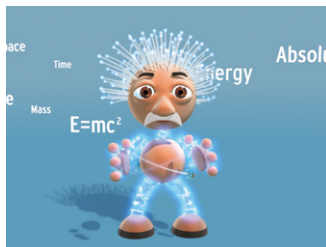


SCIENCE
TECHNOLOGY
MEDICINE

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90 SEC.



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EinSteinchen

$E=mc^2$ – the most famous formula in the world. Everyone knows it, but very few know what it actually means. This is true of most of Albert Einstein's revelations. You don't have to be a genius in physics to understand our program. Whether it's the photoelectric effect or the relativity of time, the virtual figure **EinSteinchen** will help you understand the ideas behind Einstein's work in a simple and straightforward fashion. In twelve 90-second, elaborately animated clips, the virtual whiz explains the great scientist's most important discoveries. EinSteinchen speaks directly to viewers, and makes them want to learn more about the basic principles inherent in Einstein's theories. He explains difficult concepts using amusing and fascinating examples that anyone can understand.

- 01 Absolute and Relative**  It's all a question of perspective! EinSteinchen provides a simple example revealing how size – depending on your point of reference – is actually relative.
- 02 $E=mc^2$**  Einstein's famous formula! EinSteinchen explains that energy can turn into mass, while mass can likewise be converted into energy. This second process, for example, constantly occurs in our sun.
- 03 The Discovery of Slowness**  What is the 'relativity of time'? EinSteinchen shows how time changes when traveling through space. Of course, speed also plays a role. An external observer watching a clock on a spacecraft that was accelerating through space could see time 'slow down' as the ship gained speed.
- 04 As Fast as Light**  EinSteinchen explains that light always moves at the same speed, and why nothing can be faster than light.
- 05 Glowing Atoms – Stimulated Emissions**  How does a laser apparatus create its special, highly concentrated beam of light? EinSteinchen explains the role that 'excited' atoms play in the process.
- 06 The Supermolecule – Bose-Einstein Condensation**  When EinSteinchen drops the temperature of molecules close to absolute zero, they change state and begin behaving like a single 'wave'.
- 07 The Spooky Long-Distance Effect**  EinSteinchen takes a look at a paradox. Two particles can continue to be 'entangled' with each other even if they're far apart in space.
- 08 Bent Space**  EinSteinchen shows how incredibly massive objects exerting enormous gravity actually bend space, and how even light follows the curve.
- 09 Dancing Particles**  Molecules are in constant motion. Even inanimate particles can move in seemingly unpredictable ways. EinSteinchen explains how the forces that play a role in interactions between molecules can be defined by formulas.
- 10 Electricity from Light**  Light can exhibit the characteristics of either a particle or an electromagnetic wave. That's why light energy can be converted into electrical energy. EinSteinchen shows us how.
- 11 The Invisible Force**  EinSteinchen reveals how the forces of gravity exerted by stars and planets keep everything in the universe in motion.
- 12 Wormholes**  Theoretically, two black holes could distort space-time in the universe so extremely that they would create what's called a 'wormhole'. EinSteinchen explains how a theoretical journey through this kind of cosmic tunnel could provide shortcuts across the enormous distances of space.