

Air and Carbon Cycle: Carbon Cycle

Year 8

Week Commencing 5th November
2012

Carbon Cycle

- **WALT: Be able to describe the carbon cycle in detail**
- I must be able to identify various ways in which carbon is used by living things and released into the atmosphere
- I should be able to state why limestone acts as a 'carbon sink'
- I could draw the carbon cycle out off by heart

'NATURAL' RECYCLING



- × Consider the life of a pet fish
 - × Fish eats food
 - × Chemicals in food used for energy and growth
 - × Fish dies and is buried in ground decays
 - × Chemicals released into the ground and used by plants

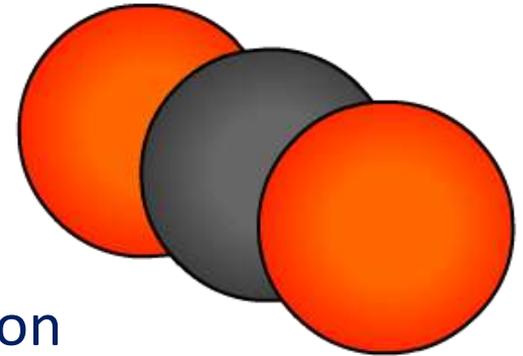
Carbon is one element that is recycled naturally.....

Why is carbon important?

Proteins, fats and sugar all contain **carbon**. Life without carbon would be very different and might be impossible.

Carbon is present in the atmosphere in what form? **Carbon dioxide**

Plants use carbon dioxide during **photosynthesis** to produce sugars. The carbon is then transferred to animals along food chains.



What happens to the carbon in organisms when they die?

- As dead matter decomposes, carbon is released back into the atmosphere in the form of carbon dioxide.
- The carbon from dead organisms can also form fossil fuels and sedimentary rocks such as limestone. These are **long-term carbon stores**.

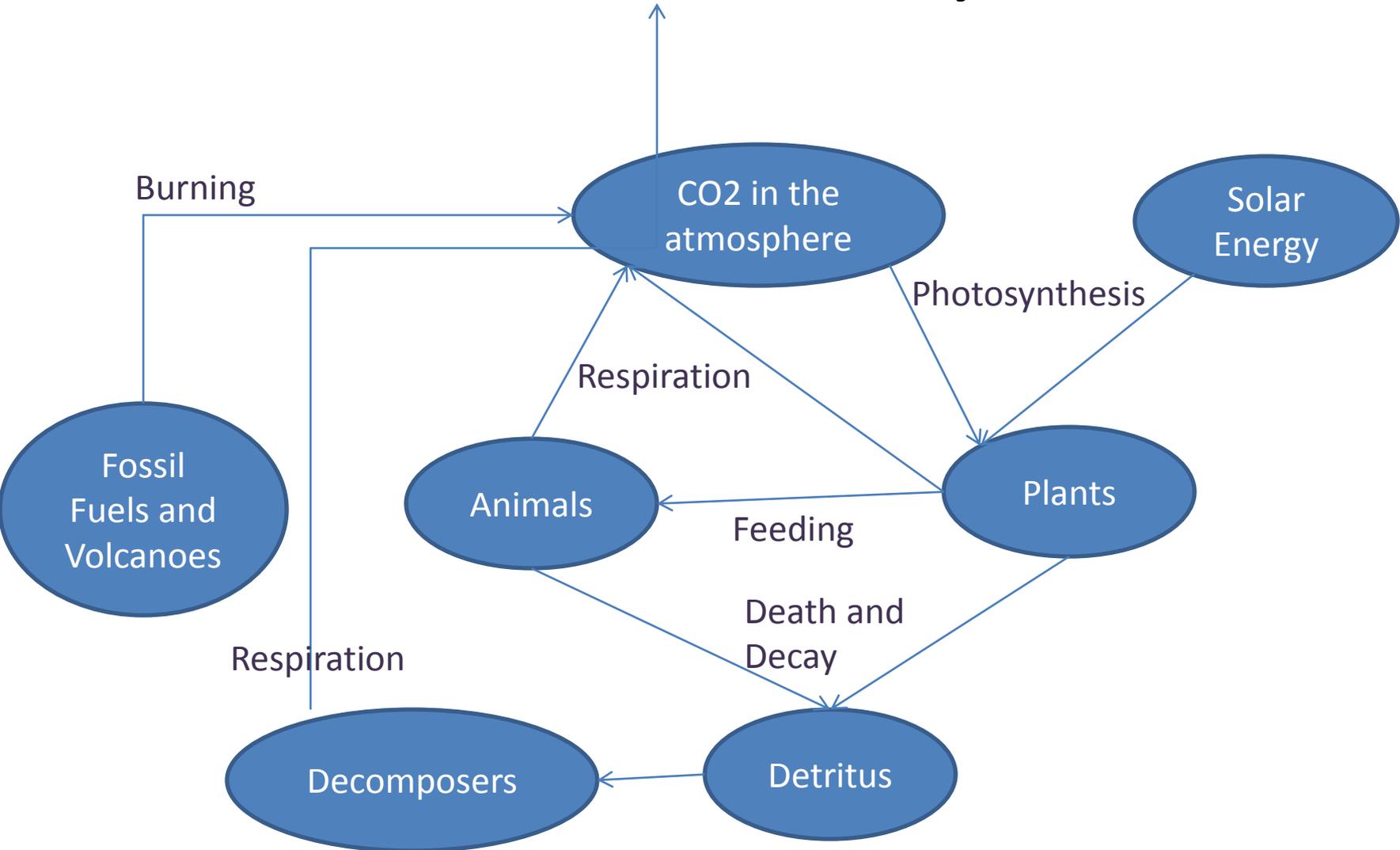
Carbon cycle video

- Watch the video of the carbon cycle and answer the following:

