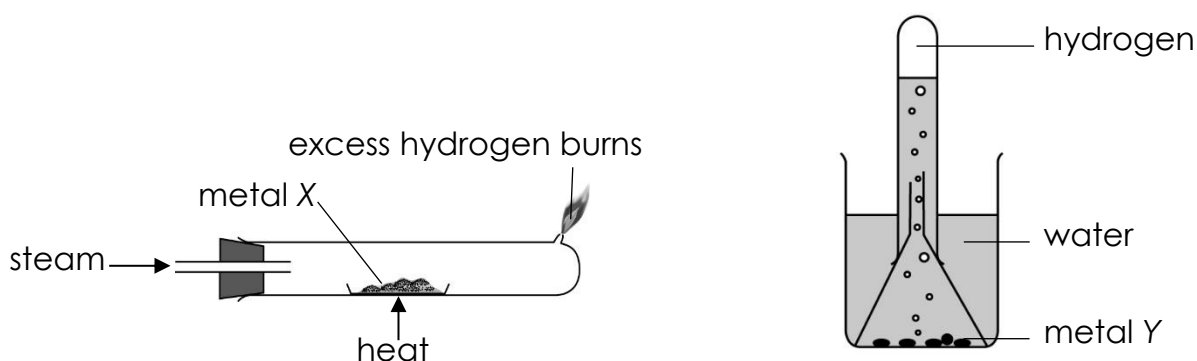


8. Which of the following CANNOT show that calcium is more reactive than zinc?
- Calcium is extracted by electrolysis of its molten ore while zinc is extracted by carbon reduction of its ore.
 - Calcium can displace zinc from zinc sulphate solution.
 - Calcium reacts with cold water while zinc does not.
 - Calcium has a smaller relative atomic mass than zinc.

Section B: Structured questions

Metal X and metal Y react with steam and cold water as shown below. When X is added to cold water, there is no observable change.



- Compare the reactivity of metal X and Y.
- Give ONE example of X and Y respectively.
- Why is hydrogen burnt at the outlet for the reaction of metal X?
- Write a chemical equation for the reaction between metal X and steam.
 - Write a chemical equation for the reaction between metal Y and water.
- Name the method of collection for hydrogen in the reaction of metal Y.

Suggested Answer**Section A**

1.	A	5.	C
2.	B	6.	B
3.	C	7.	A
4.	D	8.	D

Section B

(a) Y more reactive than X.

(b) X: magnesium / zinc
Y: calcium

(c) Leakage of hydrogen may cause explosion. Hydrogen is burnt for safety reason.

(d) (i) $\text{Mg} + \text{H}_2\text{O} \longrightarrow \text{MgO} + \text{H}_2$ /
 $\text{Zn} + \text{H}_2\text{O} \rightarrow \text{ZnO} + \text{H}_2$

(ii) $\text{Ca} + 2\text{H}_2\text{O} \longrightarrow \text{Ca}(\text{OH})_2 + \text{H}_2$

(e) Displacement of water