Magnetic field due to an infinite, straight current filament	$B = \dfrac{\mu_0\, i}{2\,\pi\, d}$
On-axis field due to N current loops and radius r	$B = \dfrac{\mu_0\, i}{2\, r} N$
Axial field of a finite, straight, thin shell solenoid of length L and N loops.	$B = \dfrac{\mu_0\, i}{L} N$
Force for a moving charge inside a magnetic field	$\vec{F} = q\, \vec{v} \times \vec{B}$
Force for a straight current filament inside a magnetic field	$\vec{F} = i \cdot \vec{L} \times \vec{B}$
Magnetic force between two straight current filaments	$F = \dfrac{\mu_0}{2\,\pi\, d} i_1\, i_2\, L$
Torque for a coil with N loops	$M = i\, S\, B\, N \sin\alpha$
Flux through a loop	$\phi = B\, S \cos\alpha$
Orbit of a moving charge inside a magnetic field. Velocity is perpendicular to magnetic field.	$F_{MAG} = F_{CEN} \rightarrow q\, v\, B = m \dfrac{v^2}{r}$ $r = \dfrac{m\, v}{q\, B}, \quad T = \dfrac{2\,\pi\, r}{v}, \quad f = \dfrac{1}{T}$

Symbol	Magnitude		S.I. unit
B	Magnetic field	(Tesla)	$\mathrm{T = N \cdot A^{-1} \cdot m^{-1}}$
q	Charge	(Coulomb)	$\mathrm{C = A \cdot s}$
i	Current intensity	(Ampere)	$\mathrm{A = C \cdot s^{-1}}$
μ_0	Permeability of vacuum	$= 4 \cdot \pi \cdot 10^{-7}$	$\mathrm{T \cdot m \cdot A^{-1}}$
N	Number of loops in the coil		
r	Loop radius		m
d	Distance		m
F	Force		N
v	Velocity		$\mathrm{m \cdot s^{-1}}$
L	Length		m
S	Section		$\mathrm{m^2}$
M	Torque		$\mathrm{N \cdot m}$
α	Angle between magnetic field vector and velocity vector		rad *or* degrees
m	Mass		kg
T	Period		s
f	Frequency		Hz *or* $\mathrm{s^{-1}}$
ϕ	Magnetic flux	(Weber)	$\mathrm{Wb = T \cdot m^2}$