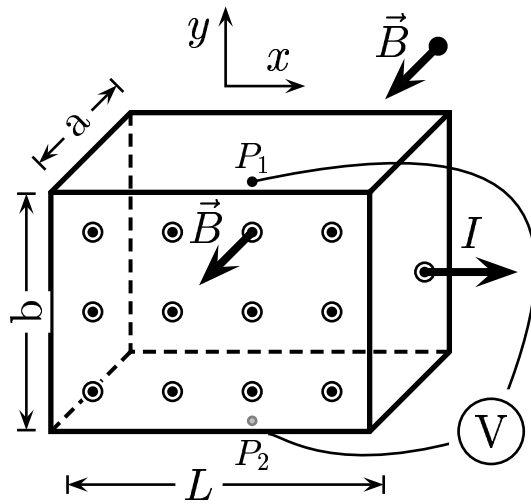
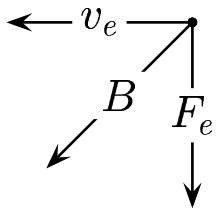


Given: A rectangular metal strip has current I flowing to the right. Average drift velocity of the electrons is to the left. B is out of the page.



Determine the direction of the force F exerted by the field B on the electrons.

- A) \uparrow
- B) \rightarrow
- C) \downarrow
- D) \leftarrow



Using the right hand rule and $\vec{F} = \vec{v} \times \vec{B}$ where \vec{v} is along the negative x axis and \vec{B} is along the positive z axis, the resulting \vec{F} is along along the negative y axis

$$-\hat{i} \times \hat{k} = \hat{j},$$

since q is negative, the answer is $-\hat{j}$, or along the negative y axis.

Answer **C**.

29.06-01 Hall Experiment 2004-3-24