Audioscripts

(**Track 1 is copyright information.**)

Unit 1: Political Science: Elections

Track 2: Listening 1 (Information): Scheduling a Meeting for an Event

S1: Did you see the article in the university newspaper? There's gonna be a debate tonight between the two students running for student government president.

S2: Really? Are you going?

S1: Yes. I can't decide who to vote for. I want to hear them both discuss the issues.

S2: I should go too, so I can vote later this week. What time is it?

S1: The debate starts at 7:00, but there is time to meet the candidates before. That starts at 6:30.

S2: Do you know, will there be time for questions?

S1: Yes, but after the debate. They'll face questions from 8:00 to 8:45. There is also going to be a reception afterward.

S2: Do you know where the event takes place?

S1: Yes. The meet-the-candidates function is in Room 458 of Smith Hall, the debate is in Room 460, and the reception is downstairs. . . Room 14.

S2: Wait. That sounds complicated. Would you want to go together? I don't want to miss it.

S1: Sure. Where should we meet?

S2: Why don't we meet at in the lobby of my dorm about 60 minutes before we have to leave?

S1: That sounds great. What's your address?

S2: I live in Best Hall. Do you know where that is?

S1: I think so, but can you give me the address?

S2: The address is 522 Carson Drive. Why don't you come by about 5:00? I'll meet you in the lobby.

S1: You said 522, right? Is that near the engineering classrooms?

S2: Yep, 522. Yes, it is near there.

S1: And you said meet you there at 5:00? Well, I don't get off work until 4:30 though, so by the time I get over to Best Hall, it might be 5:05 or 5:10.

S2: That's okay. My dorm is close to Smith Hall, so even if we leave only 10 minutes before the function, we'll still make it in plenty of time. Let me give you my phone number in case you have any trouble.

S1: Shoot.

S2: My number is 555 [pause], 8117.

S1: Wait. Was that 70, 7-0, or 17, 1-7?

S2: It was 1-7.

S1: Got it.

S2: Okay, so we're all set, right?

S1: Yep, see you tonight.

Track 3: Listening 3 (Lecture): Elections

Professor: Good morning, class. Today we're going to talk about elections, and we're going to focus on two types. First, we'll talk about direct elections and their role in presidential or head-of-state elections in some countries. Then, we'll talk about indirect elections and countries that use this process for their presidential elections.

Some countries use one election type for all their elections. To illustrate, we can look at Ghana, which has direct elections for both its presidential election and its other legislative offices. Others use both. What I mean by that is: different offices may use different processes. A country can't have both a direct and an indirect election for its presidential election, but it can, for instance, have a direct election when selecting its head of state, and then employ an indirect election process for other offices. For now, let's focus on the presidential or head-of-state offices.

Let's start with direct elections. What is a direct election? Direct is fairly obvious. In a direct election, voters directly cast ballots for the person—or um—party, they want to elect. In other words, they choose, and their vote is counted as one for that particular person.

Votes are counted into the hundreds, thousands, millions, or hundreds of millions. Essentially, whichever candidate receives the most votes wins. The most common system within the direct election process is the simple plurality system. The winner is the one person or party with the most votes. Quite simple, right?

For example, in Indonesia, all elected officers are selected in direct elections. Indonesians vote directly for their choice of candidates. Similarly, in Africa, Kenya has direct elections, and each Kenyan's vote is counted directly for the candidate marked on the ballot. Likewise, in North America, Mexico is a country with direct elections. Winner takes all in those countries.

Shift your attention to indirect elections for a moment. They're similar to direct elections in one way. That is, the people, the citizens, are the voters and get to place their votes. Unlike direct elections, however, their vote isn't really counted directly for the candidate running for president. No, instead they are electing a group of people who will then make the choice. It's a challenging concept to wrap your mind around, isn't it? The United States is one such country that has an indirect election when selecting a President. Surprising? When an American voter steps into the voting booth, he or she isn't really voting for a candidate. His or her vote is counted toward a group of electors. It is those electors who will choose the President. If a certain candidate receives the most votes in a state, then that is who the state electors will choose. In addition to the United States, Switzerland, Germany, and Italy also select heads of states via the process of indirect elections.

Now, both systems are used in some settings. Schools, and, let's see, clubs have used both direct and indirect systems, but you'll probably see direct elections most often. On the other hand, some settings prefer one over the other, like, unions or other workplace organizations. They tend to prefer an indirect system.

Is one better than the other? It depends on who you ask. Some may say that a direct election is superior. Because candidates need every single vote, many feel that direct elections accurately represent the citizens and what they want for the country. Every hand a politician shakes could lead to a direct vote and propel him or her into office.

