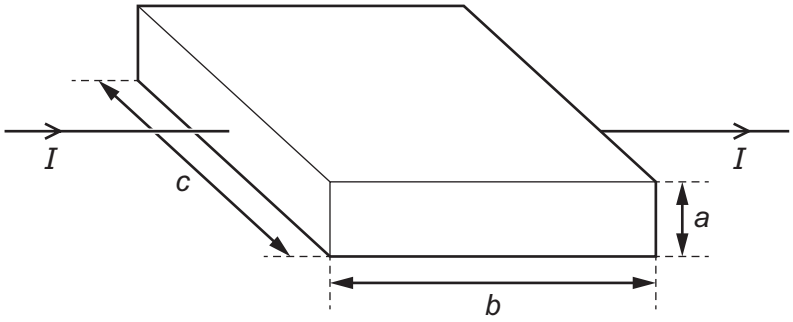
31 The diagram shows a metal block.



The block has sides of length a, b and c as shown, and its volume is V. Each charge carrier has a charge $-q$ and the number density of the charge carriers in the metal is n. It takes each charge carrier an average time of t to pass through the block.

What is an expression for the current I?

A $I = nqabc$ **B** $I = \frac{nqV}{t}$ **C** $I = \frac{nqbc}{t}$ **D** $I = nqaV$