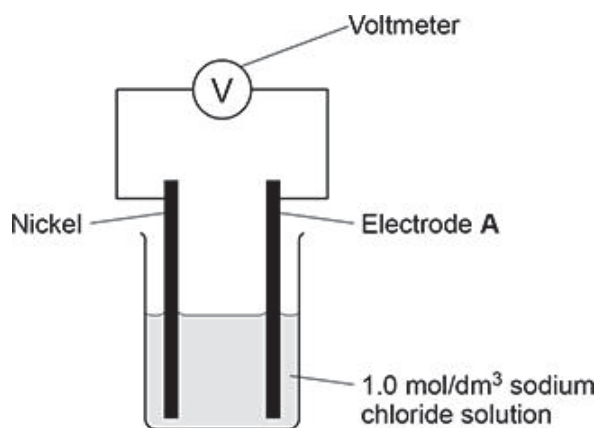


All questions are for separate science students only

Q1.

A student investigated the voltage produced by different pairs of metal electrodes in a chemical cell.

The figure below shows the apparatus.



This is the method used.

1. Place a nickel electrode and an electrode made from a different metal (electrode **A**) in 1.0 mol/dm^3 sodium chloride solution.
2. Measure the voltage produced.
3. Repeat using different metals for electrode **A**.

The table below shows the results.

Electrode A	Symbol of metal	Voltage in volts
Copper	Cu	-0.59
Magnesium	Mg	2.12
Nickel	Ni	0.00
Silver	Ag	-1.05
Zinc	Zn	0.51

- (a) Write the symbols of the five metals in the above table in order of reactivity.

Justify your answer. **(chemistry only)**

Most reactive _____ Least reactive

Justification _____

- (Total 11 marks)