This Diploma Thesis deals with the use of semantic arithmetical environment "Father Woodland" in the experimental teaching of a sick child. First aim of the thesis was to verify the motivational power of the environment. For this purpose the experiment with a hospitalized pupil of fourth grade was realized. Second aim of the thesis was to elaboarte such educational material, which could be used in mathematical education of pupils of 2nd - 5th grade of primary school beside their current textbook at their longer stay in a hospital. For completeness materials on the general pediatric patients, their specific characteristics, needs and rights are also included. The Thesis is accompanied by both written experimental materials and all materials which were created within the work on the Diploma Thesis.