

When you read the above extract aloud, the unnecessary repetition becomes more evident, as do longer sentences with unwieldy phrases tagged on. Sometimes, re-ordering parts of a sentence can make your writing flow better and lead your reader forwards. Think carefully before repeating facts or words, vary sentence lengths and use punctuation to break up longer sentences. A semi colon (;) normally separates two related sentences which would make sense on their own. Use a comma in between shorter phrases that need the rest of the sentence to make sense. It is also possible with this essay title to replace text with a diagram.

This extract has been edited as follows:

'Membrane potentials' can exist across any membranes with the ability to pump ions against their gradients. One proton-related use of these gradients is secondary active transport. Unlike primary active transport, this process does not directly require the energy released from the hydrolysis or ATP to power transportation (across the membrane). Instead, free energy is released when the ion moves down its electrochemical gradient; this is then coupled with the counter-gradient movement of another solute across the membrane. Although the ion moves passively and in the opposite direction to the solute, the mechanism remains similar. (94)

One example of proton secondary active co-transport is *E. coli*'s absorption of lactose and other sugars. The bacteria form a H^+ gradient (across the membrane) using ATP from the oxidation of various fuels to power proton pumping. Lactose permease, the co-transporter protein, is structured with an opening into which lactose can fit. Proteins diffuse from the extra-cellular fluid down their electro-chemical gradients into this permease binding site to form a carboxyl group. (Diagram?) Lactose follows the proton, binding to cause a conformational change which releases both the lactose and the proton to the other side of the cell. As both the ion and the co-transported substance move in the same direction, the lactose permease is known as a 'symporter'. (119)