The thesis focuses on information and communication technologies in education. It mainly deals with the use of the Internet in the teaching of mathematics at lower and upper secondary schools. The aim of the thesis is to summarize some information concerning the present knowledge of information and communication technologies in education and their impact on the process of education, to present various ways of using the Internet by maths teachers and to conduct an enquiry into the present state of the use of the Internet by maths teachers at lower and upper secondary schools. The thesis provides information about interesting mathematical Internet resources and examples of their use in a teacher's preparation for lessons and in mathematics lessons, too. The resources mentioned in the work should contribute to the improvement in the efficiency of the teaching of mathematics. The thesis shows that the Internet is a beneficial source which could improve the quality of the teaching of mathematics and education in general.