Perception of teachers on inclusive education is vital because their perspective determine to what extent they practice inclusive education. Despite the progress in providing quality inclusive education to learners with special needs, total inclusive education is yet to be embraced in Kenya. This has made many learners with special needs to be excluded from mainstream education. The purpose of the study was to examine the perception of teachers on inclusive education in public regular primary schools in Homa Bay Sub County. The objectives of this study were to find out the perception of teachers on their attitude towards inclusive education; establish the academic and professional preparedness to implement inclusive education; to find out the perception of teachers on potential challenges facing them while implementing inclusive education and to find out the perception of teachers on possible strategies employed in the implementation of inclusive education in public regular primary schools. The study was guided by Lev Vygostsky's constructionist theory of learning and used an ex post facto research design. The study targeted six schools with a total of 99 teachers and 2 Educational Assessment Research Centre coordinators. (EARC). Using 30% of the target population, a sample size of 30 teachers was selected through simple random sampling technique and 2 EARC coordinators through saturated sampling technique to participate in the study. Data collection instruments were interview schedules and focus group discussions. Data triangulation, member checking, and external auditors enhanced trustworthiness of qualitative instruments. Thematic analysis approach was used for qualitative data analysis. The study findings indicate that the natures of attitudes of teachers from different backgrounds are different. Teachers whose teaching experience was above11 years in primary schools held more positive attitudes towards inclusive education; most teachers are not trained to teach learners with special needs; challenges that affect teachers in inclusive education include lack of teaching and learning resources and noncooperation of parents; strategies employed were consultation with the community and parents along with seminars and in-service training for teachers. In inclusive education, commitment to change, with training and cooperation from parents, children, and teachers can realize full inclusion. The study recommends that teachers should plan to have more time to provide remediation for learners with special needs. It also recommends that teachers should be sensitized by relevant stakeholders to develop positive attitudes towards the implementation of inclusive education in primary schools.