The history of aviation magnificent gliders here. Even experts and insiders have difficulty keeping track of them.

Hans Langenhagen

An astonishing number of gliders were designed and built as early as the 1930s, and in particular after the Second World War.

Full-Day-Program
In reunited Germany, the project group activities that were once common in schools now operate under the title "full-day program". This is where us aeromodellers once again have an opportunity for recruiting the younger generation into our clubs.

This booklet describes experiences of several years of cooperation between Modellflug Club Rossendorf and a high school in Dresden. It turned out that this can be both a source for attracting students and a link to school’s subject matter. Small projects worked on within the framework of physics and information technology (IT) lessons are described in Selected Topics.

The first part of the document focuses on the practical approach to building model aircraft, ranging from the basic to the more challenging. Even with the simpler models, students measure distances and flying times covered by their models after hand launching as a way of gathering data for estimating the parameters glide ratio, ground speed and rate of descent in a fun way. This provides an introduction to the basic physical properties of a model aeroplane while familiarising students with the aerodynamic forces acting on a model during flight. Information on RC training is brought into play at suitable times with this mostly taking place in sports halls.

The second part is designed to deal with theory in practice – it explains the influence of wing size, aspect ratio or wing loading on the basic properties that have become familiar with respect to basic model
gliders. Simple calculations help to illustrate this, in particular with regard to lift. The contemplation of powered models in horizontal or climbing flight means the parameters thrust and power have to be introduced and are discussed in a detailed section on propulsion. It includes the properties of LiPo and NiMh batteries as well as matching of motor and propeller and statistical data on propulsion configurations.

Finally, the section Designing a model aircraft summarises all of the topics dealt with above – from their application to metrological confirmation of the calculated climbing rate of a motor glider. Overall, what is special about this document is that the results of calculations are supported by measurements or, in the opposite case, approximation formulas are derived from measurement results. This involves the use of results. This involves the use of basic measuring instruments such as smartphones and on-board metrology. The information obtained is often very interesting, with just one example being the required take-off distance for a powered model.

The report could thus offer something new to the student or be a useful work of reference for the trainer. It was worth writing it for both cases.