

Why is it important to understand physics if you are designing a rollercoaster?

Understanding physics is necessary for making a roller coaster because without understanding this, your roller coaster won't move. Potential energy is when something will have movement energy but doesn't have it yet. The higher the hill the more potential energy. You need this for a roller coaster so when you go down you will know how fast you will go down. Kinetic energy is the energy of actual movement, and if your roller coaster has no kinetic energy it will never move. Gravity brings things down to the earth. If you have no gravity nothing will turn the potential energy into kinetic energy. These are all really necessary tools to make a roller coaster.

Physics is a key thing in roller coaster safety. If there was no physics there would be nothing to stop you and you would never stop. Friction is important to safety because without it, there will be nothing to stop you and you will never stop moving. Friction makes you stop which helps you brake. Newton's First Law is really important because it tells you nothing will stop the roller coaster unless you add brakes. These are really important because your roller coaster will never stop without these things.