RESOME RESOURCES
Minerals and Energy Education

ELECTROLYSIS OF WATER

1. **What is electrolysis?**

2. **Describe, in detail, how hydrogen is formed through the process of electrolysis.**

3. **Write the balanced equation for the electrolysis of water.**

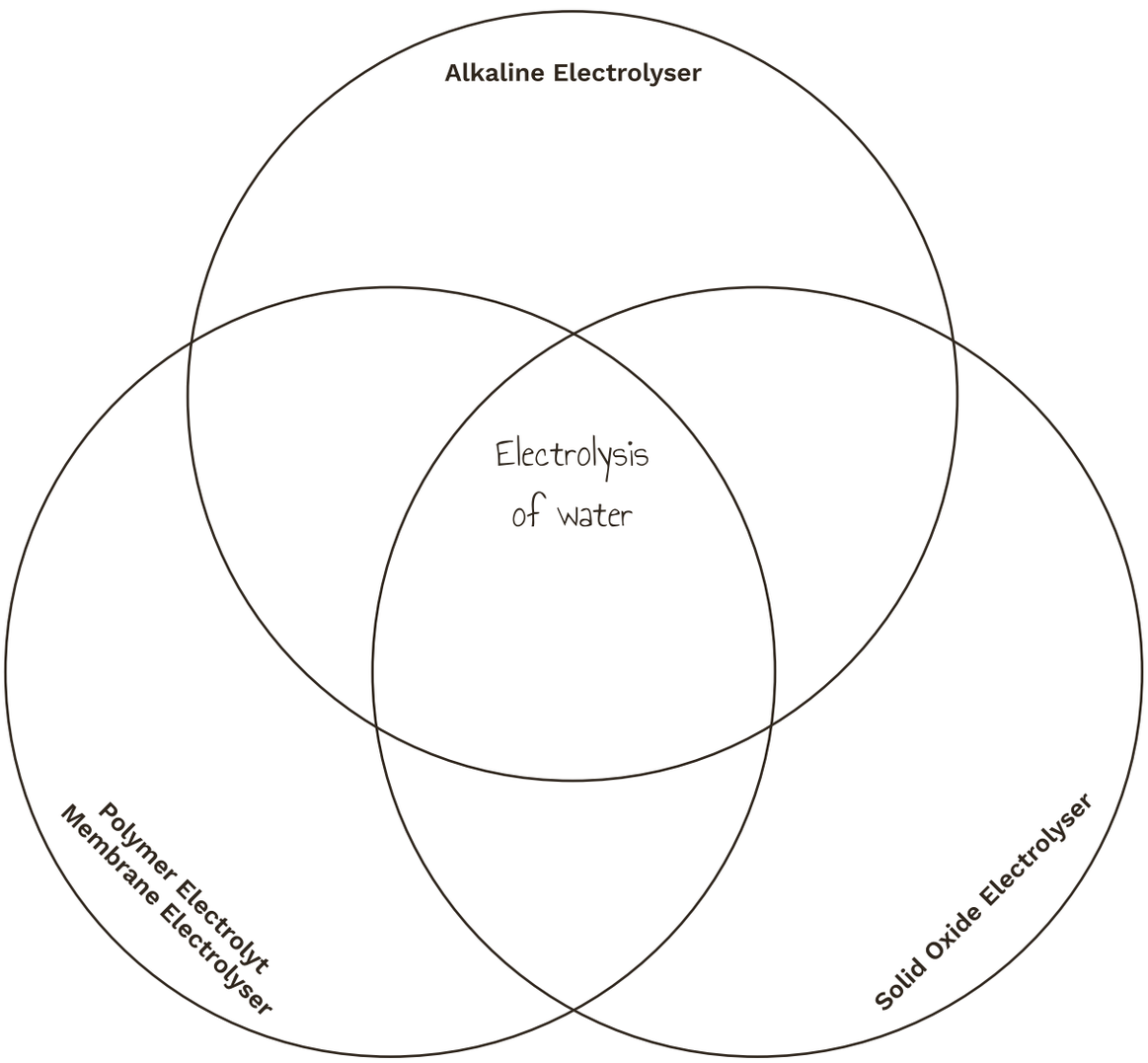
4. **What is the ratio of the hydrogen gas and oxygen gas produced by electrolysis? Explain.**

5. **Theoretically, how much pure water would be required to produce one kilogram of hydrogen.**

6. **Complete the properties of the three main types of water electrolysers in table below.**

Property	Alkaline Electrolyser	Polymer Electrolyte Membrane Electrolyser (PEM)	Solid Oxide Electrolyser (SOE)
Electrolyte			
Electrode / Catalyst			
Electrical Efficiency (kWh to produce 1kg H_2)			
Operating Temperature			
Anode Half Reaction			
Cathode Half Reaction			

7. **Use the properties in the table above and complete the Venn diagram.**



8. **How could splitting water be used to make hydrogen cars work?**