We want to relate the small length, area, or volume element to delta m, the amount of mass contained within.

In one dimension, this relation is called the linear density, lambda, which is delta m over delta l.

For a uniform rod of length L and total mass M, lambda is equal to M over L. In two dimensions, the area element contains an amount of mass sigma times delta A, where sigma has units of mass over area.

Finally, in three dimensions, the volume density rho connects the small mass, delta m, to the volume, delta V.