In contrast, some people think an indirect election focuses more on national issues. Because candidates aren't focused on shaking voters' hands, many believe that these candidates are more concerned

about the big picture. Do indirect elections also represent the will of the people? Most believe they do. Historically, the number of electoral votes and the popular—or majority—vote was in favor of the same candidate. If a candidate had the most votes from the electoral college—that's what the set of electors in the United States is called—he (and I can say *he* here since there hasn't yet been a woman President of the United States) also had the majority of the popular vote, not that it matters. It wasn't until the year 2000 when Al Gore and George W. Bush ran against each other for President that the indirect system resulted in one candidate, George W. Bush, having more electoral votes and Al Gore having more of the popular vote. In other words, Al Gore may have had more individual votes, but because the vote actually comes indirectly via electors, he lost the election. Had it been a direct election, the United States might have had a different President for four—or maybe eight—years. We'll talk more about elections next time.

Now, on to your homework.

Unit 2: Health: Nutrition

Track 4: Listening 1 (Information): An Informational Seminar

Speaker: Welcome to University of New May's lecture series on health. This is the first of four health seminars we'll have this year. Tonight's seminar is on fast food—a quick, easy, and inexpensive meal option, yet one that contributes to problems not so quick, easy, or inexpensive to get rid of. What do I mean by that? It's fast, easy, and cheap to grab a fast food meal for lunch. But the subsequent health and weight problems, mental fatigue, or susceptibility to sickness take far more time and money to correct. We hope that you'll find the numbers we'll provide are food for thought—and not just make you hungry!

Tonight I'll talk about 10 items commonly ordered in fast food establishments: cheeseburgers, chicken sandwiches, colas or soft drinks, fish sandwiches, French fries, fried chicken, hamburgers—that's a plain hamburger minus the cheese—hot fudge sundaes, pepperoni pizza slices, and tacos. I'll talk about what it means to your health if you order these items.

The foods that come in first, second, and third on that Top 10 food list each have more than 500 calories. Considering that the daily average intake for a normally active woman is 1,800, just one

of these items would be nearly one-third of what she could eat all day. Men are a bit luckier. If they are active, they can consume about 2,200 calories a day.

The first item in terms of number of calories is French fries. A large order of fries has 578 calories. The second item in terms of calories is a fish sandwich, which has 523 calories. Shocking, right? Most people think fish is healthy, but when it comes breaded and fried with cheese and tartar sauce—well, that's a different story. To round out the top three, the chicken sandwich—it has 515 calories.

The next most fattening item is pepperoni pizza. A slice of pepperoni pizza, a mere one-eighth of a whole pie, has 400 calories.

Two items have calorie counts in the 300 to 399 range. The fifth most fattening item is the cheeseburger with 359 calories. Following that, in sixth place, is the large cola soft drink. It has 310 calories. A lot of students think they can grab a soda and that it won't add any weight, but that's not true. It has more calories than four of the Top 10 food items.

The seventh item is our lone dessert item—a hot fudge sundae. With the ice cream and the hot fudge sauce, this tasty treat has 284 calories.

A plain hamburger falls into eighth place, but with less than a ten-calorie difference from the ice cream. It has 275 calories.

The ninth item, with 210, is a taco. A taco is fried, but it does not have as many sauces or fried ingredients as some of the higher ranked foods. Finally, at the bottom of our ranking is the piece of fried chicken, specifically a drumstick, one of the most popular pieces of chicken. It contains 160 calories.

Notice that the range between the first and tenth items is rather substantial. You could eat three drumsticks and still not consume as many calories as one large order of fries. I'm not saying university students should be eating several drumsticks every day, but I do hope it raises some awareness about what they choose to eat.

Track 5: Listening 3 (Lecture): Food Groups

Professor: Good morning class. Today we're going to focus on the five food groups: grains, vegetables, fruits, milk, and meat and beans. I'm sure you noticed those five sections on the MyPyramid food guide issued by the U.S. Department of Agriculture. I'll provide examples of what is in each food group and the daily amount recommended. Each has many items that can be selected as part of a healthy diet. For each

food group, I will discuss the health benefits. Lastly, I'll talk about the nutrients for each.

You probably also noticed one small sliver in the illustration that doesn't have a title. That's for oils. While oils aren't a food group, they're on the pyramid because there are several food items that fall into that category, and they do carry some benefits and nutrients. More on those later.

Let's start with the grain group. What's included? I can't list them all because there are so many, but essentially they're anything made from wheat, rice, oats, and other similar items. Did you have cereal for breakfast this morning? That's a grain. Other examples include bread and pasta. How many of you didn't have cereal this morning? [pause] Well, it's not too late. You could grab a taco for lunch and add some grains to your diet because tortillas fall into this food group.

