

The diploma work contains sets of items to measure knowledge and skills of grammar-school students in molecular physics and thermodynamics. The curriculum was split into four topics. Each topic corresponds to two sets of items. The items had been tried-out by students from seven classes of three grammar-schools, the item analysis was computed of obtained data. Unsuitable items have been updated. The items are corresponding to external part of final exam in grammar-schools which is being currently prepared. Each set also contains exemplary solutions of all items. There is a summary of important knowledge in fields of test items and their examination in the theoretical part of the work.