<http://www.neok12.com/php/watch.php?v=zX0357027a7365756c440267&t=Carbon-Cycle> (up to minute 4)

- Write in your books:
 - Carbon is released into the air by:
 - 1.
 - 2.
 - 3.
 - Carbon is taken in by plants by the process of
 - Carbon moves through the food chain when plants are by animals.
 - When plants and animals die, carbon is released into the air by decomposition. Two examples of decomposers are and

The Carbon Cycle



More on the carbon cycle

Carbon is also recycled in the sea:

- Marine organisms such as molluscs, corals and microscopic algae contain **carbonates**.
- When these organisms die their shells collect on the sea floor.
- Over millions of years they form a type of **sedimentary rock** called **limestone (a.k.a calcium carbonate)** (e.g. White cliffs of Dover).
- When it rains, carbon dioxide reacts with the rain and **weathers** the rock – releasing carbon dioxide
- into the air.

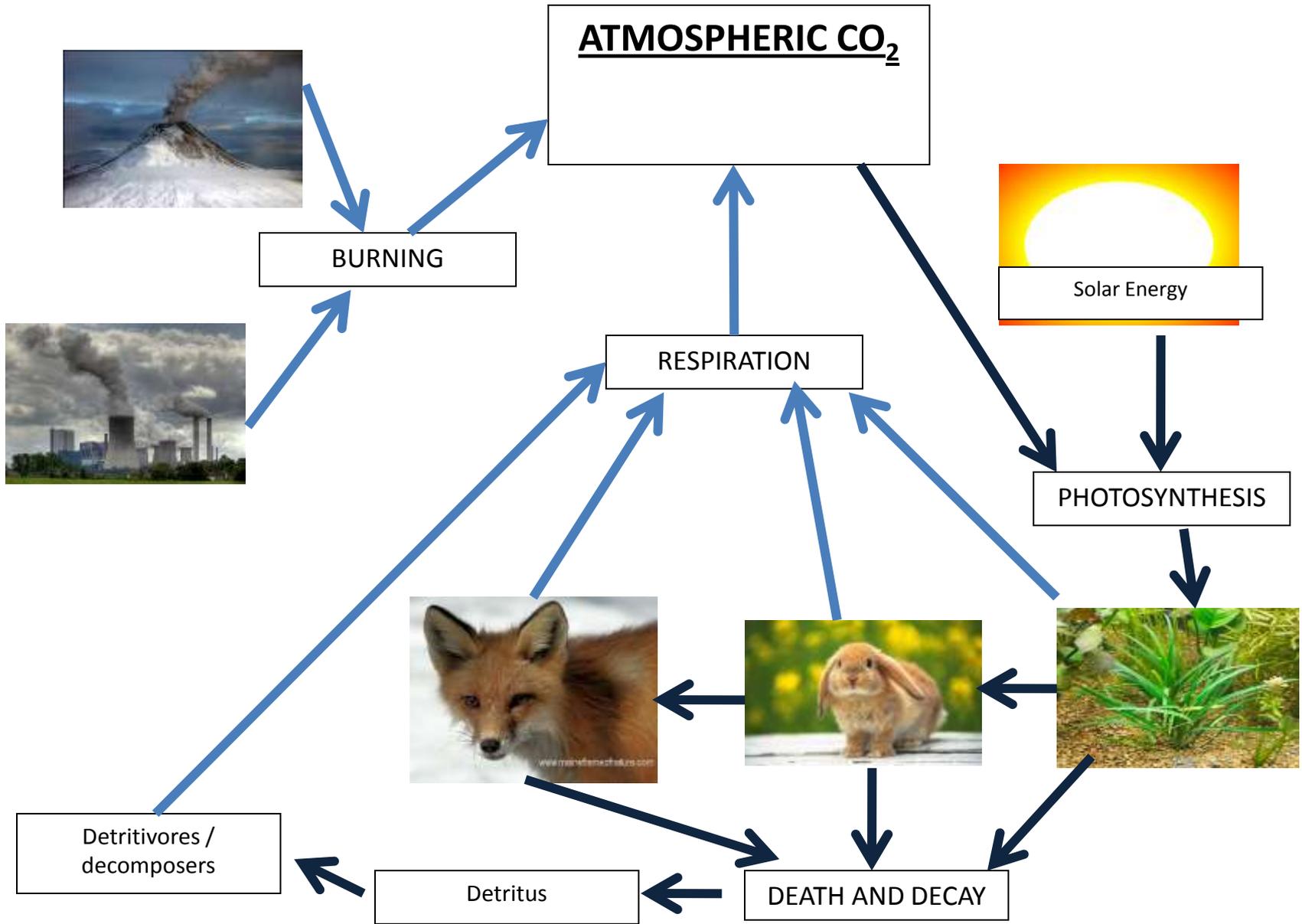


Questions – 5 minutes to answer

- Answer in your books in full sentences...
 1. Why do forest fires release a lot of carbon?
 2. Why might scientists describe limestone as a useful 'carbon sink'?
 3. Limestone is not a good choice to use in city buildings. Why?

Tasks

1. Cut out the labels and pictures and arrange them into the Carbon Cycle on your page
 - Add in the arrows to show the direction the carbon is flowing
 - Now stick it all down
2. Now read and answer the worksheet on the carbon cycle



Plenary

- Spend 30 seconds looking at your carbon cycle diagram
- Now turn to the back of your books and try to write it out from memory