

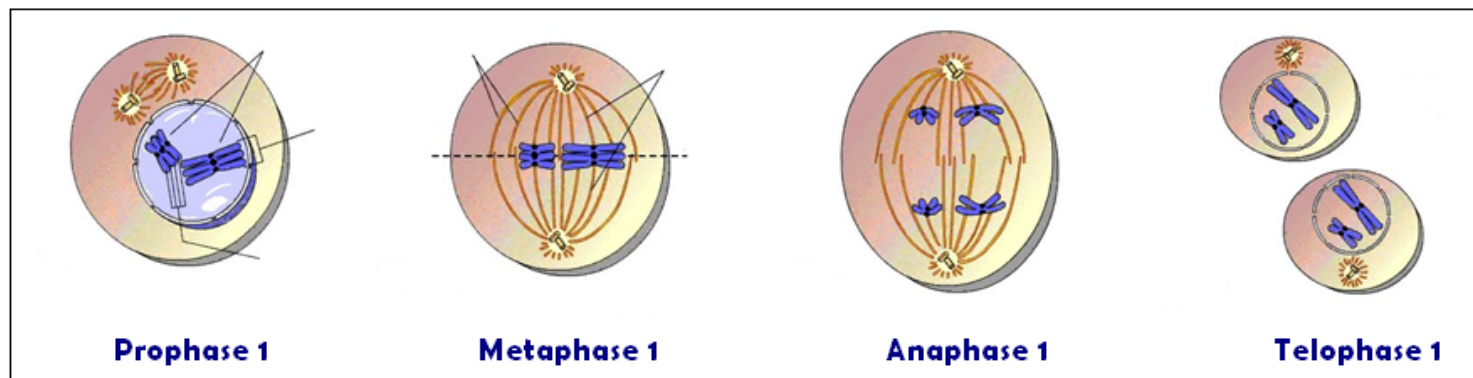
January 22<sup>nd</sup> MCM #3

<https://goo.gl/forms/v6Zf4b68APInRNFr2>

## January 23<sup>rd</sup> TT #3

**1.6.U1** Draw the events that occur in the four phases of mitosis. [5]

- A. prophase showing spindle fibres;
- B. prophase showing condensed chromatin;
- C. prophase showing replicated chromosomes;
- D. metaphase showing replicated chromosomes lining up at the equator;
- E. anaphase showing chromatids moving to opposite poles;
- F. telophase showing nucleus reforming;
- G. telophase showing cytokinesis occurring



## January 24<sup>th</sup> WW #3

**5.4.U3** Discuss how variations in a specific protein can be used as an evolutionary clock. [3]

- A. Mutations cause changes in the protein structure;
- B. Mutations have a relatively fixed rate of occurrence;
- C. Protein structure from common ancestor changes over time;
- D. The greater the difference between proteins, the more mutations have occurred;
- E. Species more closely related have less differences in their protein structure;

January 25<sup>th</sup> TTh #3

**3.1.U1 and 3.1.U3** Define the terms gene and allele and explain how they differ. [4]

- A. Gene is a heritable factor / unit of inheritance;
- B. Gene is composed of DNA;
- C. Gene controls a specific characteristic / codes for a polypeptide / protein;
- D. Allele is a form of a gene;
- E. Alleles of a gene occupy the same gene locus / same position on chromosome;
- F. Alleles differ (from each other) by one / a small number of base(s) / base pair(s);

## January 26<sup>th</sup> FF #3

**1.3.S1** Draw a labelled diagram of the fluid mosaic model of the plasma membrane.[5]

- A. Phospholipid
- B. Phospholipid bilayer;
- C. Protein channels / integral (intrinsic) membrane proteins;
- D. Peripheral (extrinsic) proteins associated with the membrane;
- E. Cholesterol embedded in the membrane;
- F. Glycoproteins / receptor proteins on the outside;
- G. Hydrophobic and hydrophilic portions of membrane indicated;

