

Identifying electrodes

This resource accompanies the article **Power to the pupils** in *Education in Chemistry* where you can find more ways to address common misconceptions that learners have when studying electrolysis. The article can be viewed at: <https://rsc.li/3CZl02G>

Learning objectives

- 1 Name the positive and negative electrodes in an electrolytic cell.
- 2 Identify the positive and negative electrodes from diagrams showing the practical set-up.
- 3 Explain how to identify the positive and negative electrodes in a circuit diagram.

Successful completion of the following questions will meet the above learning objectives:

- Q1 meets LO1
- Qs 3-7 meet LO2
- Q8 meets LO3

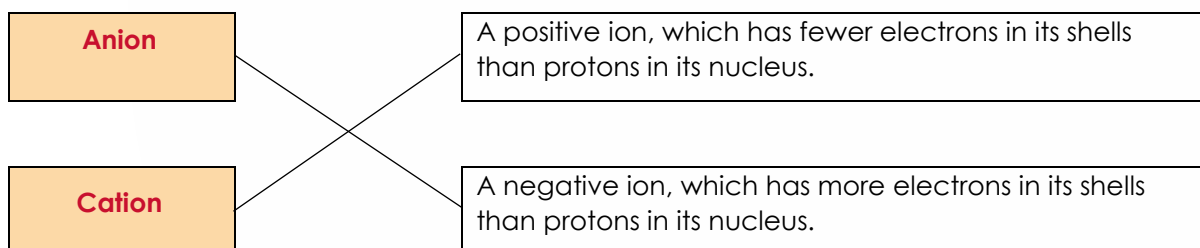
Introduction

A common mistake when labelling electrolytic cell diagrams is memorising the position of the labels, rather than considering the terminals on the battery or powerpack.

In this activity learner will need to carefully consider the diagrams to identify the positive and negative terminals and then the positive and negative electrodes.

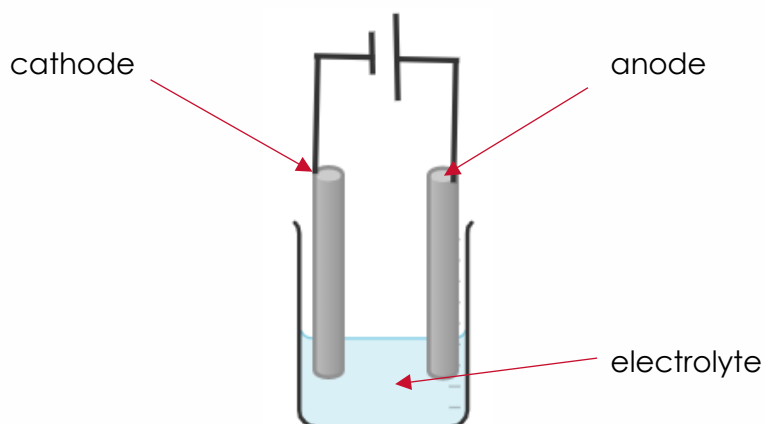
Answers

1. In any order: anode and cathode
- 2.



3. Electrode 2
4. Because it is connected to the + end of the cell; anode is the + electrode.

5. Electrode 2
6. Because it is connected to the + end of the powerpack; cations go to the cathode so the cathode is – electrode and anode is +.
- 7.



8. The + electrode is the anode because – ions (anions) are attracted to the anode. The – electrode is the cathode because + ions (cations) are attracted to the cathode.
PANIC = positive anode, negative cathode