Subject: Re: If the earth stopped spinning suddenly...
Posted by SlikRik on Fri, 16 Feb 2007 23:04:30 GMT
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Okey dokey, time to set EVERYONE straight.

In response to the proposed question:

Quote:If the earth were to suddenly stop spinning, would we all go flying?

Simple answer: Yes.

Now, let me get technical.
The earth is rotating at approx. 1000 mph. The force of gravity holds us to the earth, so that we travel with the earth, at 1000 mph. Since the earth is so large and there are no nearby objects in which we can relate our position to, it does not feel like we are going anywhere at all, when in fact we are going approx. 1000 mph. If the earth where to stop spinning instantaneously, we, being not physically attached to the earth, would go flying, but not vertically as one (who is slightly dimwitted) might think, but rather horizontally. While gravity does exert a certain force on our body pulling us vertically downward, this force would be virtually nullified by our momentum relative to the speed of the earth after stopping (0 mph). Thusly, we would go flying horizontally, along with many other objects, such as rocks, cars, other animals, water, small buildings, etc.

Relate this to a car. Let's say you were traveling in a car at 1000 mph in a very long, very dark tunnel, so that you can't see anything. (Assuming the road is very smooth, and there is sound of wind resistance around the car, for those picky people...) At a constant speed of 1000 mph, you wouldn't feel the movement, and being very dark, you could not see anything, therefore not being able to relate your position to anything. Now lets say there is a very big, solid, dense, heavy, etc (again for those picky people) wall in the tunnel. When the car hits the wall, the car stops, but you go flying horizontally, thru the windshield, slamming into the wall (assuming you're not wearing your seatbelt).

There is about a 99.99% chance that you would die from this event. The three following ways are the most likely scenarios, starting with most likely.
1. Flying horizontally, you would eventually slam into a large stationary object, such as a cliff, or other piece of earth that did not get thrown with the sudden stoppage. The force of the impact would literally splatter you.
2. If you manage to not hit anything while flying horizontally, you would actually appear to be climbing vertically as well as horizontally (although not vertically at a rapid rate, but after a large amount of time you would actually appear to be shooting straight up). You would move at 1000 mph in a straight line. The surface of the earth is curved. So eventually you would reach quite a large height when the gravity of the earth would start taking effect on you again, thusly pulling you back towards the earth. At this point, you might actually be a few thousand feet in the air, so it would be the same as jumping out of a plane flying a few thousand feet in the air without a parachute.
(Note: cause of death #2 may not be clear to some. If you require further explanation, I'll draw a picture.)
3. Not quite as likely as the others. This also assumes you missed everything while flying

vertically. You would, like in number 2, start climbing vertically, and eventually shoot out into space, thusly freezing and being killed by having all your blood boil, thusly exploding your veins, arteries, etc. (With 0 pressure, as in space, liquid boils at a MUCH lower temperature.)

Right, now if you have any questions, please ask. I tried to make it as clear as possible, but I'm sure it is confusing to some.

EDIT: Made a pic anyway. This is to show the flight path of humans upon instant stoppage of earth.
