An edge-colored tree $T$ is a rainbow tree if no two edges of $T$ are colored the same. For a connected graph $G$ of order $n \geq 3$ and an integer $k$ with $2 \leq k \leq n$, a $k$-rainbow coloring of $G$ is an edge coloring having the property that for every set $S$ of $k$ vertices of $G$, there is a rainbow tree $T$ containing the vertices of $S$. The minimum number of colors needed in a $k$-rainbow coloring of $G$ is the $k$-rainbow index of $G$. This topic is discussed and some results are presented. (Received September 15, 2008)