



1
00:00:00,000 --> 00:00:11,740

\h Music.

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00:00:11,740 --> 00:00:13,880

\h Christopher Blair: Hi, kids. Today we're just a few miles away from

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00:00:13,880 --> 00:00:17,170

\h NASA's Kennedy Space Center near Cape Canaveral, Florida.

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00:00:17,170 --> 00:00:22,230

\h Hi everybody, I'm Chris. Here at the Astrotech facility, NASA brings their satellites and their spacecraft

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00:00:22,230 --> 00:00:25,490

\h for final processing and checkout before they're launched into orbit.

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00:00:25,490 --> 00:00:29,220

\h Kind of like how you might double check your homework before you turn it in to your teacher.

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00:00:29,220 --> 00:00:34,780

\h Now, this work is done by NASA engineers and scientists inside what is called a "clean room."

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00:00:34,780 --> 00:00:40,150

\h No, no, not that kind of a clean room. Totally, totally different, but don't worry about it.

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00:00:40,150 --> 00:00:44,470

\h A very good a friend of mine is going to take you and I inside one of these NASA clean rooms.

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00:00:44,470 --> 00:00:48,020

\h My friend just had one stipulation and that was that I needed to wear my clean suit.

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00:00:48,020 --> 00:00:50,990

\h Fortunately for us, I just picked mine up from the cleaners.

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00:00:50,990 --> 00:00:56,320

\h Bam! Let's go check out some cool space stuff. Barbara Lambert is a multimedia photographer for

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00:00:56,320 --> 00:00:59,660

\h NASA's Goddard Space Flight Center in Greenbelt, Md.

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00:00:59,660 --> 00:01:03,590

\h She's here working in Cape Canaveral for an upcoming launch and agreed to show us around.

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00:01:03,590 --> 00:01:04,640

\h Barbara Lambert: Hey. Good morning, Chris.

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00:01:04,640 --> 00:01:06,130

\h Christopher Blair: Hello, Barbara. Thanks for meeting us again.

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00:01:06,130 --> 00:01:09,500

\h We really appreciate it and we're very excited that you're going to show us a NASA clean room.

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00:01:09,500 --> 00:01:12,430

\h And so, I even printed out my e-mail that would make me remember to bring my

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00:01:12,430 --> 00:01:15,490

\h clean suit that I picked up this morning from the cleaners.

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00:01:15,490 --> 00:01:18,970

\h Barbara Lambert: I think you misunderstood. I said you have to wear a clean suit.

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00:01:18,970 --> 00:01:21,680

\h Christopher Blair: Cleaner than this? I mean, it smells pretty good.

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00:01:21,680 --> 00:01:25,510

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Barbara Lambert: I'll tell you what, I'll take you down to the gowning room and I'll show you what I mean.

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00:01:25,510 --> 00:01:26,870

\h Christopher Blair: OK. Well, that's great. I'll follow you

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00:01:26,870 --> 00:01:31,520

\h Barbara Lambert: OK. Christopher Blair: Thank you.

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00:01:31,520 --> 00:01:35,160

\h Barbara Lambert: OK. This is the gowning room. This is where the NASA scientists and

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00:01:35,160 --> 00:01:38,270

\h engineers come to get dressed before they go into the clean room.

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00:01:38,270 --> 00:01:39,640

\h Christopher Blair: OK. What's our first step?

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00:01:39,640 --> 00:01:43,090

\h Barbara Lambert: Well, the first thing you have to do -- you know, your shoes are pretty dirty right now.

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00:01:43,090 --> 00:01:46,290

\h So, we need you to go over to the clean station here and get your shoes clean.

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00:01:46,290 --> 00:01:49,590

\h Christopher Blair: OK. Clean my shoes, sounds good.

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00:01:49,590 --> 00:01:55,830

\h Oh, this is really neat. I bet teachers would love to have something like this in their classroom to keep th

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00:01:55,830 --> 00:01:58,390

\h OK, great, Barbara, I believe my shoes are clean. So, what's the next step?

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00:01:58,390 --> 00:02:00,020

\h Barbara Lambert: Well, even though you used the shoe cleaner,

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00:02:00,020 --> 00:02:03,640

\h I still need you to step on the sticky mat just to get off all the extra dust and dirt.

