

## Unit 10 – DNA/RNA & Protein Synthesis

### B4.1B

Explain that the information passed from parents to offspring is transmitted by means of genes that are coded in DNA molecules. These genes contain the information for the production of proteins.

### B4.2B

Recognize that every species has its own characteristic DNA sequence.

### **B4.2C**

**Describe the structure and function of DNA.**

### **B4.2D**

**Predict the consequences that changes in the DNA composition of particular genes may have on an organism (e.g., sickle cell anemia, other).**

### B4.2E

Propose possible effects (on the genes) of exposing an organism to radiation and toxic chemicals.

### **B4.2f**

**Demonstrate how the genetic information in DNA molecules provides instructions for assembling protein molecules and that this is virtually the same mechanism for all life forms.**

### **B4.2g**

**Describe the processes of replication, transcription, and translation and how they relate to each other in molecular biology.**

**B4.2g.a Given a DNA sequence, I can complement the sequence with a new nucleotide sequence.**

**B4.2g.b I can identify the cell organelle in which transcription occurs.**

**B4.2g.c Given a DNA sequence, I can complement the sequence with an RNA complementary sequence.**

### B4.4c

Explain how mutations in the DNA sequence of a gene may be silent or result in phenotypic change in an organism and in its offspring.