

**1** How long, in picoseconds, does it take for light with a speed of  $3 \times 10^5 \text{ km s}^{-1}$  to travel across a virus of diameter  $3 \times 10^{-1} \mu\text{m}$ ?

**A**  $1 \times 10^{-6} \text{ ps}$

**B**  $1 \times 10^{-3} \text{ ps}$

**C**  $1 \times 10^0 \text{ ps}$

**D**  $1 \times 10^1 \text{ ps}$

**2** The resistance of a wire is determined by measuring the current in the wire and the potential