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M: Hello English learners! Welcome back to another lesson with us here at **EnglishPod**! My name is **Marco**.

E: And I'm **Erica**.

M: And today we're gonna be talking about **physics**.

E: That's right! An **Advanced** lesson for, um, all you physics lovers out there. And even for those of you who maybe don't love physics so much, there's still some great language here.

M: Right, we're gonna be talking about the **Big Bang theory** – a very popular theory of how **the universe** or the world and how we **came upon** being created.

E: That's right! So, we've got some physics language, but we've also got some really, um, tough words that **I bet** many of our users have never seen before, witch we're gonna look at those, um, in this lesson.

M: Alright, so, why don't we get started with this great and interesting lesson? And let's listen to the dialogue for the first time.

DIALOGUE, FIRST TIME

E: Well, it sure does sound like a difficult class, doesn't it?

M: It's a very interesting topic and very **controversial**, so…

E: Uhu.

M: There're many opinions on it. But before we get into that, why don't we take a look at some of those physics related words that we listened to in "**language takeaway**"?

Voice: Language takeaway.

E: Okay, so, here we are in language takeaway and we've got, uh, four words we've heard in the dialogue that are related to physics. So, let's start with the first one, which is **matter**.

M: Matter.

E: Matter.

M: Okay, so, you probably know th… this word from "what's the matter?"

E: Right.

M: "What's wrong?"

E: Yep.

M: In this case, we're talking about matter, so, anything that occupies space, that has a mass or that is related to energy. So, matter.

E: So, all things in the world **are made up of** matter, right?

M: Exactly.

E: Okay.

M: Now, let's move on to another one.

E: **Particles**.

M: Particles.

E: Particles.

M: Now, particles are… a little bit more… it's now, particles are a little bit easier. They're just very small pieces of a whole.

E: An apple is made up of apple particles?

M: Something like that. You can… if you wanna understand it easily, yeah, your apple has many small particles that make up the apple.

E: So, like… let's paint a picture here. Imagine you've got a beach and all the pieces of sand are particles of the beach.

M: Exactly, very good! So, those are particles.

E: Now, the next one is a little bit difficult for me; I don't understand this – **anti-particles**.

M: Alright, so, anti-particles.

E: Anti-particles.

M: Now, this… this **prefix anti-**…

E: Uhu.

M: It means something that is against, right?

E: Right. And I… I've seen this one in **anti**clockwise.

M: Alright, so, anti-particles are those that are against particles. So, basically, if you have a particle that has a **positive charge**…

E: Aha.

M: And another one comes in with a **negative charge** in the sameway, in the same type of particle. If they get together, they **cancel each other out** and they both die.

E: Ouh.

M: So, that's an anti-particle.

E: Alright, well, you heard it first here at **EnglishPod**.

M: Hehe. So, anti-particles are not a good thing **to have around**.

E: Now, we also heard them talk about the **drift of matter**.

M: Right, drift of matter.

E: Drift of matter.

M: Also, sometimes called **drift of dark matter**.

E: Okay, well, I know the **verb to drift**, right? To… sort of **float awayon** the sea.

M: Right, if you have a little ship, you leave it on the beach it'll **drift away**.

E: Right.

M: I'll be slowly away.

E: Yeah, but what about drift of matter?

M: So, basically, the drift of matter is this **residue** that remains of the Big Bang, of the explosion.

E: Okay.

M: So, matter and radiation **keeps on** drifting through the universe and…

E: So, it's moving slowly trough the universe.

M: Moving slowly, so, this big explosion… and just considerate to be like this **ripple**. And it's expanding and expanding. That's the drift of matter.

E: Alright.

M: Hehe.

E: Well, I learned something else today.

M: Some very specific words related to physics, but it's very interesting. Once you get into reading about these things, it will help you to understand it better.

E: That's right! But we've also got some non-physics related language that we wanna look it now in "**language takeaway**" (part II).

Voice: Language takeaway.

M: So, we were talking about the drift of matter and how it's drifting through the universe. And then he said "thus advancing the notions of an expanding universe".

E: So, I wanna look at the phrase **thus advancing notions**.

M: Thus advancing notion.

E: Okay, let's start with the first word here – **thus**.

M: Okay, so, this is a good connector.

E: A **conjunction**.

M: A conjunction; and basically means…

E: Therefore.

M: Therefore or in consequence.

E: Yeah.

M: Right?

E: So, thus advancing notions. Now, **notions** are ideas.

M: Right.

E: And so, when you **advance** notions or advance ideas, um, you help them make progress, you help them go forward and become known.

M: Okay, so, in order to understand this in the context, they are saying that a drift of matter, thus advances notions of an expanding universe. So, that is making progress to people believing that the universe is getting bigger.

E: Uhu. Okay, so, interesting phrase. Now, I really like this word **thus**and a lot of people are afraid to use it. So, why don't we hear a few examples of how it's used in context?

Voice: Example one.

