What Is Physics Essay, Research Paper

Physics is an ever changing description of the universe, Physics is the study of the fundamentals of everything in the universe. If you look around you and start asking questions like why does that happen or how does that work, and if you probe into the question to get at the root causes, you will be in physics.You will learn of laws and theories and it is tempting to say that a law is something that has proved to be true and a theory is speculative. Nonsense. The way the terms are used, a law is an old theory, and when it is known to be only an approximation, it is still called a law. (Gas laws, Newton’s law of gravity). Einstein’s “theory” of special relativity is valid to a higher degree of certainty than lots of “laws.”But the truth is, we are absolutely certain of nothing in the real world. There is talk of a “final” theory, a theory of everything. (Right now, we have sort of a patchwork. Quantum mechanics and gravitation are disconnected, for example.) It may happen that we achieve a single theory for all of physics, but we can never be 100% certain that it is exactly correct. It could happen that a final theory will be developed, but we won’t know for certain that it is final. And please understand that when people talk about a final theory, they are not saying that we will know everything. It would in fact be a new beginning in the search for knowledge.When you start learning physics, you will begin with motion. Velocity, acceleration, force, mass, energy, momentum- these are some of the concepts that are typically found in a beginning physics course. The principles developed apply to the motion of anything- planets, electrons, athletes, owls, glaciers. Physics is really the study of everything in the universe. If someone found valid evidence to support one of those loony ideas like clairvoyance, mental telepathy, pyramid power, crystal power, astrology, auras, ghosts, etc. etc. etc., it would be studied by the physics community. When valid evidence is implied, it means it has to be convincing to the skeptic. The “scientific method” is any method of collecting evidence that is convincing to the skeptic. Normally this means it must be repeatable. (There might be a few one-time-only events to study, like the comet hitting Jupiter not long ago, butif they can be repeated, we repeat them– sometimes a flaw in the experiment is discovered this way.) Also, the experiment must be free of possible fraud. If a mind seems to bend spoons, for example, it is fair to ask whether it is possible that the viewers are being duped. Magicians are full of tricks to make the impossible seem to happen, and there is tacit understanding that the magic act is just that– an act. But when an astrologer or a psychic does his or her thing, loads of people believe it is the real thing. I guess they are not aware of the fact that these things do not hold up under thorough scrutiny.Wait a minute, everything? How about poetry? Well, if we ever really understand the brain, we will find that there is a lot of physics involved in reading or creating a poem. Poets, ball players, musicians, garbage collectors… are all applying principles of physics, usually inadvertently.Physics simply, asks the most fundamental questions and attempts to answer them using the scientific method. The Scientific method is a systematic recipe for answering questions about the universe and its components.The fundamental ideas of physics underlie all basic science — astronomy, biology, chemistry, and geology. Physics also is essential to the applied science and engineering that has taken our world from the horse and buggy tothe supersonic jet, from the candle to the laser, from the pony express to the fax,from live smoke signals to live satellite transmission, from the beads of an abacusto the chips of a computer.Today physics is as exciting as ever. The animated conversation between physicists and nature goes on and it shows no sign of stopping. The most basic of the sciences, physics, is all around us every day. If you’ve ever wondered what makes lightning, why a boomerang returns, how ice skaters can spin so fast, how Michael Jordan can “fly,” why waves crash on the beach, how that tiny computer can do complicated problems, or how long it takes light from a star to reach us, you havebeen thinking about some of the same things physicists study every day.

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