

Antigravity

Good morning ladies and gentlemen, hi guys. **I am Eszter Kun, I come from Jurisich Miklós High School, Kőszeg.**

Very few people talk about physics in a party. They rather discuss the last concert, the boys or girls living next door, holiday experiences. Physics comes up only if something unusual statement is declared.

Well, I am sure all of you will be interested in antigravity, I finally discovered two weeks ago in Portugal where I spent two weeks under a Comenius language project.

<p>So far I did hear about forces a few things. I know, force is the interaction of bodies or a body and a field. I can exert force on the floor, on your head etc. But in some cases force can be detected even the bodies do not touch each other. These forces are transmitted by a field.</p>	<p>1. fólia Padló Fej!</p>
<p>If you take off your pullover you may realize it would like to stick to your body, because they attract each other. The same thing happens if we rub our hair with plastic. However, you also can see electric repulsion, if you look at your hair.</p>	<p>Dör- zsölj fóliát haj- hoz</p>
<p>Also, magnets can attract or repel each other. Many toys use magnetic attraction and repulsion.</p>	<p>Mág- nes!</p>
<p>It is the very first experience small children learn: they fall down because of the gravity, as this ball falls down because Earth and the child attract each other.</p>	<p>Ejts le egy labdát</p>
<p>But what about gravitational repulsion? Its existence seems to be absolutely necessary, if you look at the pattern. I tried to find the examples for gravitational repulsion. I found a few, but not all of them were perfect. The problem is that they do not work everywhere.</p>	

<p>The first example cannot be reproduced unfortunately any more. People, who visited World Trade Center told that rain was falling upwards. Was it gravitational repulsion? But why did it happen just there? Then I was told that it is normal, and the reason is that warm air rises, and although raindrops fall, they rather move upwards with the air. It is similar to the motion of the soapy bubbles.</p>	<p>Szap- pan bubo- rék 2 he- lyen</p>
<p>It is normal, that bodies roll downhill, as the ball rolls down on the ramp. But I have seen that a double cone shaped body was rolling uphill. Well, here is no hot air rising up, so it must be gravitational repulsion. Look, how it moves.</p> <p>But then I realized that during the motion the centre of the gravity did move downward, because of the gravitational attraction.</p>	<p>Labda lejtőn Kettős kúp</p>
<p>I was about to give up the whole anti-gravitational idea. But then, in Portugal, near Porto we visited a hill, Bom Jesus. The place is famous that cars roll uphill. And it is not a joke, I did see it, I was in the car which did move uphill in neutral. No cheating, no air. So I was happy finally see an example for gravitational repulsion. Here is a picture about it, and also the model of it.</p>	<p>2. fólia</p>
<p>But then, after having examined the situation closely, I had to realize that it is still not anti-gravitation. If you scrutinize the photo, you will see that the uphill is indeed downhill, it only seems to be uphill. This is only optical illusion.</p>	<p>Model és lejtő együtt</p>
<p>So, I still have to look for anti-gravity, if there is any. In case you find it, let me know. Thank you for your attention.</p>	