## Motion under gravity

The Earth's gravity makes all objects on the Earth's surface fall at the same rate (apart from the effects of air resistance).

For each second that an object falls, its speed increases by $9.81 \mathrm{~m} / \mathrm{s}$. The acceleration due to gravity is thus $9.81 \mathrm{~m} / \mathrm{s}^{2}$. This value is usually given the symbol $g$ :
$g=9.81 \mathrm{~m} / \mathrm{s}^{2}$

