## Batteries Not Included

i.) Column E has no - terminals, so there cannot be a battery in the slot E2/E3. Mark it as empty.

ii.) Row 6 has 3 - terminals and $3 x+$ terminals, so there must be a battery in every slot in that row. We don't know their orientation, but since row 5 only has $4 x$ terminals and $4 \mathrm{x}+$ terminals, the slot in D5/E5 must be empty.

iii.) For Column C to have $3 \mathrm{x}+$ terminals, the slot in $\mathrm{C} 3 / \mathrm{C} 4$ must contain a battery. And since Row 4 contains only one of each sort of terminal, slots A4/B4 and E4/F4 must both be empty.

iv.) Column $A$ needs $3 x+$ terminals. That means there must be a battery in $A 1 / B 1$, with its positive terminal in A1. There must then also be battery in A2/A3 and, since like terminals cannot touch, it must have its negative terminal in A2.

v.) Column F needs 3 x - terminals. That means there must be a battery in E1/F1, with its negative terminal in F1. There must then also be a battery in F2/F3 and, since like terminals cannot touch, it must have its positive terminal in F2.

v.) Column E needs $2 x+$ terminals. Therefore the battery in D6/E6 must have its positive terminal in E6. Following the rule that like terminals cannot touch, that allows all batteries in rows $5 / 6$ to be placed. This should also complete column A.

vi.) Column B now has the required terminals, so slot $\mathrm{B} 2 / \mathrm{B} 3$ can be marked empty. Row 1 also has all the required terminals, so C1/D1 can be marked empty.

vii.) The remaining slots must all be filled, and there is only one way to do so respecting the rule that like terminals cannot touch.


Solution: FREE OF CHARGE

