The thesis is designed to introduce the reader to the basics of particle physics. Firstly, in terms of the historical development of the knowledge of elementary particles and the interactions between them. This is followed by an introduction into the current knowledge represented by the Standard Model. Then is shown how particles are searched for and their properties verified. In particular, it is the LHC and ATLAS. Emphasis is given on the basics of using the simulation program PYTHIA and the basic commands controlling the program are explained. In addition, several simple examples of events that the reader may encounter in experiment at the LHC are shown. An event is always shown to exhibit some property or phenomenon. Specifically, these include the use of particle physics, demonstration of the four-momentum conservation law, the distinction between signal and background, light-by-light scattering, and jets and their suppression.