

ANSWER THE QUESTIONS WITH SKETCHES AND NOTES. CLICK ON EACH 'SCIENCE WARNING SYMBOL', FOR HELPFUL LINKS.

# THE HYDROGEN ECONOMY and ENERGY SAVING DEVICES KNOWLEDGE MAP

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1. BRIEFLY DESCRIBE THE HYDROGEN ECONOMY.



2. DESCRIBE TWO WAYS HYDROGEN CAN BE USED AS A SOURCE OF FUEL



3. HOW DOES A HYDROGEN FUEL CELL PRODUCE ELECTRICITY? Include a diagram.



4. DRAW A LABELLED DIAGRAM, SHOWING HOW A VEHICLE IS POWERED BY HYDROGEN.



5. PASTE AN IMAGE OF ONE MORE USE OF A HYDROGEN FUEL CELL.



9. WHAT ARE THE ADVANTAGES OF AN ENGINE WITH 'STOP / START' TECHNOLOGY? Explain how 'stop / start' works



8. DESCRIBE HOW HYDROGEN IS USED TO GENERATE LARGE AMOUNTS OF ELECTRICITY AT POWER STATIONS.



7. LIST THREE ADVANTAGES AND DISADVANTAGES, OF HYDROGEN AS A FUEL AND ENERGY / POWER SOURCE.



6. ELECTROLYSIS OF WATER IS CENTRAL TO HYDROGEN PRODUCTION. WITH THE AID OF A DIAGRAM, EXPLAIN THE PROCESS.



10. WHAT ARE THE ADVANTAGES OF USING 'WIND-UP' ELECTRICAL DEVICES? Include reference to a wind-up torch.



11. HOW DOES A SOLAR CHARGER WORK? Describe a product that uses a solar charger.



12. WHAT IS A MAGNETIC FORCE TORCH AND HOW DOES IT WORK? Include a diagram.



13. USING YOUR IMAGINATION, HOW COULD THE TECHNOLOGY USED IN A MAGNETIC FORCE TORCH, BE APPLIED ON A LARGER COMMERCIAL SCALE?