There are many factors that are considered when determining the quantity needed. For the purposes of today's lecture, I'm going to give average quantities for men and women who are 19 to 30 years old and who participate in less than 30 minutes of physical activity a day. For grains, women should have six ounces, men eight. Grains provide several health benefits. Most notably, they reduce the risk of heart disease and can help with weight management. Grains include ever-important nutrients such as fiber, B vitamins, and iron.

The second food group is vegetables, including vegetable juice. You can purchase vegetables in any form you like: canned, dried, frozen, or fresh in the produce department. Examples include broccoli, carrots, corn, and onions. Most students aren't choosing a salad for lunch, but should they? It may be an ideal way for women and men to get the vegetables they need, two and a half cups of vegetables for women, three for men. Consuming the daily recommendations of vegetables produces such health benefits as reduced risk of stroke, Type 2 diabetes, certain cancers, and bone loss. Vegetables provide nutrients such as potassium, fiber, and Vitamins A, E, and C. Turns out your mom was right—you should eat your vegetables!

The third group is fruits like oranges, apples, berries, or melons. Fruit can also be fresh or it can be packaged: canned, frozen, or dried. The benefits are the same. Or, it can be smashed! Applesauce, anyone? Like vegetables, fruit can also include juices and not just in their whole form. Women and men alike both need approximately two cups of fruit a day. The health benefits mirror those of vegeta-

bles. The two groups also share common nutrients: potassium and fiber. Because it's low in fat, grabbing a banana for a snack is superior to reaching for that chocolate bar.

Next, let's talk about the milk group. The obvious example is the liquid you pour over your cereal. However, this category also includes products made from milk, such as cheese, yogurt, and even ice cream. Yes, occasionally, it is okay to have ice cream! Consuming three cups a day will benefit bone mass and provide nutrients such as calcium, potassium, and Vitamin D. I've mentioned several vitamins, but this one is D. D as in *David*. Or D as in *delicious*!

The last food group consists of meat and beans—the proteins. This is a broad category because it includes all types of meats, such as beef or pork, fish, beans, eggs, nuts, and seeds. You'll notice that beans are in the vegetable category, but they're here too because of the protein they offer. Why are nuts and seeds in this category? Because they contain healthy oils. But, I'll get back to healthy oils in a moment. Men, once again, are able to eat more than women—six and a half ounces versus five and a half ounces. There are no health benefits per se of protein, but there are health implications if a person chooses foods from this category because the items are often high in fat, and that can lead to higher cholesterol. However, some of the fish items do carry benefits. Some evidence suggests that omega-3 fatty acids in fish can reduce the risk of mortality from cardiovascular disease.

Meats and beans are rich in nutrients that serve a variety of vital functions in the body. The most obvious, protein, is the building block of bones and muscles (and several other parts of the body). Meats contain B vitamins (that's B as in *boy*) that aid in the body's release of energy, help the nervous system, and build tissue. Meat and beans contain iron, which carries the oxygen throughout the blood stream.

I hope you all had time to glance at the article on oils. Oils don't comprise a sixth food group. It's just the tiniest sliver on the pyramid because we shouldn't ingest a lot, but we do need some in our diets. The article gives you examples, and in the interest of time, I won't list them. The daily allowance of oils is a mere six teaspoons for women and seven for men. Such a small amount. Why does the USDA bother to put them on the pyramid? First, they're a great source of Vitamin E, a very important vitamin. Second, oils contain essential fatty acids. I have already mentioned the benefits of fatty

acids. Oils provide protein without raising cholesterol in the blood; other items in the meat category can't make that claim: they offer protein but not without raising cholesterol levels.

Before we end, any comments or questions about the pyramid?

Unit 3: Business: The World of Entrepreneurship

Track 6: Listening 1 (Information): Getting the Main Idea

S1: Thanks for meeting with me, Chris. I wanted to review some of the professor's lecture today.

TA: No problem. What part of the lecture did you want to go over?

S1: Um, let's see, mostly the part about the personality traits of entrepreneurs.

TA: Okay. I've got copies of Professor Teaman's lecture. Let me read part of his lecture to you again.

"There is no one trait that all entrepreneurs share, nor is there one trait that all entrepreneurs need in order to start a successful business. However, there are some traits that do seem to appear again and again in the entrepreneurs that managed to capture business stardom. What adjectives are chosen most often? *Dominating, aggressive, resilient, tenacious,* and *assured*. Some things entrepreneurs usually are not: *meek, quiet, diffident,* or *nervous*. These traits—some or all—are evident in famous entrepreneurs in a variety of fields, such as Jim Clark of Internet fame, Estee Lauder of cosmetics fame, and Dave Thomas of fast food fame. Do you know what's interesting? They seem to have a kind of robustness. It's as though they never get sick. What you must remember is that all of these traits can also be found in other careers too. There are teachers that are robust, lawyers that are assured, and physiotherapists that are confident. In the end, what does this mean? How many traits does it take to be an entrepreneur? I'll let you draw your own conclusions.