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00:02:03,640 --> 00:02:05,610

\h Christopher Blair: OK. And you're right it's

very sticky.

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00:02:05,610 --> 00:02:10,260

\h It's kind of like a glue trap for I guess maybe dirt and maybe gum on the bottom of my shoes.

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00:02:10,260 --> 00:02:12,630

\h Barbara Lambert: OK. Now we get to empty our pockets.

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00:02:12,630 --> 00:02:14,610

\h Christopher Blair: OK. What are we looking for?

Barbara Lambert: Take everything out.

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00:02:14,610 --> 00:02:15,490

\h Christopher Blair: Everything?

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00:02:15,490 --> 00:02:15,900

\h Barbara Lambert: Cell phones.

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00:02:15,900 --> 00:02:18,360

\h Christopher Blair: No cell phones, OK. So, those go in here.

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00:02:18,360 --> 00:02:22,630

\h And I've got a few things. I travel heavy. I have my MP3 player. Barbara Lambert: No.

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00:02:22,630 --> 00:02:25,860

\h Christopher Blair: No MP3 player, all right. I also have a marker. Barbara Lambert: No.

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00:02:25,860 --> 00:02:27,680

\h Christopher Blair: Pencil? Barbara Lambert: No.

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00:02:27,680 --> 00:02:31,260

\h Christopher Blair: Come on. A hairbrush? Barbara Lambert: No.

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00:02:31,260 --> 00:02:33,410

\h Christopher Blair: A hairclip? Barbara Lambert: Absolutely not!

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00:02:33,410 --> 00:02:36,560

\h Christopher Blair: My keys? Barbara Lambert: No, they may transmit. You can't take them in.

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00:02:36,560 --> 00:02:38,940

\h Christopher Blair: How about the lipstick?
You know what,

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00:02:38,940 --> 00:02:42,780

\h let's not worry about that. Barbara Lambert: Why do you have a lipstick?

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00:02:42,780 --> 00:02:44,300

\h Christopher Blair: It's OK. It's another story.

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00:02:44,300 --> 00:02:46,950

\h Barbara Lambert: OK. Well, you know, the lipstick brings up a good point.

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00:02:46,950 --> 00:02:50,590

\h You can't take lipstick, you can't take
hairspray and you can't take cologne

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00:02:50,590 --> 00:02:53,860

\h because they can damage the sensitive instruments inside on the spacecraft.

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00:02:53,860 --> 00:02:55,400

\h Christopher Blair: OK. Well, that's a great tip. I appreciate that.

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00:02:55,400 --> 00:02:58,790

\h Barbara Lambert: OK. Let's move on. Christopher Blair: All right.

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00:02:58,790 --> 00:03:01,710

\h Barbara Lambert: Now, this is what I meant when I asked you to wear a clean suit.

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00:03:01,710 --> 00:03:04,100

\h Christopher Blair: OK, well, yeah. That's definitely different than the suit I have.

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00:03:04,100 --> 00:03:09,080

\h Barbara Lambert: Absolutely. The best thing to do is think about the clean room as being like an operati

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00:03:09,080 --> 00:03:12,890

\h Everything inside has to be squeaky clean to protect the instruments.

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00:03:12,890 --> 00:03:18,190

\h And just as doctors and nurses have to wear special garments when they go into an operating room to p

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00:03:18,190 --> 00:03:22,140

\h we have to wear special clean room suits so the fibers and the dirt and the hair and

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00:03:22,140 --> 00:03:25,300

\h everything from your body don't get onto the instruments inside.

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00:03:25,300 --> 00:03:27,190

\h Christopher Blair: OK, great! Barbara Lambert: All right. Well, let's get dressed.

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00:03:27,190 --> 00:03:47,670

\h Christopher Blair: All right, thanks. Barbara Lambert: Well, after we finish putting on our gloves and our

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00:03:47,670 --> 00:03:50,960

\h Christopher Blair: OK, I've got my gloves right here. Barbara Lambert: (Laughs) I'm sorry, but you look

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00:03:50,960 --> 00:03:54,400

\h Christopher Blair: A bunny? Is this a bunny suit? Is that why they call it a bunny suit?

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00:03:54,400 --> 00:03:56,030

\h Barbara Lambert: Yeah. That's why they call it a bunny suit.

