



The E in your question is *energy*.

Energy is one way for matter (stuff) to be.
Energy is the stuff that moves other stuff – the matter stuff.
Einstein discovered that the tiniest bit of stuff can be converted into huge amounts of energy. This is usually written as $E=mc^2$.
It means that energy is equal to mass, multiplied by the square of the speed of light (s.o.l.). *Square* means to multiply a number by that same number. The square of the speed of light is the s.o.l. times the s.o.l. – an enormous number.

Dear Richard,
It means that energy is another way matter can be.
 $E=mc^2$ is a way of saying a complicated thing simply – how much of something one way is how much the other way.

Albert Einstein was a U.S. physicist who figured out one can measure the amount of energy in matter by multiplying things. So learn your math. It's universal.

Jax Place
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Einstein's $E=mc^2$ is just a recipe to convert one measurement into another. You just multiply and divide. Find a calculator that does that for you at <http://www.1728.org>.



Mass is not how much a thing weighs. Mass is not weight.

Mass is a part of matter that fights against movement in any direction.

Last week we mentioned that moving stuff is like, say, lifting.

On Earth you have both weight and mass. But out in outer space, where gravity is weaker, you'd weigh less, but have the same mass.

Scientists have been looking for "what gives mass to matter" for many, many years. A team effort in Europe was able to show the thing that gives matter its mass is the Higgs boson, a subatomic particle.