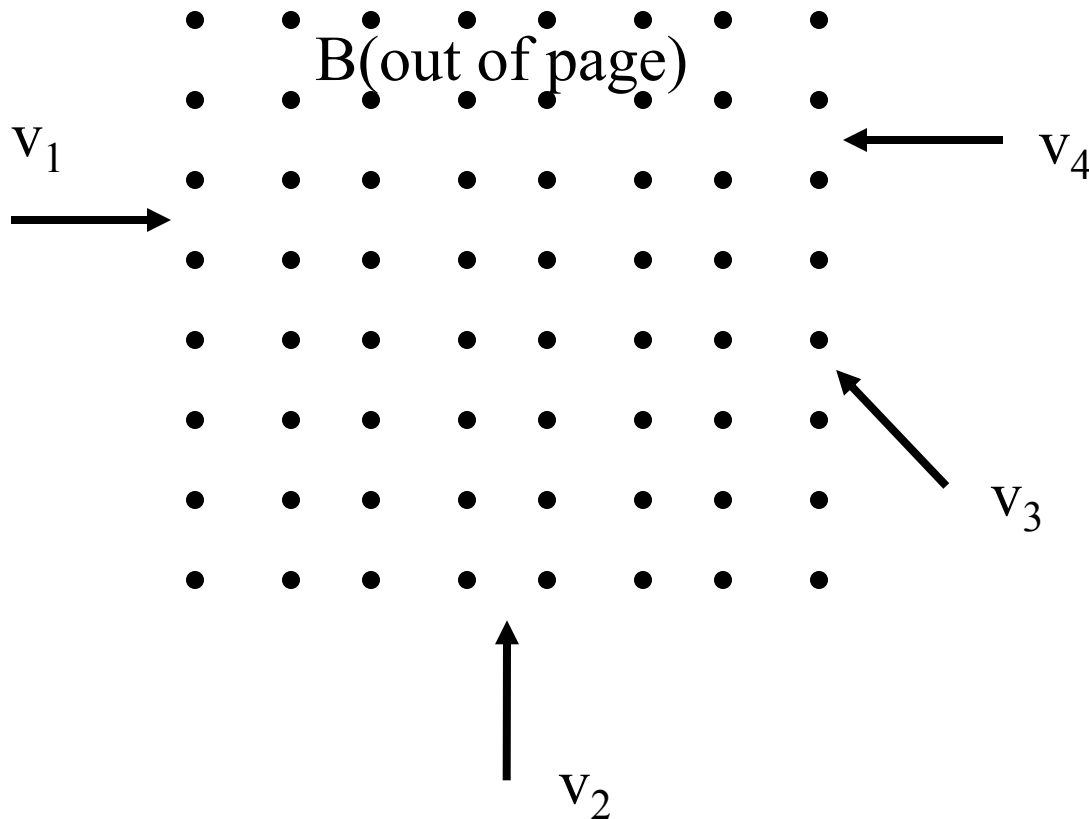

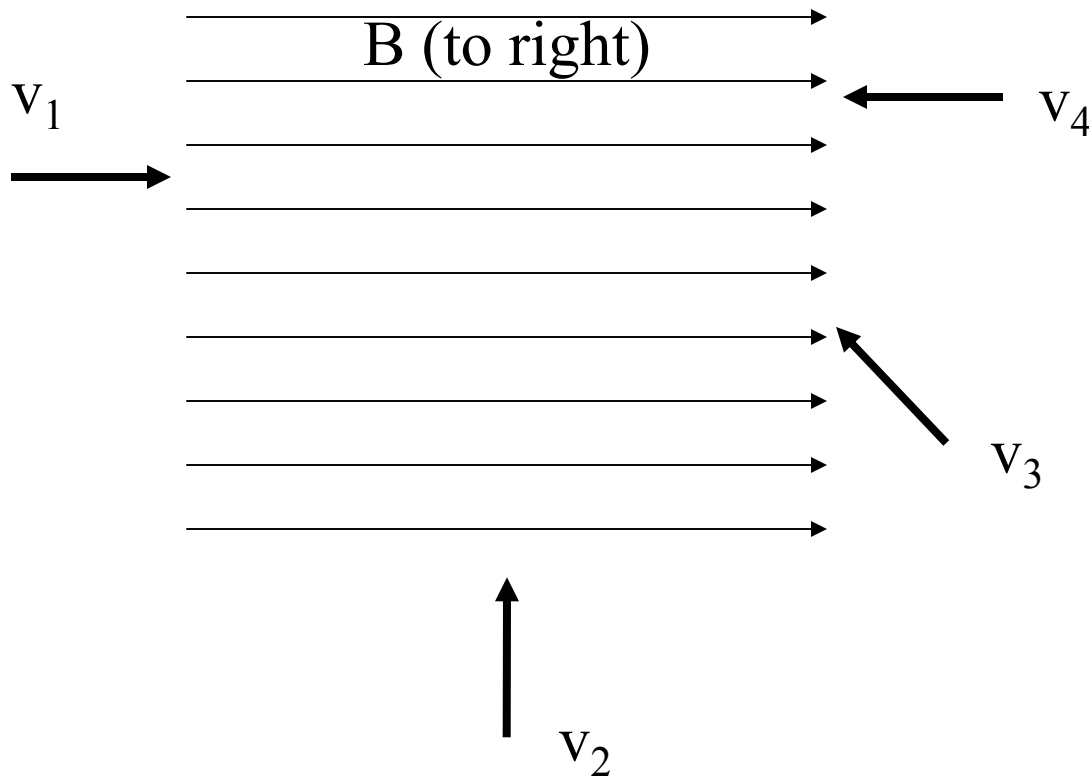


Four particles with the same charge and initial speed are incident on the same region of constant magnetic field, as depicted below. Rank the magnitude of the force due to the magnetic field on the particles from greatest to least. 🗨️




1. $v_1 = v_2 = v_3 = v_4$
2. $v_1 = v_4 > v_3 > v_2$
3. $v_1 = v_2 = v_4 > v_3$
4. $v_4 > v_3 > v_3 > v_1$
5. need more info

Four particles with the same charge and initial speed are incident on the same region of constant magnetic field, as depicted below. Rank the magnitude of the force due to the magnetic field on the particles from greatest to least. 



1. $v_1 = v_2 = v_4 > v_3$
2. $v_1 = v_4 > v_3 > v_2$
3. $v_2 > v_3 > v_1 = v_4$
4. $v_1 > v_2 > v_3 > v_4$
5. $v_2 > v_3 > v_4 > v_1$

A uniform steady magnetic field is directed into the page. A charged particle, moving in the plane of the page, follows a clockwise spiral of decreasing radius as shown. A reasonable explanation is: 



1. The charge is positive and slowing down.
2. The charge is negative and slowing down.
3. The charge is positive and speeding up.
4. The charge is negative and speeding up.