

# Alessandro Volta

What can you find out about Alessandro Volta?



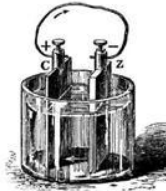
---

---

---

---

What did the first electric batteries look like and what were they used for?



---

---

---

---

© epiSTEMe 2009/10

# Your alien pen pal



You have an alien pen friend who lives on a planet just like earth - with seas, and trees, and mountains, and fluffy clouds. However, animal life has **evolved** very differently on his planet and he has a very different **anatomy** to you - he is just like a big blob!

Your friend is intrigued when you write about parts of your body, as he does not have legs and arms or a nose or ears. Your friend wonders what teeth are like, what your pulse is like, what your skeleton is like, and so on.

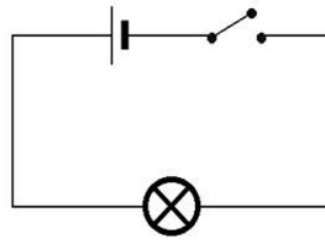
*Can you think of some things that these things are like and explain it to your friend in that way?*

*Use sentences like this one: Teeth are like \_\_\_\_\_ because \_\_\_\_\_*

*Remember, I am not asking you to describe teeth, pulse, skeleton, and so on, but to suggest things that are in some way **like** these things to see if that helps your friend understand.*

## ***Eddie/Edwina the electron in a simple circuit***

Imagine you are Eddie/Edwina the electron, who 'lives' in the circuit shown here.



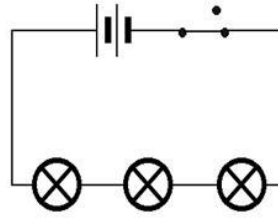
*Describe a day in the 'life' of E.*

*Remember that E and his/her friends move very fast, and there are LOTS of them all around the circuit.*

*Also remember that E is set to work when the switch is closed, but has to stop when the switch is open.*

## ***Eddie/Edwina the electron in a series circuit***

Imagine you are Eddie/Edwina the electron, who 'lives' in the circuit shown here.



*Describe a day in the 'life' of E.*

*Remember that E and his/her friends move very fast, and there are LOTS of them all around the circuit.*

*Also remember that E has to use the energy the cells provide to get around the whole circuit.*

# Stairs and lights

In many houses there are lights above the stairs that have two switches.

This means that the light can always be turned on or off from either downstairs or upstairs. See if you can find out how this is done.



*Draw a circuit diagram to the right with one lamp, one cell, and two switches, so that the lamp can always be turned on or off from either switch.*

*Explain how the two switches can 'independently' control the same lamp.*

---

---

---

# Christmas tree lights

Mr Holiday had bought two Christmas trees – one for the lounge and one for the dining room. One of the trees had a set of lights connected in series. The other tree also had a set of lights, but connected in parallel.

By Boxing Day, one of the lamps on each tree had broken. However, all the lights had gone out on one of the trees.



*Explain why all the lights had gone out on one of the trees but not on the other. In your explanation, use the words 'current', 'switch', 'series', 'conduct', 'parallel'.*

---

---

---

---

© epiSTEMe 2009/10

## ***Eddie/Edwina the electron in a parallel circuit***

Imagine you are Eddie/Edwina the electron, who 'lives' in the circuit shown here.

*Describe a day in the 'life' of E.*

*Remember that when E reaches a junction, E has to go one way or another. How does E decide?*

*Hint: Remember E and his/her friends move very fast, and there are LOTS of them all around the circuit.*

