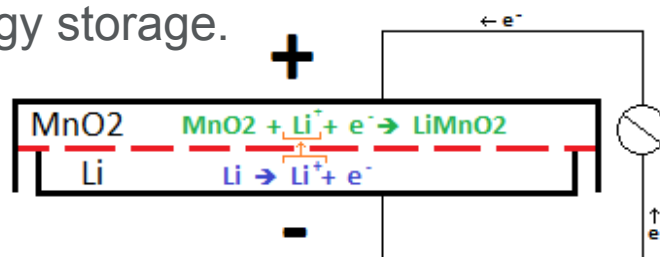


# Calcium could replace lithium in batteries

*Read the full article at [rsc.li/2FOWDak](https://rsc.li/2FOWDak)*

Due to a limited supply of raw materials, as well as safety issues, lithium-ion batteries are struggling to meet global demand. One alternative is calcium batteries. Compared to lithium-ions, calcium can deliver twice as many electrons per ion between electrodes. So calcium batteries could offer a higher capacity than lithium batteries. However, a lack of suitable electrolytes has limited research. Previously, problems were encountered with calcium battery electrolytes, including high operating temperatures and poor stability.

However, scientists have recently created a new electrolyte that has impressive electrolytic properties and they've used it to make room-temperature calcium batteries for the first time. This new compound represents a significant step towards post-lithium energy storage.



*Diagram of lithium-ion battery with manganese dioxide cathode*

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1. In the periodic table, what group is calcium found in?
2. Explain why non-rechargeable cells stop working.
3. Explain why calcium produces twice as many electrons per ion as lithium.