

# CAIE Chemistry IGCSE

## 4.2 Hydrogen–oxygen fuel cells

### Flashcards

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# What is a hydrogen-oxygen fuel cell



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Hydrogen-oxygen fuel cells only use hydrogen and oxygen to produce a voltage (electricity) with water as its only chemical product



Give the overall word and symbol equation for the reaction in a hydrogen-oxygen fuel cell



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Hydrogen + Oxygen  $\rightarrow$  Water



# Describe the advantages of hydrogen-oxygen fuel cells (extended only)



## Describe the advantages of hydrogen-oxygen fuel cells (extended only)

- Less carbon dioxide emissions than petrol/diesel engines since water is the only product
- Reduces burning of fossil fuels
- Hydrogen can be obtained from renewable energy sources



# Describe the disadvantages of hydrogen-oxygen fuel cells (extended only)





## Describe the disadvantages of hydrogen-oxygen fuel cells (extended only)

- Not as durable and long-lasting as petrol/diesel engines
- Production of hydrogen can release  $\text{CO}_2$
- Storage of hydrogen is difficult, dangerous and expensive to maintain
- More expensive than petrol/diesel engines

