

Re: Falling Objects, How They Fall

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- *From:* "Rudi Menter" <spamcowgirl@xxxxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 30 Dec 2005 06:17:42 +0100
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Joe Fischer wrote:

>> http://en.wikipedia.org/wiki/Stress-energy_tensor

>> http://en.wikipedia.org/wiki/Einstein_equation

>

> It is all Greek to me.

Nah, you understand the following:

"The stress-energy tensor (sometimes stress-energy-momentum tensor) is a tensor quantity in physics.

It describes the density and flux of energy and momentum in space.

It is the source of the gravitational field (just as mass is the source of such field in the Newtonian theory:

in the stress-energy tensor, mass is counted as form of energy, but it is certainly not the only form).

The most important use of the stress-energy tensor is in the Einstein field equations."

"In physics, the Einstein field equation or Einstein equation is a differential equation in Einstein's theory of general relativity. It is a dynamical equation which describes

how matter and energy change the geometry of spacetime,

this curved geometry being interpreted as the gravitational field of the matter source.

The motion of objects (with a mass much smaller than the matter source) in this gravitational field is described very accurately by the geodesic equation."

The last sentence agrees you in some way when you said that mainly the earth attracts the melon but vice versa ;)

—
Matter and space are not totally separate types of entity.
Actual substance need not be clearly localized in space.
These are hints that our treasured intuitive views as to
the nature of physical reality are less close to the truth
than one would have thought. (Roger Penrose)

• **References:**

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