The carbon budget on land, ocean and atmosphere *3.1.1.3*

Q1	*True or False?*	
A	Atmospheric carbon levels are increasing because oceans are releasing more	
B	The terrestrial carbon cycle is the only one that involve biological processes	
C	There is a relationship between carbon cycles on land and the atmosphere	
D	Carbon levels in the atmosphere have been rising ever since life first evolved	
E	Ocean, terrestrial & atmospheric cycles are sub-sets of the global carbon cycle	

Q2	**Match the correct term to the correct carbon cycle process**	
A	Carbon deposits being contained in sedimentary deposits on deep ocean floors.	
B	Magnesium carbonate mountains being converted from a solid into soluble magnesium bicarbonate.	
C	Diffusion of carbon dioxide from one medium to another in a two-way reversible process, but usually more in one direction than another.	
D	Carbon deposits deep in the ocean being buried, compressed and converted under heat and pressure.	
E	Carbon moving from atmosphere into plants through photosynthesis, building biomass, dying, decomposing and being fed on by soil bacteria.	

Select from: **Ocean-atmosphere exchange   Lithification   Chemical weathering**
Fast carbon cycle   Sequestration

Q3	**Allocate the terms/phrases to the most appropriate carbon sub-cycle**		
	Terrestrial carbon cycle	*Ocean carbon cycle*	*Atmospheric carbon cycle*

Marine snow   Dry decomposition   Gas exchange (net loss)   Calcification

Surface biomass   Acid rain   Solid-soluble conversion

Photosynthesis   Zooplankton   Bicarbonate ions   Methane radiation absorption

The carbon budget on land, ocean and atmosphere *3.1.1.3*

Q4	*Graph the changing proportion of carbon dioxide in the atmosphere. Describe the change and suggest reasons.*

Year	Atmospheric CO2 ppm
1960	320
1970	329
1980	342
1990	356
2000	373
2010	392
2016	407
2050	?

Q5	*Explain how different feedback cycles operate in carbon regulation on the earth*
A	A negative feedback process regulating carbon transfers
B	A positive feedback process amplifying carbon transfers