

- The biological carbon cycle -

1. Plants use energy from the S_____ to make g_____ with o_____ as a waste product. To do this they need c_____ d_____ from the air and w_____ absorbed through their roots. This process is called p_____.
2. Glucose is not a suitable long-term food store. Most plants first convert it into s_____ or other insoluble sugars for storage for later use. They can store starch in their roots, or leaves, or in s_____ as a store of food for the baby plant.
3. Plants make many other molecules containing carbon, such as pr_____, and these can find their way through the food chain.
4. Plants also make structural molecules such as c_____ or l_____, to build up strong materials such as wood or bark. Carbon stored in plant and animal matter is called b_____.
5. Both plants and animals use glucose as a source of e_____, where they combine it with o_____ in a process called r_____. When this happens, c_____ d_____ is returned to the atmosphere.
6. Plant roots are more protected from oxygen when the plant dies, so their carbon is not always returned to the a_____. Instead, they can help build up s_____ carbon as a short-term carbon storage.
7. No-t_____ planting helps preserve soil carbon by not exposing it to excessive o_____. In this way agriculture can help s_____ carbon away instead of increasing atmospheric c_____ d_____.
8. Carbon in plants will be returned to the atmosphere after they die if they are eaten or d_____. However, plants can be protected from decay in special environments such as s_____, where the very acid water preserves them. In particular, the l_____ remains. Undecayed plant material from swamps is called p_____ and is often used as a soil conditioner in the garden.
9. If peat is b_____ under sediment, it gradually becomes c_____. The lowest grade of coal is called l_____, and coal buried deeper becomes b_____ coal and then a_____.
10. Animals return CO_2 to the atmosphere when they r_____. However, carbon can remain in their waste and add to soil carbon, and animal remains can become incorporated into s_____ rock if they don't decay.
11. Decomposers return a lot of carbon to the atmosphere in the form of the gases c_____ d_____ and m_____. Methane is 23 times as powerful a greenhouse gas as CO_2 .