S1: I'm still not sure I caught all of that.

TA: It's okay. You don't need to remember the entrepreneurs' names as long as you realize that success can come in any field or industry. You also don't need to list every personality trait as long as you get the idea about the traits they do seem to share. Remember that they share some of those traits with people in other industries too.

S1: Okay, thanks for going over that with me again.

TA: I'm conducting a study session on Thursday night before the examination. Drop by if you want. We'll be talking about other traits then, such as industriousness, dedication, perseverance, and motivation.

S1: Will you address how these traits affect entrepreneurs' on-the-job skills?

TA: Yes, we'll talk about their organizational, time management, and leadership skills. Since their primary role is to guide a team or company to success, we'll share what we think are the most important skills to enhancing company performance.

S1: Great. Count me in for the session.

Track 7: Listening 3 (Lecture): Analyzing a New Business

Professor: Good afternoon. Today we're going to talk about a tool that established and new businesses alike use to analyze a product, idea, or business venture: a **SWOT** analysis. A SWOT analysis examines four things: Strengths, Weaknesses, Opportunities, and Threats. First, I'll give you a definition of sorts to give you an idea about what each of those terms means, and then I'll give examples. Then I'll show you a template of a SWOT analysis, and, last, we'll start a discussion about a new business.

First, the S in SWOT stands for Strengths. Strengths are, first, internal—meaning that they are factors that you as a businessperson can control—and, second, attributes that will enhance or serve as a benefit—meaning they will help the company achieve success. Before I give examples, note that that strengths need to be analyzed for your company or product alone, and that there is nothing that is, by itself, always a strength. What is a strength for you might be something more negative for another business. Let me give you some examples. Marketing expertise, a product people can't live without, your location, quality of the materials, a cheaper price—all of these could be strengths. Essentially, these are things you can control in order to vault your business to success.

Now, the W in SWOT represents Weaknesses. And like strengths, weaknesses are defined as internal, related to your company alone and can, hopefully, be improved. Rather than benefitting the company, though, these are attributes that will harm or hurt the company's performance and could potentially render the company a failure. Let me give you some examples. Perhaps you don't have the marketing expertise that someone at a large established company possesses. In that way, marketing expertise is a

weakness. And maybe your product isn't different enough from the competitors—so here your product is a weakness. Other weaknesses might be that you have no reputation or brand name on which to depend, no money with which to advertise, or no good way to distribute your product. All weaknesses.

Earlier I mentioned that strengths and weaknesses were internal factors. Now let me define and give examples of external factors. The O in SWOT stands for Opportunities. Opportunities can be defined as conditions or factors that are helpful to vaulting your company to success but that come from outside the company. Let me give examples. What's an example of an opportunity that you don't have as much control over? A prime example is a competitor who is now exiting the marketplace. You didn't have anything to do with that company going out of business, but this is certainly an opportunity for you because you may gain customers that had previously been using your competitor's product.

While we're on the topic, let's talk about another opportunity: mergers or alliances with other companies—joint agreements, if you will. Working with another company can prove helpful if both parties mutually benefit. Other types of opportunities include capitalizing on a trend or lifestyle habit or entering a developing market. Think about the dot.com era. When the whole realm of the Internet business started, it was a great time to start an online business. At that time, it was an opportunity. But now, there are so many online businesses that it's, well, not an opportunity as much as a threat.

Which is a good segue to the T in SWOT, Threats. Like opportunities, threats are external. In contrast, threats are conditions that could hurt your business. Let me give you one example. A new competitor is a huge threat. You have no control over who opens a similar business, but it could potentially destroy your business. Let's see, some other perceived threats are: taxes that may be added onto your product, political issues, a weak economy, or even bad weather. We all know we can't control Mother Nature, but she sure could hurt a turkey hot dog vendor located near the beach, no matter how good, cheap, or healthy his hot dogs may be. And if a hurricane blows through, his business will suffer.

Last, let's look at a simple design that can be used to compile data. It can be as simple as a large square evenly divided into four squares. Notice the four boxes with a heading for each area: Strengths, Weaknesses, Opportunities, and Threats. Although the

designs can vary, you'll usually see the strengths and opportunities on the left side with strengths in the top left, and the weaknesses and threats on the other with weaknesses in the top right. It's easier to analyze when you have the positives and negatives gathered together. Although SWOT analyses are subjective, they are comprised of logically organized information from which decisions can be made.

