean unless we vacuum every day. I think once or twice a week is enough.

Unit 8, Listening 1, Activity A, B, C, D

Page 141, 142, 143

- Emma:** So, the class is preparing a report on **sanitation** as a global problem. Our group is supposed to focus on the topic of clean water, why it's important, what the problems are, and so on. I think everyone read at least one article about this, right? Jing, where do you think we should start?
- Jing:** Well, Emma, why don't we start by describing conditions in different parts of the world? I found some statistics on that. Worldwide about 2 million children under the age of five die every year because of water-related illnesses. That's 5,000 children a day. Marie, didn't you find some information about that?
- Marie:** Yes, cholera is a **disease** caused by unclean drinking water. It kills thousands of people every year. This is very sad because we can prevent it.
- Toby:** That's scary. I read a report by the United Nations. It said this problem is more serious now because there are more people living in cities. In 1950, 29.8 percent of the world's population lived in cities. In 2010, that number was more than 50 percent. People are crowded together in neighborhoods with no way to get clean water. In these conditions, **diseases** will spread very quickly.
- Jing:** Toby, you're raising another important question—the water supply. It's not just that the water is polluted. In many places there isn't enough water. The **lack** of water for things like bathing, washing clothes, and toilets makes the problem more serious.

- Emma:** Yeah, and with the **climate** changing, there's less rain. In Africa, many lakes and rivers are drying up.
- Toby:** Well, in my view, people in North America and Europe use too much water. That's the problem. I mean the **average** American uses more than 150 gallons a day.
- Jing:** Well, that might be true, but that isn't the reason that there's too little water in Africa. Anyway, I think we're getting a little off the topic here. Let's get back to Africa.
- Marie:** I found some information about . . .
- Jing:** Did you know that Lake Chad in North Africa provides water for 38 million people? But the lake is getting smaller because of the **lack** of rain and because they use a lot of water for **agriculture**.
- Marie:** Yes, and I—
- Jing:** — And you know, I think . . .
- Emma:** Excuse me, guys, but I think Marie is trying to say something.
- Marie:** Thank you, Emma! And I read that at the same time that the water supply from Lake Chad is **decreasing**, the population around the lake is increasing.
- Jing:** Sorry, Marie. I **interrupted** you. That's a good point.
- Marie:** That's OK, Jing. Thanks. I also think we should include some solutions, for example, using underground water. I read a great article about the country of Namibia in Africa. Some scientists recently discovered a huge underground "lake" there. It's 300 meters under the ground and covers an area of 23 miles by 45 miles. The scientists say it can supply water for drinking and **agriculture** for 400 years. We can research other solutions as well, like toilets that don't use water and other ways to save water.
- Emma:** Great. I think we have our main ideas. Now, let's think about how to organize and present it all.

Unit 8, Listening Skill, Activity A, B

Page 144

- Paul:** It seems to me that the idea of using underground water is the best solution for Africa's water problems.
- Sara:** Yes, just imagine. I read that the underground lake in Namibia is huge! It's 45 miles long and 23 miles wide. Scientists say the water will last 400 years. And that's just one example.
- Liza:** Hmm. I'm not so sure. You know how people are. I feel they'll probably use the water too quickly and then what will happen?
- Jamal:** Well, there is a similar situation in the Midwest of the United States, which is a very dry area. In 1911, people started using water from an underground lake called Ogallala for agriculture. But they used too much, and now they don't have enough water.
- Walaa:** Yes, and did you know that when we use underground water, the ground above it starts to go down, or sink. For example, Mexico City gets its water from an underground lake and the land in parts of the city is sinking. In places, it is down

by 8.5 meters. This is causing a lot of damage to the old buildings in the center of the city.

Daniel: Well, I don't know. I think that the best thing is to use underground water to help people now and keep looking for better solutions.

Unit 8, Listening 2, Activity A, C

Page 147, 148

Speaker: “You have to eat a lot of **dirt** before you die.” That’s one of my grandmother’s old sayings. She used to say that to my mother when, as a small child, I picked up a cookie from the floor and ate it. Or in the words of another old saying, “A little dirt never hurt anybody.” These sound like very **old-fashioned** words these days. People now worry a lot about personal cleanliness and dirt and **germs**. They use special soaps that kill germs and carry hand sanitizers in their pockets. Public bathrooms have electric towel machines and doors that open **automatically** so you don’t have to touch anything. Some of these “clean ideas” are **sensible**, but research shows that we may be taking this too far. Perhaps our grandmothers were right. We shouldn’t worry so much about a little dirt. It’s not only that a little dirt doesn’t hurt us. It might even be good for us. No one is saying that we should stop bathing or cleaning our houses, but research shows that a little contact with dirt, germs, and bacteria helps children develop their immune systems—our bodies’ natural **defense** against disease.

