

# Physics C Notes

(Your Name)

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# 1 Kinematics (example section)

## 1.1 Core definitions

- Position:  $\mathbf{r}(t)$
- Velocity:  $\mathbf{v} = \frac{d\mathbf{r}}{dt}$
- Acceleration:  $\mathbf{a} = \frac{d\mathbf{v}}{dt}$

## 1.2 Key equation / idea

If  $\mathbf{a}$  is constant, then  $\mathbf{v} = \mathbf{v}_0 + \mathbf{a}t$  and  $\mathbf{r} = \mathbf{r}_0 + \mathbf{v}_0t + \frac{1}{2}\mathbf{a}t^2$ .

## 1.3 Worked example (skeleton)

**Problem.** ...

**Setup.** ...

**Solve.** ...

**Answer.** ...

# 2 Diagram templates

## 2.1 Free-body diagram (block)

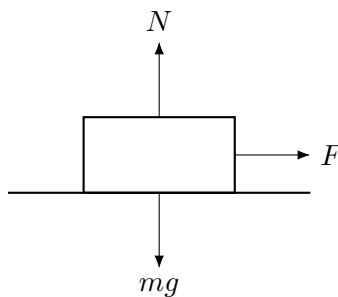


Figure 1: Example free-body diagram.

## 2.2 Circuit skeleton (battery + resistor)

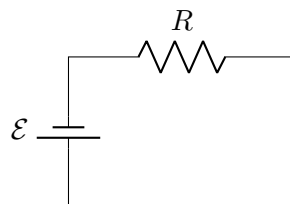


Figure 2: Basic loop (useful for Kirchhoff practice).