Now let's talk about a specific kind of business and a SWOT. Let's say we are going to start a new business, a restaurant that serves only locally grown organic food. We'll work on this together.

Unit 4: Math: Math for Life

Track 8: Listening 1 (Information): A Course Introduction

Professor: Welcome to Math for Everyday Life—Math 102. Raise your hand if you aren't excited about the prospect of this course. [pause] Look around. About how many hands are up? [pause] Nearly all, right? Let's say 90 percent of you. Looks like the odds of having an enthusiastic class are against me. There's a stigma attached to math, and this stigma can stem from one of countless reasons: some people don't like math because it is challenging. What else? People sometimes don't see its relation to their own discipline, not to mention the fact that we question if we need it in everyday life. How many times have we been in a class and said, "I'm never going to use this after I leave class"? Too many to count?

Let me give you a brief overview of what's on the syllabus and how some of these topics will prove useful after you leave my classroom. We'll cover some of the basic concepts of course—addition, subtraction, multiplication, and division. We'll cover some more challenging material too, like percentages. Increasing your knowledge about some simple formulas will enable you to calculate the gas mileage of your car and determine how much a clothing item costs when it's 15 percent off. You'll gain more insight as to how that credit card bill is always higher than anticipated when it arrives after the company has tacked on its interest rates. Moreover, knowing percentages will empower you to compute the amount you need to leave a server at a restaurant. Some of you probably work in restaurants. Wouldn't you like to be paid a higher percentage when you provide good service? And, wouldn't we all like to save some money by not overtipping when service is less than desirable?

In addition to percentages, we'll also study conversions. Not only will you be able to convert foreign currencies on your next vacation, but you'll also be able to figure out the temperature. Welcome to the United States, a country that uses Fahrenheit instead of Celsius and, despite efforts over many years, rarely uses the metric system. Another reason to be able to convert, cooking. If you plan to have four friends over for dinner and later learn that two more people will join you, you must be able to convert your recipes or risk running out of food.

Also, we will study government finances, such as inflation and taxes. It's important to know why and how inflation rises, not to mention why certain percentages of our checks are going to taxes! What percentage is going where?

We'll also delve into some statistical data involving probability and odds. Have you ever bought a lottery ticket? Have you ever wondered what your chances are of winning anything from that lottery ticket? Probability can answer a lot of questions—What are the chances your favorite baseball player is going to hit a home run? Or, how do you calculate another sports-related statistic? Also, what are the chances you'll get into a particular class next year? Not to mention, what are your chances of passing this class? Ha ha!

Seriously, this course can be challenging, but in the end you'll see the role it will play when you handle your banking, go shopping, cook dinner, or measure your dorm room for carpeting. In fact, I believe you will then see how the course got its name. Have I alleviated any fears? Have I increased my odds of getting you to enjoy this class? Let's see a show of hands now. Who's excited? Look around. Did I increase my odds? Let me show you the math behind the ratio between excited and unexcited students. Shall we begin?

Track 9: Listening 3 (Lecture): Highlights in Mathematical History

Professor: Good morning, class. Is everyone ready for a tour through time? We begin with some of the earliest recorded discoveries in mathematics, and we'll close with mention of how math is used in today's 21st century. Fasten your seatbelts for a ride through time.

Okay, the most important thing to note today is that math hasn't really changed throughout history, but it has been studied, and new discoveries about existing mathematical concepts have evolved. Math existed long before writing did, so there isn't always a recorded history available. Three notable texts were written between 1900 and

1600 BCE. One in Babylonia, which is now modern-day Iraq, and two in Egypt. Obviously, these were written in a language other than English. The language, however, is irrelevant because the concepts are the same. Math is one language we can all speak regardless of our native language.

The Greeks are up next. While credit needs be attributed to the Babylonian and Egyptian mathematicians for concepts that preceded the Greeks, really the most interesting contributions came later, after Greek mathematicians began truly delving into the study of mathematics between 624 and 507 BCE.

Worth mentioning is that the word *mathematics* is derived from the Greek language and it means "subject of instruction." Especially memorable Greek mathematicians include Thales of Miletus and Pythagoras of Samos, who were responsible for major concepts such as The Thales Theorem and the Pythagorean Theorem. The Thales Theorem orders that an angle within a semicircle is a right angle. The Pythagorean Theorem, as we all know, is a-squared + b-squared = c-squared. We'll discuss these two theorems in greater detail later in the semester. Other major contributions from Greek mathematicians include the fundamentals of geometry, important ideas related to number theory, and applied mathematics.

Okay, the next significant geographic region to mention is Asia, notably China. Some of the earliest mathematical numbers or notations date to the Shang Dynasty, about 1700 to 1050 BCE. A key feature of modern day math related to this Asian history is decimals. There is evidence that the first decimal notations were written during this period. But, they weren't written on paper; they were written on animal bones or the shells of turtles.

