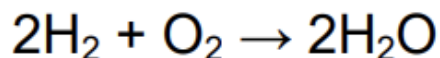


(Fuel cells (hydrogen–oxygen fuel cell, pros and cons))

Q1.(2018)



Q2.(2018)

reasons why fuel cells could be judged as better

from the table	from other knowledge
<ul style="list-style-type: none">time for refuelling a fuel cell is faster than rechargingora fuel cell does not need to be rechargeda fuel cell has a greater range	<ul style="list-style-type: none">hydrogen can be renewable if made by electrolysis using renewable energylithium-ion batteries can catch fireproduces only waterorno pollutants producedlithium-ion batteries may release toxic chemicals on disposallithium-ion batteries (eventually cannot be recharged so) have a finite life

reasons why the lithium-ion battery could be judged as better

from the table	from other knowledge
<ul style="list-style-type: none">lithium-ion uses energy more efficientlycost of lithium-ion car much lesscost of recharging much less than refuelling with hydrogen	<ul style="list-style-type: none">hydrogen is often made from fossil fuels so is not renewablecharging points are more widely available than hydrogen filling stationshydrogen takes up a lot of spaceoris difficult to storehydrogen can be highly flammable / explosiveno emissions produced(catalyst in the hydrogen fuel-cell eventually becomes poisoned so) have a finite life

Q3. (2019)

(advantage)

any **one** from:

- faster to refuel (than recharging)
- can travel further (before refuelling)
- hydrogen can be renewable
- produces a constant voltage
- no toxic chemicals released after disposal

(disadvantage)

any **one** from:

- hydrogen is made from fossil fuels
- hydrogen is made from non-renewable resources
- hydrogen is difficult to store
- hydrogen is flammable / explosive
- costs more to refuel (than recharging)
- costs more to manufacture
- not many hydrogen filling stations

Q4.(2020)

to produce a potential difference