

By: April 2007 Orneanu, Science Editor

## 10 Popular Myths in Science, Busted!

*You know them, now let's bust them*

1 - **Men think about sex every seven seconds.** Males are driven to reproduce, evolutionarily speaking, but there is no scientific way of measuring to what extent that desire consumes their everyday lives. Thankfully, for world productivity as a whole, seven seconds seems a gross overstatement, as best researchers can tell, since it's pretty difficult to perform brain surgery, attend funerals or stop a bleeding, while almost continuously thinking of sex.

2 - **Lightning never strikes the same place twice.** In fact, lightning favors certain spots, particularly high locations. The Empire State Building is struck about 25 times every year. Ben Franklin grasped the concept long ago and mounted a metal rod atop the roof of his home, then ran a wire to the ground, thereby inventing the lightning rod.

3 - **The Great Wall of China is the only manmade structure visible from space.** There are several variations on this folkloric statement, and they're all quantifiably false. Astronauts can spot the Great Wall from low-Earth orbit, along with plenty of other things like the Giza pyramids and even airport runways. But they can't see the Wall from the Moon.

4 - **A falling cat will always land on its feet.** Studies have demonstrated that, when dropped from most heights, cats will land gracefully on their feet. Results change only with cats dropped upside-down from a height of one foot or less. I'm not suggesting you try this at home.

5 - **There is no gravity in space.** Blame the term "zero-gravity" for this common misconception. Gravity is everywhere, even in space. Astronauts look weightless because they are in continuous freefall towards the Earth, staying aloft because of their horizontal motion. The effect of gravity diminishes with distance, but it never truly goes away. Oh, and while I'm at it, it's also untrue that space is a vacuum. There are all kinds of atoms out there, though sometimes far apart (and this thin gas adds to the collective gravity budget, too!)

6 - **The five second rule.** Having an arbitrary rule justifying the consumption of food dropped on the floor within a certain time frame is convenient, especially when said food is a brownie. Unfortunately, tests (and logic) confirm that germs will stick to most foods right on contact.

7 - **Seasons are caused by the Earth's proximity to the sun.** The Earth's distance from the sun during its yearly elliptical orbit actually has little effect on temperature. It's the angle of the Earth's tilt - toward the sun in the summer for the Northern Hemisphere and away in the winter - that dictates climate.

8 - **A penny dropped from the top of a tall building could kill a pedestrian.** A penny isn't the most aerodynamic of weapons. A combination of its shape and wind friction means that, tossed even from the 1,250-foot Empire State Building, it would travel fast enough merely to sting an unlucky pedestrian.

9 - **Water drains backwards in the Southern Hemisphere due to the Earth's rotation.** Not only is the Earth's rotation too weak to affect the direction of water flowing in a drain, but tests you can easily perform in a few washrooms will show that water whirlpools both ways depending on the sink's structure, not on the hemisphere.

10 - **Cola can dissolve a piece of meat.** Though cola has been proven to have many unexpected effects, like cleaning a penny, or chromed surfaces (it surprisingly cleaned the chrome better than the commercial chrome polish used for comparison) and even removing blood stains, it simply couldn't dissolve a steak, it just gives the steak a soft, pasty consistency.