

# Magnetic Field Strength Equation

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The equation for Magnetic Field Strength (B) is given by:

$$B = \frac{\mu \cdot I}{2 \cdot \pi \cdot r} \quad (1)$$

Where:

$B$  : Magnetic field strength (in tesla, T)

$\mu$  : Magnetic permeability of the material (in henries per meter, H/m)

$I$  : Current flowing in the magnetic field (in amperes, A)

$r$  : Radius or distance from the center (in meters, m)

The magnetic field strength equation represents the magnetic field produced by a current-carrying conductor or in this case, a planet's core.