Mathematical structure provides us with the means to describe and communicate the phenomena we see in the natural world; in turn physical quantities give meaning and depth to mathematics. In the case of special relativity, the Lorentz Transforms provide an excellent illustration of geometric structure entwined with a natural phenomena which will give rise to a conversation on hyperbolic geometry, invariance and the implications of such. Through discussing some examples, we will investigate what kind of quantities are invariant under the Lorentz Transforms and what kinds of quantities are not.