MS. SCHLAU:	Where in the world is Professor Einstein? Oh! A text message from the professor. „I got stuck in some traffic.“ “Traffic jam. I had to transfer to a skateboard.” “I’ll be right there.” Dear students, please be patient just a moment longer. The professor is on his way.
PROFESSOR EINSTEIN:	Watch out! Get out of the way. I’m coming through! Aaah! Ow. It hurts!
MS. SCHLAU:	Professor?
PROFESSOR EINSTEIN:	It really hurts!
MS. SCHLAU:	Professor, are you OK? Oh, professor, you have a scrape on your elbow.
PROFESSOR EINSTEIN:	What? Really? Help! I’m bleeding.
MS. SCHLAU:	Wait! I think there’s a first-aid kit around here somewhere.
PROFESSOR EINSTEIN:	All my bones are aching.
MS. SCHLAU:	But why are you riding a skateboard if you don’t know how?
PROFESSOR EINSTEIN:	I can ride just fine. The problem is braking. JOWO, my JOWO. In case this is my final hour and we don’t see each another again, then: farewell, my little beeping friend.
MS. SCHLAU:	Oh! JOWO suggests that we call field researcher Christoph. He knows all about such injuries. JOWO seems to think that this wound isn’t so serious.
PROFESSOR EINSTEIN:	What? Really? Then go get him. Christoph, Christoph, I had a horrible accident. Here, a bleeding scrape on my elbow.
CHRISTOPH:	Oh, I’m sorry. Does it hurt?
PROFESSOR EINSTEIN:	Yes, terribly! JOWO thinks it will get better. So… I’m not going to bleed to death?
CHRISTOPH:	I can reassure you, Professor. An injury like that heals very quickly on its own.
PROFESSOR EINSTEIN:	Are you sure?
CHRISTOPH:	Yes. I thoroughly researched this.
PROFESSOR EINSTEIN:	Then let’s start the film. Ms. Schlau, please bandage me everywhere it hurts.
MS. SCHLAU:	Well then go ahead and sit on the floor. I’m going to start with your head.
PROFESSOR EINSTEIN:	Let’s start the film.

MS. SCHLAU:	When Christoph was cutting up a salad recently, it happened… Ouch! He cut himself. On the finger. And it immediately begins to bleed.
PROFESSOR EINSTEIN:	Oh, how deep was the cut? Let's see. Hm… You can't really see because it keeps bleeding. Eventually the bleeding will stop. But how? How does the body do that? What's happening inside?
MS. SCHLAU:	This is a model of our **skin *(HAUT)***. The epidermis, dermis and subcutis. That's what they're called. And there's the cut - Christoph's **wound (*WUNDE*)**. The veins were severed. These veins are the red tubes that have the blood flow through them. As seen here. Let's let it bleed as well. With theatrical blood.
PROFESSOR EINSTEIN:	This is the blood, and rather practically, it's automatically rinsing the wound. The dirt that entered the wound on the knife is getting washed away. After just a short time, the bleeding slows down. How does the finger do that?
MS. SCHLAU:	So that the body doesn't lose too much blood, the veins contract, and that's why the bleeding slows down. Here we show this with string. Now something starts that we call blood clotting. Finally, our cut veins are sealed, like with a cork.
PROFESSOR EINSTEIN:	A drop of blood is thinned a little bit. A glass slide is placed on top and it goes under the microscope. And now you can see the blood clotting. These little orange things are blood cells. They're still moving here, but slowly they're beginning to clump together. More and more. Larger clumps are starting to form.
MS. SCHLAU:	This is how it looks enlarged even more. The blood cells are joined together with fibers in a tight net. But of course only in spots where something is **broken *(KAPUTT)***. And that's why it stopped bleeding.
PROFESSOR EINSTEIN:	On the model you can clearly see that all the veins are tightly sealed. In an actual wound, it is much harder to see because it's completely covered with the clotted blood. Here, we used wool. The net of fibers formed in the coagulation helps the edges of the wound to loosely connect - from one side to the other.
MS. SCHLAU:	And on top, the congealed blood becomes very dry as well. Like a lid.

