The median gives the middle value of a set of quantitative data once it has been arranged into order; it is a type of average.

For example, the median of $0,1,2,2,3,4,4,5,7$ is the middle number, 3 .
If there are an even number of values, then the median is midway between the middle two values. For example, the median of $1,2,2,4,5,6$ is $\frac{2+4}{2}=3$.
If data are given in grouped classes, then their median can be estimated using cumulative frequency graphs and linear interpolation. (Linear interpolation is explored in the resource In-betweens.)

For a random variable $X$, the median is the $X$ value $m$ which is halfway through the distribution, that is, $P(X \leq m)=\frac{1}{2}$. This works well for continuous random variables, but not for discrete ones.
For discrete random variables, we say that the median is $m$ if $P(X<m)<\frac{1}{2}$ and $P(X>m)<\frac{1}{2}$, so that the halfway point falls within $X=m$. For example, if $X$ has $P(X<3)=\frac{3}{10}$ and $P(X \leq 3)=\frac{6}{10}$, then $X=3$ goes across the halfway point, so the median is 3 . In the case that $P(X \leq m)=\frac{1}{2}$, so that the halfway point falls on the boundary between $m$ and $m+1$, we say that both $m$ and $m+1$ are medians.