As time progressed through the Middle Ages and what is Europe, the field of mathematics progressed as well. Key players during this era were Fibonacci and Thomas Bradwardine.

Now one of the most important time periods was perhaps the 17th century when Galileo used math to make strides in astronomy and when Johannes Keplar, a student, began working with Tycho Brahe, his teacher. Another name you'll know is Isaac Newton who capitalized on the work Keplar had done, combined it with his own studies, and created a new study. You can love him or hate him for this, but Newton's research became a principle part of modern-day calculus.

There were several noteworthy mathematicians during the 18th and 19th centuries, but ones far less well-known than those I've mentioned today. The main thing to remember about this time period is that math moved from being a concrete study to having a distinctive quality of abstractness.

The final point I want to draw your attention to is the 20th century. In the 20th century, math became a career, which is what brought many of you to my class today as you venture into the 21st century where jobs are available specifically for graduates with degrees in mathematics. Before we talk more about this, do you have any questions about my talk so far or about the readings for today's class?

Unit 5: Sociology: Stratification

Track 10: Listening 1 (Information): Birth Order and Careers

Professor: Sit down, Maria. I was happy to hear you were interested in working on my research studies about birth order and how it may, or may not, affect success in a given career.

S1: I think it's an interesting topic. Can you give me some background information?

Professor: There have been several famous studies performed on personality traits and whether or not they are determined by birth order. What I'm interested in pursuing for my article are additional studies on career achievement. Are some siblings, based on birth order, more or less likely to succeed in their chosen career? Or should people choose a career that is more predetermined to fit their birth order?

S1: Hmm.

Professor: Not only does birth order seemingly affect personality, it seems to affect salary. Why? Jobs. It seems that first-borns are more likely to attend a university, pursue graduate studies, and set loftier goals.

S1: Oh, do you mean that the oldest child is more intelligent?

Professor: Good question. I don't mean to imply that any one sibling is smarter than another or that birth order in any way determines intelligence. It's more the personality traits that I'm studying. The oldest child in a family tends to be ambitious and more aggressive than the children that are born later. Because of these traits, are oldest children more likely to succeed in certain careers? I want to do an in-depth study to

see if these first-borns tend to drift toward certain disciplines more than others. Is an older child more likely to be a doctor or lawyer, for example?

S1: I see.

Professor: The youngest child may be more creative. Probably more charming too because he or she has had to "fight" for attention since birth order has him or her competing against at least one sibling. I'm wondering if there is some sort of connection with this attention-seeking personality. Several famous actors are last-borns. Was it because they've spent a lifetime acting in a quest to get attention from their parents and older siblings?

S1: Interesting. What about a family with three children?

Professor: Middle children are encased between the oldest and the youngest. They're more laid back than their older sibling, but probably less selfish than their younger sibling. This is not to say that the youngest is always selfish, but think about it: the youngest has no one younger to take care of. The middle child must make more people happy. I'd like to research career choices and success ratios for middle children. I hypothesize that we'll find many in the role of mediators in the world of business or politics.

S1: So the middle child might be a person who can negotiate well and close big business deals. Right?

Professor: Perhaps. That's what I'm hoping to determine. With all that being said, we can't neglect the only child. Personality-wise it's been said that the Onlys are similar to first-borns. Do they then tend to drift to the same types of careers, or do they find themselves in some other fields?

S1: I'd like to participate in this research with you. How should we start?

Professor: Let's talk about our own birth order and the decisions we made to enter the world of sociology.

Track 11: Listening 3 (Lecture): Social Class

Professor: The past few weeks, we've been talking about order and hierarchies. We mentioned that families have a hierarchy with certain personality traits that some consider to be based on the order in which we are born. We discussed how, more and more often, birth order is used to

predict success—regardless of whether it should be or not. We've also explored, through video clips and readings, other factors considered in social stratification—factors like gender or race. Today, we're going to focus on class. Let's explore what class is, the characteristics of each class in the United States, and whether it's possible to move up the class ladder.

Class in the U.S., in short, is money, respect, and power. Money, or wealth, establishes a person's economic position in society. Status is related to prestige or the respect people receive. In other words, how well known or famous is the person regardless of how much money he or she has. The last consideration is power and what people have access to—what and who.

Depending on which books you read or which experts you consult, there are anywhere from three to dozens of classes in the United States. The three general categories are upper, middle, and lower. I'm going to talk about five, though, dividing the upper and lower each into two sections.