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00:03:56,030 --> 00:03:59,640

\h Christopher Blair: It that a special pet name? Bunny... pet. Get it? Rim shot! Barbara Lambert: Very fun

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00:03:59,640 --> 00:04:03,140

\h Christopher Blair: OK. I've got my gloves on, so what's the next step. Barbara Lambert: OK, we take a

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00:04:03,140 --> 00:04:05,250

\h Christopher Blair: I just got dressed, Barbara! Are you serious? I shower?

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00:04:05,250 --> 00:04:07,110

\h I have to take everything off and take another shower?

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00:04:07,110 --> 00:04:09,130

\h Barbara Lambert: It's not that kind of a shower. It's an air shower.

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00:04:09,130 --> 00:04:12,890

\h Christopher Blair: An air shower. Yeah, my mom would have bought that! Yeah mom, I'm clean, I took a

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00:04:12,890 --> 00:04:14,030

\h Barbara Lambert: All right. Are you ready?

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00:04:14,030 --> 00:04:21,160

\h Christopher Blair: Sure, let's do this. OK. This is the infamous air shower. So, how does this work? Who

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00:04:21,160 --> 00:04:28,650

\h Barbara Lambert: Now you feel the air. The air flows through these jets. There's vacuum suction at the

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00:04:28,650 --> 00:04:35,550

\h so it's blowing off any extra hair or dirt or debris that might be on your garment. So, now you're squeaky

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00:04:35,550 --> 00:04:38,210

\h Christopher Blair: I'm clean, so now I can see the cool space stuff. Let's go.

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00:04:38,210 --> 00:04:41,490

\h Barbara Lambert: Absolutely.

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00:04:41,490 --> 00:04:45,620

\h Christopher Blair: I couldn't help but feel important. Kind of like I had the right stuff as I walked into the c

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00:04:45,620 --> 00:04:52,320

\h even though I was specifically told by Barbara several times, 'Don't touch anything.' OK, Barbara.

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00:04:52,320 --> 00:04:56,440

\h That was really interesting. It's cool to see how much work it takes just to get into the facility,

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00:04:56,440 --> 00:05:00,530

\h without even having to work on the spacecraft yet. Wow.

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00:05:00,530 --> 00:05:05,470

\h Barbara Lambert: Yeah, a lot of people don't realize how much work is involved to manage a spacecraft.

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00:05:05,470 --> 00:05:08,180

\h Christopher Blair: Well, sure. This is NASA, so we actually have a lot of work going on.

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00:05:08,180 --> 00:05:11,050

\h So, now that we're done, do we just take these off and throw them in the garbage?

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00:05:11,050 --> 00:05:15,870

\h Barbara Lambert: Oh, absolutely not. We recycle everything and these gowns have to go to a special cleaning facility.

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00:05:15,870 --> 00:05:20,030

\h Christopher Blair: Oh, well I have the number for my cleaners. I'm sure I have that business card on me.

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00:05:20,030 --> 00:05:21,110

\h Barbara Lambert: No, no. I said special cleaning facility.

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00:05:21,110 --> 00:05:26,200

\h Christopher Blair: Oh, special cleaning. OK. Well, let's get these off then. Barbara Lambert: OK.

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00:05:26,200 --> 00:05:29,140

\h Christopher Blair: Well, thanks Barbara. That was really great. I appreciate you taking the time to

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00:05:29,140 --> 00:05:32,910

\h show us how a clean suit and a clean room are used when we deal with NASA spacecraft.

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00:05:32,910 --> 00:05:35,730

\h Barbara Lambert: Sure, no problem Chris.

Glad to help you. You know, it's part of

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00:05:35,730 --> 00:05:38,560

\h NASA's mission to work with students and teachers to help improve education.

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00:05:38,560 --> 00:05:42,010

\h Christopher Blair: Well, that's great because this is an educational show. So, I'll make sure I remember

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00:05:42,010 --> 00:05:42,790

\h Thank you for your time. I appreciate it very much.

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00:05:42,790 --> 00:05:43,480

\h Barbara Lambert: You're welcome, call me anytime.

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00:05:43,480 --> 00:05:46,390

\h Christopher Blair: I will, thank you. Bye bye.

And thank you for joining us today.