February 20th TT #7

1.2.A1 and 1.2.A2 Distinguish between the structure of plant and animal cells. [5]

Plant cells:

A. Have cell walls, animal cells do not;
B. Have plastids / chloroplasts, animal cells do not;
C. Have a large central vacuole, animal cells do not;
D. Store starch, animal cells store glycogen;
E. Have plasmodesomata, animal cells do not;

Animal cells:

1. Have centrioles, plant cells do not;
2. Have cholesterol in the cell membrane, plant cells do not;
3. Animal cells are more rounded whereas plant cells generally have a fixed shape / more regular

February 21st WW #7

10.3.U5 Discuss punctuated equilibrium. [4]

A. Long periods of stability followed by sudden changes;
B. Fossil record supports this;
C. Natural selection can be intense and can cause rapid change / evolution;
D. Rapid evolution due to major environmental changes / volcanic eruptions / meteor impact / other example;
E. Only advantageous alleles ultimately survive;
F. Some mutations had no morphological effects so not visible in the fossil record;
G. Rate of evolution could have fluctuated over time;

February 22nd TTh #7

5.4.U2 Explain how biochemical analysis of different molecules is used to study the evolutionary relationships of different organisms. [4]

A. Homology of molecules / closeness of structures;
B. Indicate common ancestry;
C. More similar the sequence, the more closely related the species are;
D. The number of differences is proportional to the length of time since two species diverged;
E. Proteins analysed for amino acid sequences;
F. DNA / mitochondrial DNA / gene nucleic acid sequence analysed;
G. e.g. cytochrome C / hemoglobin / chlorophyll / other valid example;

February 23rd FF #7

4.3.S1 Draw and label a diagram of the carbon cycle. [5]