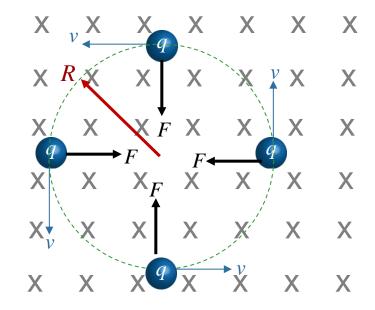
Motion of Charge q in Uniform B Field

Force is perpendicular to v

Speed does not change Uniform Circular Motion

Solve for *R*:

$$\vec{F} = q\vec{v} \times \vec{B} \Longrightarrow F = qvB$$
$$a = \frac{v^2}{R}$$
$$qvB = m\frac{v^2}{R} \longrightarrow R = \frac{mv}{qB}$$



Uniform **B** into page

Demo

Electricity & Magnetism Lecture 12, Slide 14