relaxation time

1. In magnetic resonance spectroscopy the longitudinal relaxation time, $T_1$, is associated with spin-lattice relaxation, and the transverse relaxation time, $T_2$, with spin-spin relaxation. The definitions are: \[ \frac{dM_z}{dt} = - \frac{M_z - M_{ze}}{T_1}, \] and \[ \frac{dM_x}{dt} = - \frac{M_x}{T_2}, \] where $M_z$ and $M_x$ are the components of magnetization parallel and perpendicular to the static field $B$ and the subscript $e$ denotes the equilibrium value.

Source:
Green Book, 2nd ed., p. 25

2. In a chemical reaction, the time, $\tau$, in which a concentration perturbation falls to $\frac{1}{e}$ of its initial value.

Source:
Green Book, 2nd ed., p. 55

See also:
PAC, 1996, 68, 149 (A glossary of terms used in chemical kinetics, including reaction dynamics (IUPAC Recommendations 1996)) on page 185