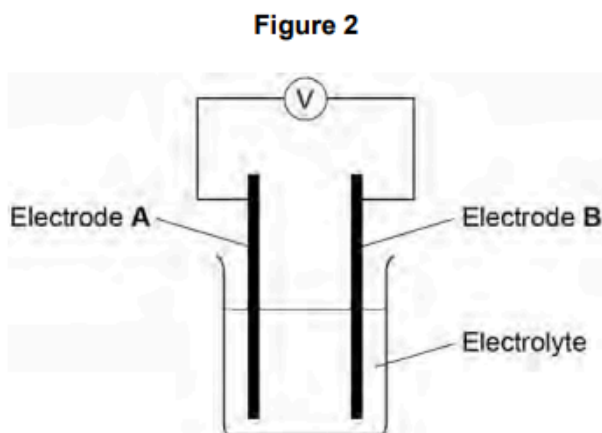


(Cells and batteries (chemical cells, rechargeable and non-rechargeable))

Q1. (2018)

Chemical reactions can produce electricity.

Figure 2 shows a simple cell.



Which of these combinations would **not** give a zero reading on the voltmeter in **Figure 2**?

[1 mark]

Tick **one** box.

Electrode A	Electrode B	Electrolyte	
Copper	Copper	Sodium chloride solution	☐
Zinc	Zinc	Water	☐
Copper	Zinc	Sodium chloride solution	☐
Copper	Zinc	Water	☐

Q2. (2018)

Alkaline batteries are non-rechargeable.

Why do alkaline batteries eventually stop working?

[1 mark]

Q3. (2018)

Why can alkaline batteries **not** be recharged?

[1 mark]

Q4. (2018)

Table 1 shows data about different ways to power electric cars.

Table 1

	Hydrogen fuel cell	Rechargeable lithium-ion battery
Time taken to refuel or recharge in minutes	5	30
Distance travelled before refuelling or recharging in miles	Up to 415	Up to 240
Distance travelled per unit of energy in km	22	66
Cost of refuelling or recharging in £	50	3
Minimum cost of car in £	60 000	18 000

Evaluate the use of hydrogen fuel cells compared with rechargeable lithium-ion batteries to power electric cars.

Use **Table 1** and your own knowledge.

[6 marks]
