

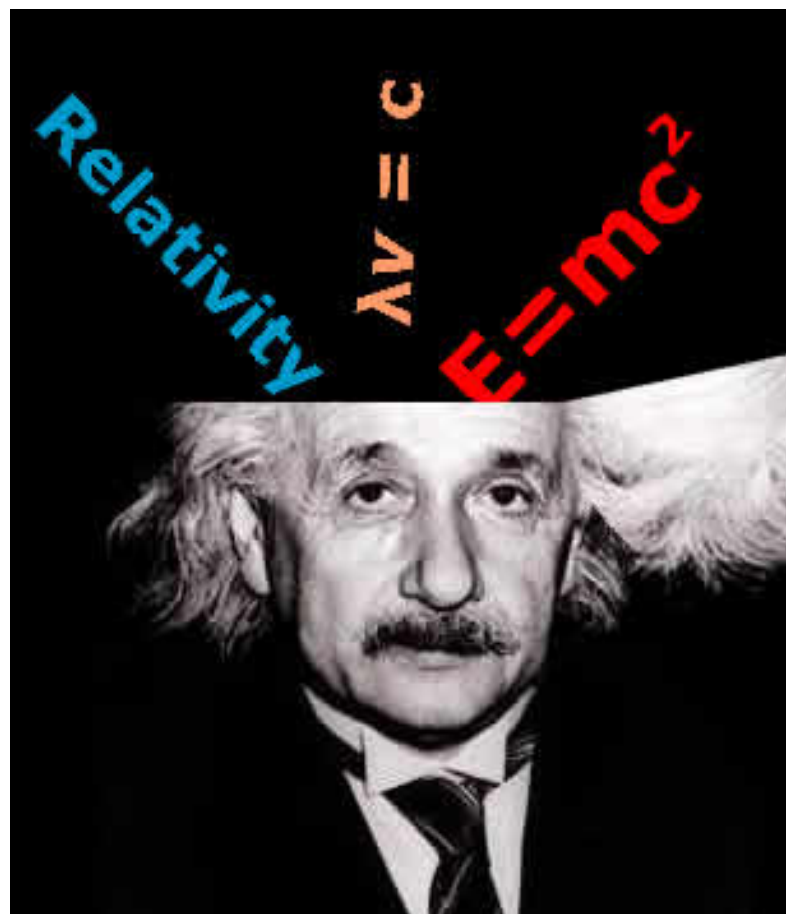
Einstein's Theories

Albert Einstein had a very advanced understanding of how the universe worked. He believed that physical laws of nature were true everywhere, not just here on Earth. Have you heard of the Theory of Relativity? (In fact, there are two: the Theory of Special Relativity and the Theory of General Relativity.) Relativity answers many mysterious questions about the nature of space and time, but it also opens the door to questions even more mysterious. Do massive rotating objects really distort space and time? Puzzling over this question of Einstein's prompted scientists to look for and discover black holes. Does an object become heavier when it travels at high speeds? Those of us trying to lose weight by jogging sure hope the answer is no!

Another of Einstein's theories gave rise to what might be the most famous formula in all of science: $E = mc^2$. A good way to understand this formula is to think about a quantity of matter with a certain mass. You can picture a pencil or a shoelace, or—if you want to be more scientific—a carbon atom. If you somehow were to convert that matter into pure energy, just how much energy would you end up with? According to Einstein's formula, just multiply the mass by the speed of light squared (or about 90,000,000,000,000,000). That's a lot of energy! The idea that a small amount of matter could be converted into a gigantic amount of energy paved the way for nuclear power, among other things.

What sometimes surprises people is that Einstein was never the top student in any of his classes or even a good student most of the time. But what Einstein missed out on in the classroom, he made up for with an incredible curiosity about the universe and a deeply creative imagination. Einstein's theory for his own success...

"Imagination is more important than knowledge."
--Albert Einstein



For more information on Einstein and his theories, click on one of these links:

[Famous Einstein quotations](#)

[Einstein-related science facts, stories, and games](#)

[Did Einstein's wife have a hand in his famous theories?](#)

Note: The links above are to websites outside the Louisiana PASS system. These links are not maintained by the Louisiana Department of Education and may not always function properly. To report a problem with one of these links, please send an e-mail to the PASS Help Desk at <mailto:help@LouisianaPASS.org>