Parental support of children’s learning in mathematics has long been an aim of policy makers. However, a number of studies have suggested that factors exist which inhibit parents from playing an active role in their children’s mathematical education at home. Using a sociocultural perspective I report findings from a PhD project investigating how parents support their primary school children’s mathematics. Here we draw on narrative-episodic interviews undertaken with 24 parents of primary school-aged children. The parents were asked to recount their experiences of learning mathematics and of doing school mathematics with their children. This data was thematically analysed in order to develop an understanding of parents’ personal mathematical histories, their perceptions and representation of primary school mathematics, and their experiences of completing school work at home with their children. From this it became clear that the majority of parents in the sample faced a number of problems and impediments to supporting their children’s conceptual development in mathematics. Examples of these experiences, such as divergent understandings, curriculum changes and motivation are presented. It was also found that parents appeared to utilise a wide-range of strategies and approaches to overcoming these barriers. Illustrations of these strategies, for instance parental guidance and evaluating understanding are discussed.