Studies in Germany in the 1980s compared two groups of children. One group lived on farms, had pets, and was around a lot of other children. The second group lived in the city, had no pets, and spent little time with other kids. The children in the second group were also cleaner. They washed their hands many times each day and often took more than one bath a day. Researchers found that children in the first group were healthier and had fewer **allergies** than the children in the second group. It seems that this natural contact with the “world around them” was in fact good for children in the first group.

Asthma is a serious disease that often affects children and adults. The disease makes it difficult for a person to breathe. There are many possible causes for asthma. However, researchers believe that one cause might be the lack of contact with normal bacteria as a child. In Australia, some children with asthma are actually taking “dirt pills” with some bacteria they “missed” as babies.

We need to realize also that not all **bacteria** cause disease. Some bacteria are good for us. For example, they help us **digest** our food. Bacteria help gardeners make compost to improve their gardens. Without bacteria, there can be no life on the planet. One researcher put it like this. “I’m not saying we should be more dirty. I’m saying we should be less clean.”

Unit 8, Listening 2, Activity E
Page 148

1. No one is saying that we should stop bathing or cleaning our houses, but research shows that a little contact with dirt, germs, and bacteria helps children develop their immune systems.
2. In Australia, some children with asthma are actually taking "dirt pills" with some bacteria they missed as babies.
3. One researcher put it like this. "I'm not saying we should be more dirty. I'm saying we should be less clean."

Unit 8, Grammar, Activity A
Page 153

1. If they test the water from the river, they'll find out that it's polluted.
2. You might get sick if you drink water from the river.
3. Many people think they won't get sick if they use hand sanitizer.
4. If it doesn't rain soon, the lake might dry up completely.
5. If more people have clean water, fewer children will die from water-related diseases.

Unit 8, Pronunciation, Examples
Page 154

articles: the, a, an

pronouns: he, she, it

prepositions: in, on, at, for

forms of the verbs be, do, or have

conjunctions: and, but, or

modals such as can or will

People use special soaps **that** kill germs, **and** they carry hand sanitizers **in their** pockets.

Unit 8, Pronunciation, Activity A
Page 154

Speaker: There is no new water on Earth. All of the water on Earth—the rivers, lakes, oceans, ice at the North and South Poles, clouds, and rain—is about one billion years old. The water moves around the planet. It can change to ice, to rain, or to fog, but it's always the same water. Think about it. The population of the world is growing, but the supply of water is always the same.

Unit 8, Pronunciation, Activity C
Page 155

Professor: “Water, water, everywhere, nor any drop to drink.” Those are the words of the famous English poet, Samuel Coleridge. He was writing about a man alone in a boat on the ocean. The words might also describe the condition of the people on our planet. Earth has about 1.4 billion cubic kilometers of water. The problem is that 97.5 percent of that water is salt water in the oceans and the seas. Only 2.5 percent is fresh water. Most of that fresh water is in the ice at the North and South Poles or underground. Only 0.3 percent of the fresh water is in lakes and rivers where people can easily find and use it.

Unit 8, Speaking Skill, Activity A, Part 1
Page 156

Jing: Well, Emma, why don't we start by describing conditions in different parts of the world? I found some statistics on that. Worldwide about 2 million children under the age of 5 die every year because of water-related illnesses. That's 5,000 children a day. Marie, didn't you find some information about that?

Marie: Yes, cholera is a disease caused by unclean drinking water. It kills thousands of people every year. This is very sad because we can prevent it.

Unit 8, Speaking Skill, Activity A, Part 2
Page 156

Emma: Yeah, and with the climate changing, there's less rain. In Africa, many lakes and rivers are drying up.

Toby: Well, in my view, people in North America and Europe use too much water. That's the problem. I mean the average American uses more than 150 gallons a day.

Jing: Well, that might be true, but that isn't the reason that there's too little water in Africa. Anyway, I think we're getting a little off the topic here. Let's get back to Africa.

Unit 8, Speaking Skill, Activity A, Part 3
Page 156

Marie: I found some information about . . .

Jing: Did you know that Lake Chad in North Africa provides water for 38 million people? But the lake is getting smaller because of the lack of rain and because they use a lot of water for agriculture.

Q2e Listening & Speaking 2: Audio Script

Marie: Yes, and I—

Jing: —And you know, I think—

Emma: Excuse me, guys, but I think Marie is trying to say something.

Marie: Thank you, Emma! And I read that at the same time that the water supply from Lake Chad is decreasing, the population around the lake is increasing.

Jing: Sorry, Marie. I interrupted you. That's a good point.