

- MS. SCHLAU:** Professor, the lecture is about to begin.  
Do you really want to practice this gummy bear trick now?
- PROFESSOR EINSTEIN:** Of course I do. Whoever shows off a trick at the annual Nobel Prize Winners conference is the hero of the evening. Haha. Also, I can also use this to get the students in the mood for today's lecture. Alright, throw a gummy bear into my mouth.
- MS. SCHLAU:** As you wish. One...two... three!
- PROFESSOR EINSTEIN:** Huh? What? Where is it? Is it still flying? Ms. Schlau, I'm not sure you're taking this seriously.
- MS. SCHLAU:** I think perhaps this trick is a bit too hard.
- PROFESSOR EINSTEIN:** Too hard?
- MS. SCHLAU:** Why don't you try it without a blindfold first?
- PROFESSOR EINSTEIN:** Never! People always expect maximum effort from a genius.
- MS. SCHLAU:** But then you can't see our field researchers' nice film.  
Because today the students are learning how gummy bears are made.
- PROFESSOR EINSTEIN:** Ha! I already know that.
- MS. SCHLAU:** Well then. JOWO, start the film, please. Christoph's field researchers took to the road. They want to uncover the secret of how gummy bears are made.
- PROFESSOR EINSTEIN:** They're looking into the production process for making gummy bears. It all begins with huge vats in which a bunch of things are stirred together to create the raw gummy bear mix.
- MS. SCHLAU:** And what all goes in to it?
- PROFESSOR EINSTEIN:** So. It's water, **sugar (ZUCKER)**, glucose, glucose syrup, and **gelatin (GELATINE)**. But this doesn't happen on a small scale. These huge vats are used to mix the ingredients in large amounts. This is the **glucose syrup (GLUKOSESYRUP)**, for example. And here is the gelatin. It's already been mixed, so it's no longer solid.
- MS. SCHLAU:** Oh, now the mixture is looking a little greyish, brownish, boring, really. Of course it shouldn't stay that way because that's not how gummy bears look. A lot of things are still missing...
- PROFESSOR EINSTEIN:** ...like the flavor. And the color.
- MS. SCHLAU:** The color and the **flavor (GESCHMACK)** are combined in these big vats and then added to the mixture. What flavors are there?

- PROFESSOR EINSTEIN:** Pineapple (**ANANAS**), orange (**ORANGE**), apple, lemon (**ZITRONE**), raspberry (**HIMBEERE**) and strawberry (**ERDBEERE**).
- MS. SCHLAU:** Pineapple bears are white, orange bears are orange, apple bears are green, lemon yellow and there are two different reds for raspberries and strawberries. These flavors are made from fruit **juice (SAFT)**. From pineapple and so on.
- PROFESSOR EINSTEIN:** And now the color is added, which, of course, is made from fruits and vegetables. And for it to taste even better, other flavoring is added. All of this is added to the original mixture.
- MS. SCHLAU:** First a little spray of citric acid is added so that it tastes really fruity. The other three things are added, it's all mixed together, and then it looks like a raspberry gummy bear – at least in terms of color.
- PROFESSOR EINSTEIN:** Now we're going to Ms. Frede. She is responsible for the shape of the gummy bears. Here she's making a form, and she has added something new. Gummy bears have been around for a long time, but Ms. Frede made them smile. They didn't do that before.
- MS. SCHLAU:** When she has a pattern ready, a lot of copies are made. It looks like this: bam, bam, bam, bam, bam, bam, bam. Until quite a lot have been made. These gummy bears can be used like a stamp. Here it is shown with a row: they're pressed into corn flour and a shape is created which is also called a negative form. These are the gummy bear stamps.
- PROFESSOR EINSTEIN:** The gummy bears lie face-down and the form looks like this. In a factory, this doesn't happen with just one row, but with many. Each pressing creates an entire board of gummy bear forms. And this is how they look.
- MS. SCHLAU:** Now, of course, the mix still needs to go into the forms. How does that work?
- PROFESSOR EINSTEIN:** It is simply poured in from above - with the backs facing up. And this is how it looks if you do it by hand. But in the factory, they're not just making one flavor and one color, but all flavors and all colors at once. Pineapple, and orange, and lemon, and so on... here you can see that this way is much faster than doing it by hand.
- MS. SCHLAU:** And now one tray of each comes out with the mix. They all have the same amount. They're placed one on top of the other. And each tray looks like this. Very colorful.
- PROFESSOR EINSTEIN:** But there's still a teensy little problem. The gummy bears are still a little sticky and wet. Something is still missing. They have to be stored for three days. They will cool off and become solid.

- MS. SCHLAU:** And when that's done, the trays are put on a machine. It turns each tray and dumps it out completely – the gummy bears and the corn flour. And what happens after that?
- PROFESSOR EINSTEIN:** The field researchers are doing this part by hand. This is a smaller version of the trays we saw earlier. We pour it into a sieve and this sieve shakes the corn flour away. Of course, this is much tidier and faster in the factory. In the end, only the gummy bears remain.
- MS. SCHLAU:** The corn flour can be used to make new molds. A little is wasted, and the remainder will be blown off so that absolutely no corn flour sticks on the gummy bears. And now they're done.
- PROFESSOR EINSTEIN:** But not entirely, because there's another little problem. The gummy bears are sticking to one another. And they would also stick together in the bag. Of course this shouldn't happen - they're supposed to be separate. Here they're going up, falling through a funnel into a hopper, where a liquid is coming out of a nozzle - a mixture of beeswax and palm oil. By tumbling through this liquid, the gummy bears are being covered in a separating layer and will no longer stick together. Brilliant!
- MS. SCHLAU:** And then, all six different flavors come together in one little bag – the same quantity of each flavor. Supposedly there are people who have counted. And the question is often asked: Why aren't there any blue gummy bears?
- PROFESSOR EINSTEIN:** Simply because there isn't a fruit that produces a nice blue color. Not even blueberries. And that is why there aren't any blue ones, just the ones we showed you.
- MS. SCHLAU:** Wonderful. I like the red gummy bears the best. And you? Professor?
- PROFESSOR EINSTEIN:** Oh, what – what misery. JOWO launched gummy bears 257 times - and with my blindfolded eyes, I wasn't able to catch even one of them. It's so...so devastating.
- MS. SCHLAU:** Perhaps such a task is just too easy for a genius like you.
- PROFESSOR EINSTEIN:** Too easy?
- MS. SCHLAU:** Yes, perhaps you need to catch 100 at once?
- PROFESSOR EINSTEIN:** 100 at once? That would be tremendous.
- MS. SCHLAU:** Take your position. I'm counting to three, and then 100 gummy bears will fly at you all at once. And if you concentrate just a little bit... perhaps it will work.
- PROFESSOR EINSTEIN:** Magnificent. The greater the task, the more a genius like myself flourishes. Haha! Wait just a moment, I'm going to take a few steps back.

**MS. SCHLAU:** Are you ready?

**PROFESSOR EINSTEIN:** Ready!

**MS. SCHLAU:** And one two... and three!

**PROFESSOR EINSTEIN:** Haha! It worked. You were right. I'm brilliant.