The first is the upper class. Bear in mind, the exact percentages vary depending on what data you look at, but the upper class is generally comprised of less than two percent of the entire country's population. Let me repeat that. Less than two percent. This meager number, however, has immense wealth, tremendous prestige, and a lot of power. Given it's such a small percentage of the population, can someone advance into this class? Can you climb the social mobility ladder and join the ranks of the upper class? Several have. Oprah Winfrey is a good example. She achieved what many call the American Dream. She started in a lower class and worked her way up to the upper class through hard work and determination. But this certainly is rare.

The second division of the upper class, if you will, is the *upper middle class* or the *capitalist class*. It's in this class where you'll find corporate leaders and others making hefty salaries for white-collar corporations. To word it more simply, these are well-educated CEOs. This class has a large amount of wealth, although not as much, again, as much as the upper class. They do, however, still carry much status and wield a fair share of power. Yet, this class is less than 10 percent of the American population. Exact percentages, again, vary.

We've now accounted for about 88 percent of the population. It seems that a small number of people are controlling much of the country. To word it in the form of a question, where is the majority

of the American population in terms of class? The answer? The middle class. Now we're talking about something like 45 percent of the population, and this number fluctuates too. People in this class make a fair amount of money. They hold well-respected jobs in many fields, such as education, medicine, law, and engineering. Yet, they don't have nearly the prestige, and they certainly don't share the same wealth or power. The longer version is this: there are not buildings named after them as there would be for the upper class, the Kennedy Center for example. There are no university buildings named after them such as the Gates Building on the Stanford University campus. There will be no building named after me regardless of how many great sociology lectures I deliver.

As we work our way our way down the social ladder, we meet the working class. Another 40 percent or so—and again the numbers fluctuate—about the same as the middle class. Working class folks are living up to their name, working. They are primarily employed in blue-collar jobs or, to use another term, those who perform manual labor. In other words, they work in factories, on assembly lines, or in industrial shops.

Okay, I see I only have a few minutes left. Let me touch briefly on the lower class. Accounting for that last quarter or so percent of the population, this group is sometimes considered the victims of inherited characteristics since certain races tend to fall into this lower class. They typically lack power, and many don't own land or a house, and they don't have many possessions. For a period of U.S. history, as I'm sure you know, families were able to move up a level—something like one rung on the ladder per generation, up to a point—but this trend came to an end in the 1990s. You can read more about that in the assigned readings. Be sure to do that.

So, can Americans climb the ladder? Is America a socially mobile country? Well, what do you think? Can anyone or everyone achieve the American Dream? It's a good question and one that many Americans believe or want to believe the answer to is yes. What also might be worth noting is that the ladder isn't a one-way trip. Unfortunately, it's possible to move down the ladder as well as up, and that can happen for a variety of reasons.

Oh, time is up. Be sure to read Chapter 5 of the textbook for the next time.

Unit 6: Astronomy: Outer Space

Track 12: Listening 1 (Information): An Automated Recording

Voice on Recording: Thank you for calling the Louise City Science Center Lecture Hotline. The next lecture will cover the member-chosen topic of amateur astronomy and is scheduled for Tuesday, May 14. The lecture will be preceded by a social hour for members at 6 PM in the main lobby. The lecture itself will begin promptly at 7 PM in the Grand Hall and will be followed by a brief question-and-answer period at 8 PM. Refreshments will be served in the foyer at the conclusion of the Q & A period.

Dr. William Michaels, a professional astronomer whose roots in the field stem from being an amateur, will be the featured speaker, and he will give an overview of amateur astronomy and types of phenomena amateurs often search for, such as sunspots, eclipses, and comets. One highlight of the lecture will be the story of Alan Hale and Thomas Bopp, two amateur astronomers who discovered a comet now named after them—The Comet Hale-Bopp. Interesting facets of this story include Hale tracking comets from his own home and Bopp, who noticed the comet by happenstance while glancing through a friend's telescope on a star-gazing trip in Arizona.

Dr. Williams will brief the audience on equipment amateur astronomers often use and how, by effectively using this equipment, they can work alongside a professional to make astronomical discoveries. Attendees are encouraged to bring their own binoculars, telescopes, cameras, and stellar maps for a consultation with a science center expert on how to use their equipment. Additionally, there will be an opportunity to view the night sky using your equipment with Dr. Michaels and science center employees on the balcony outside the Grand Hall once the sun sets. Check weather reports, and bring a sweater or jacket because viewing will be held outdoors and after dark. Perhaps you will spot something important while working side-by-side with Dr. Williams. Because of the workshop nature of this lecture, the number of registrations is limited to 25. Registration is open and will continue on a first come, first served basis. Call the Louise City Science Center Reservations Office at 314-555-1201.

