

<b>Topic</b>	The carbon cycle	<b>Level</b>	GCSE (or any course for students aged 11-16)
<b>Outcomes</b>	To understand how the processes of combustion, decomposition, respiration, digestion, fossilisation, and photosynthesis interact to cycle carbon atoms through the abiotic and biotic parts of an ecosystem.		
<b>Information for teachers</b>	This activity can be given to used after they have been taught the key reactions of the carbon cycle. Working in pairs or groups of three students can draw a series of steps to show how carbon atoms move from one organism (or rock) to another. By wandering around the classroom you are able to listen to understanding and see what students are writing. A common misconception is to believe that plants obtain their carbon atoms from the soil.		
<b>Pedagogy focus</b>	<u><a href="#">Checking for understanding and responsive teaching</a></u>		
<b>Other resources</b>	Other resources on the carbon cycle are here: <u><a href="https://thescienceteacher.co.uk/carbon-cycle/">https://thescienceteacher.co.uk/carbon-cycle/</a></u>		

# For each challenge...

Join the two images on the diagram by creating a flow chart to show how the carbon atom moves. State the processes that are occurring at each stage, and where possible write equations.

# Challenge 1

How could a carbon atom present in a cooked roast chicken become part of the cell wall of a daffodil root hair cell?

**Instructions.** Work as a group to show, as many ways as possible, how a carbon atom present in a cooked roast chicken could become part of the cell wall of a daffodil root hair cell. Add equations where you can.



# Challenge 2

How could an atom of carbon present in limestone become part of a nerve cell in your brain?

**Instructions.** Work as a group to show, as many ways as possible, how an atom of carbon present in limestone ( $\text{CaCO}_3$ ) can become part of a nerve cell in your brain.