A: So, you can see that we've studied the fossil record, and thus we can conclude that evolution is a fact.

Voice: Example two.

B: He broke severe company policies, thus we had to fire him.

Voice: Example three.

C: I did not receive the documents on time, thus I was unable to send them to you.

M: Alright, good examples of **thus** and I guess now we can use it a little bit better.

E: That's right! Now, let's move on to our next word, so, they were talking about people, who go around **touting** theories.

M: Tout.

E: To tout.

M: Okay, so, what… what does this mean, **tout**?

E: Well, basically, when you tout something, um, you talk about it in a positive way, um, **so as to** almost like sell that thing. **[**NOTE: **so as to**= in order to**]**

M: Okay.

E: So, for example, we can say, um, the company is touting the many benefits of its product.

M: Okay, very good! So, to talk positively about something.

E: Yeah, with the idea of trying to sell that thing or make people **buy into** it or believe it.

M: Alright, very good! What about our next ph… word?

E: Well, we heard, um, two related words in the dialogue. Um, they were talking about "where's the **rigor** in these theories?" and "**rigorous** testing".

M: Okay, so, what's the difference between rigor and rigorous.

E: **Rigor** is the state of being very clear and careful and exact.

M: Okay.

E: Um, and **rigorous** is just the **adjective** – clear, careful, attention to detail and exact.

M: Okay, very good! So, rigorous training.

E: I'm going over my notes in rigorous detail.

M: Okay, very good! And now, we have one more word today on language takeaway and that is **equivocate**.

E: So, we heard "dude, don't equivocate".

M: Don't equivocate.

E: Don't equivocate.

M: Alright, so, what… what does she… what does he mean by this?

E: Well, when you equivocate, you use **big words**, um, to try and**mislead** somebody.

M: Okay, so, using big words to confuse or to mislead.

E: Yep, so, for example, we could say, um, the job candidate… we could say "when asked about his experience, the job candidate equivocated".

M: Okay.

E: Or even "the presidential nominee did not equivocate when he explained his tax policy".

M: Alright, so, some good examples, good phrases, a lot of interesting stuff and a little bit more educational podcast today.

E: That's right! So, let's continue with our education by listening to the dialogue one last time.

DIALOGUE, SECOND TIME

M: Alright, so, the **Big Bang theory** – very controversial. In some schools in the United States they have prohibited the teachers from teaching it.

E: I know, um, which is seems quite interesting to me, um, but it is… it is, actually, very controversial and people can get really, really upset about this in America.

M: Hehe. So, it is an interesting topic. Take it from the point of view of just something else, maybe just to learn a little bit more about this topic, such as physics, right?

E: Right, but there's something that is uncontroversial that I did wanna talk about, um, now that we heard in the dialogue. There's a lot of really interesting sort of slang words here in the dialogue, isn't there?

M: Yeah, we heard in the first part of the dialogue when he said "I've been in physics class all day; **killer**".

E: Killer.

M: So, what does he mean by killer?

E: Oh, he's… he's just basically saying "it's really hard. You know, it's like… it's so difficult that it's "**murderous**".

M: It was intense.

E: Yep, but this word we can use positively as well, can't we?

M: Yeah, I guess you could say "that was a killer party".

E: Yeah, "killer move's on the dance floor".

M: Okay.

E: Another interesting thing is that he said "**math, shmath**".

M: Now, **shmath** isn't really a word.

E: No, but this is a really common structure we use in English, um, when we want to sort of take away from the importance of an idea.

M: Okay, so, you're saying "it's not important", "I don't care about it" or, uh, "it's not worth it".

E: Yeah, so, for example. I'm on a diet.

M: Right, and I would say "diet, **shmiet**".

E: Yeah.

M: So, basically, the structure is just add an **SH-** and then just kind of**make it rhyme**.

E: Yeah.

M: Shmiet. Or like, uh…

E: Like "work, **sh**mork".

M: Yeah, "work, shmork"

E: Yeah.

M: Or some like that.

E: Yeah.

M: So, you're just making fun of it and you're taking away importance.

E: Yeah, that's a pretty, uh, pretty **neat phrase** and one… one more. Um, we heard them say "**Duh**".

M: Duh.

E: So, when we say this, we're just saying like "you should know this, stupid".

M: Yeah, this is obvious.

E: Yep.

M: It's kind of making fun of the person or…

E: Yeah.

M: It's just saying "it's so obvious, how can you not know it?"

E: Yeah.

M: And it always goes either at the beginning or at the end of a**sentence**.

E: Yeah, so, duh, Marco, we're… recording a podcast.

M: Right! Very good, so, some great words and phrases in this dialogue and a little bit of slang as well, so, you can use it maybe with your friends.

E: That's right! Um, if you have any questions about the language in this dialogue or any thoughts on physics or the Big Bang theory, come and check our website at **englishpod.com**.

M: Alright, we'll see you guys there and until next time…

E: Good bye!

M: Bye!

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