Track 13: Listening 3 (Lecture): Sunspots

Professor: Good afternoon, everyone. We've been concentrating a lot on the sun and its composition. Today I'd like to talk about a unique phenomenon that takes place on the sun. Sunspots. If you were to look at the sun, which we all know you can't with the naked eye, you would be able to see dark spots on the surface of the sun. These dark spots are actually cooler than normal patches that are highly concentrated magnetic fields. These spots tend to adhere to—or stick to—an 11-year pattern. When all is quiet on the sun, all is quiet on Earth. When sunspots are more active, well, you may be surprised by how much this affects life on Earth.

The cycle has two extremes—solar minimum and solar maximum. Solar minimum is the time in which there is the least solar activity, flares or sunspots. During a solar minimum, solar flare activity diminishes—or decreases. An astronomer may not visualize another occurrence for hours or days. When the sunspots begin to reappear, it signifies that a new solar activity period is beginning. The peak of this period is called the solar maximum. At this time, the sun is almost continually dotted with spots and is plagued by flare eruptions. During an eruption, the sun spews electrified gas into outer space. So what happens during a violent solar event? Coronal mass ejections occur. A coronal mass ejection is a mammoth cloud of hot gas hurled into space from the sun.

You are all aware that the sun is millions of miles away from Earth. You're thinking, okay, so these ejections aren't a big deal because it's too far away. What isn't known is the havoc that can be wreaked on Earth even from such a long distance. The results of these bombardments also severely affect life in outer space. A bombardment is a barrage or a fast and intense occurrence of many things at the same time. The bombardments affect the durability of the satellites, and so they deteriorate faster than normal. Satellites, then, don't last as long; they wear out or fall apart. And *that* affects our technology—transmissions and all kinds of communication on Earth. What would you all do if suddenly one day your cellular devices wouldn't work, if every phone call were dropped and the text messages never arrived at their destinations? What would you do if there were a blackout or brownout? What about if you're in the middle of watching the finale of your favorite TV show and, boom, the cable goes out? Or, say you're on the highway traveling to some new locale and your GPS fails. Sometimes there seems to be no good rea-

son for these failures, but many can be attributed to sunspots and the subsequent ejections. Satellites, electric power grids, radio communication, the Global Positioning System—all at risk.

Let me first discuss sunspot quantities. Galileo seems to be credited by many as the first European to observe sunspots, but others have also been mentioned. Regardless of who was the first to notice such a phenomenon, data has been collected for hundreds of years, as long ago as 1610.

Sunspots tend to occur in groups and the average number in a group is 10 sunspots. Sunspots, or groups of sunspots, tend to follow an 11-year cycle. Some early recordkeeping indicates that there was actually a relatively long period of inactivity that counters the normal 11-year cycle. This time, from approximately 1645 to 1715, coincides with a miniature Ice Age of sorts when rivers that typically never froze became ice and regions that normally experienced warmer seasons remained covered with snow year round. Otherwise, the 11-year cycle is fairly predictable.

Now let's relate sunspot activity back to life in modern times. In 1989, on March 13, the province of Quebec, Canada, had an electrical power blackout. Three days prior, astronomers witnessed an explosion on the sun. This explosion was the catalyst—or provocation or reason—that brought down Quebec's electric power. The explosion, spurred by an entanglement of magnetic forces, sent forth a huge cloud of gas that carried the energy of literally thousands of nuclear bombs. It hurtled through space, directly at Earth. Its immediate impact affected radio signals from Radio Free Europe into Russia. While many people wanted to blame others, the blame belongs with the sun. By the night before the blackout, the plasma reached Earth's magnetic field. Remember that plasma is gas that carries the particles charged with electricity. Plasma caused what we commonly call northern lights, and amazingly they were seen as far south of Canada as Florida in the United States and Cuba. Currents—movements—finally affected Quebec's system. It led to twelve hours of blackness. Imagine the troubles. The airport closed; there were people trapped in elevators; there was no heat in the cold month of March in a country with extremely cold winters. Now, this did affect other areas of the world as well, such as many areas in the northeastern U.S., which also lost power temporarily, but not as badly. Satellites in space lost control. But as the solar storm subsided, so did its results on Earth.

A more recent example is 1997, when a similar storm managed to bring an AT&T satellite to its knees. It disrupted television broadcasts around the nation. In 1998, a storm affected a satellite that managed automated banking machines and airline tracking systems. Imagine not being able to get money for that pizza you ordered. Imagine the worst case scenario: What if you were on a plane when the FAA's tracking system failed?

It's rare, but sunspots can produce large storms that affect life on our planet. Next time the lights go out, think about it. What really caused it? With the way technology is growing, are we prepared for a solar storm of such magnitude again? According to NASA, the current solar maximum cycle began in 2008—this was when the first sunspot appeared—and the cycle is predicted to peak in 2011 or 2012. Will we be ready?