PROFESSOR EINSTEIN: That's is how Christoph's cut looks right now. The clotted blood has become very dark and dry and holds the cut tightly together.

MS. SCHLAU: That took just 10 minutes. Very good, but it's better to put a band-aid on it. Then the wound will be protected.

PROFESSOR EINSTEIN: Now underneath the bandage, things are really starting to happen. The scavenger cells approach. We mimicked this with clay. They are part of our body's health **police *(POLIZEI)***. And after about two hours, they travel through the veins and arrive on the scene. They're attracted by the wound. There are so many.

MS. SCHLAU: They come to tidy up and clean. This is a real scavenger cell under the microscope. The little black colon is a **bacteria *(BAKTERIEN)***. It can make someone **sick *(KRANK)***, so now it's being chased and "pow" - **eaten *(GEFRESSEN)***. And there comes the next one.

PROFESSOR EINSTEIN: It's very quick. And? Come on… Go get it.
Well done, little scavenger.

MS. SCHLAU: What's happening in the finger can't be seen from the outside. The cut is just a little red. And the bandage is a little wet.
A clear liquid has oozed out. As long as this liquid is clear, it's normal.

PROFESSOR EINSTEIN: It's better for Christoph to put on a fresh bandage now so that the injury is well wrapped. And protected.

MS. SCHLAU: On the second **day *(TAG)*** everything is still very sensitive and if you pull on it, the wound could open up again. So Christoph would rather protect his finger. I mean, it does look very elegant.

PROFESSOR EINSTEIN: So. What's happening in Christoph's finger after three days? That scavenger cell commando did a lot of work. Much of the coagulated blood has been removed as well. Only the network of fibers from the clotting remains. That is still needed.

MS. SCHLAU: Now the gash needs to be closed. Fourth day: replacement veins arrive. Tiny little veins. They're called capillaries because they're so small. They grow from both sides of the gash and create new blood pathways. The blood brings oxygen and building materials.

PROFESSOR EINSTEIN: Now the work of the fibroblasts begins. "Fibra" is the Latin word for fiber, and that's exactly what the fibroblasts do: They build new fibers. They use the network of fibers that remains from the coagulated blood as a path. They travel along it and they **repair *(REPARIEREN)*** the gash.

MS. SCHLAU:	Their work makes the distance between the sides of the wound smaller. The wound opening – as the doctors call it – shrinks. This happens about six days after Christoph's misfortune. It will take many more days of building and repair to make the tissue really strong.
PROFESSOR EINSTEIN:	The fibers gradually fill in the entire wound and will become the scar. Here you can see how the fibers look under a microscope. These form the new scar tissue on Christoph's wound.
MS. SCHLAU:	After three weeks, the new scar is still redbecause of the many little veins.
PROFESSOR EINSTEIN:	When the new scar tissue is completely secure, the little veins are no longer needed and they will gradually disappear. Then, after about ten **weeks *(WOCHEN)***, the scar tissue becomes white. And so it will remain – as a reminder.
MS. SCHLAU:	There's hardly anything to see on Christoph. You have to look really closely to see that there used to be a cut. It wasn't so deep after all. You got lucky once again!
PROFESSOR EINSTEIN:	All's well that ends well. But Christoph, when you're cutting something, pay attention to what you're doing so that this doesn't happen again.
MS. SCHLAU:	Impressive. Really impressive, Christoph. And you were so brave: You cut into your finger just for the sake of research and science?
CHRISTOPH:	Yes, sacrifices have to be made. Um, Professor Einstein? Um… I hope my film reassured you somewhat?
PROFESSOR EINSTEIN:	Absolutely. Thank you, Christoph. Now, I'm as calm as an Egyptian mummy, and, thanks to Ms. Schlau's bandage artistry, I won't bleed or mold for the next thousand years. Hahaha!