

LO5 WORKSHEET: PROTEIN METABOLISM

**QUESTIONS**

Use reference texts and website resources to answer the following questions. These questions are intended for revision and/or to stimulate discussion.

**TRANSCRIPTION AND TRANSLATION**

1. Describe the differences between primary transcript RNA and mature mRNA.
2. What are introns and exons?
3. Describe the function of TATA binding protein in transcription.
4. Write the 3 letter code for the amino acid sequence represented by the one letter code sequence: GVDRGPMFCISEY.
5. Write the one letter codes of the sequence of amino acids coded by the **DNA** sequence CCGAGACTTTTACGC.
6. What are essential amino acids?
7. State the three mRNA stop codons.
8. Which amino acids can be metabolised to produce pyruvate?
9. Considering the urea cycle reactions listed below, which take place in the cytosol and which in mitochondria?

Reaction	Cytosol	mitochondrion
Ammonia + CO <sub>2</sub> to carbamoyl phosphate		
Ornithine + carbamoyl phosphate to citrulline		
Citrulline + Aspartate to arginosuccinate		
Arginosuccinate to fumarate and arginine		
Arginine to urea and ornithine		

10. What are proteasomes and where are they found in cells?