Flow of genetic information:

Transcription
- Describe the flow of genetic information, the “central dogma” of molecular biology, within prokaryotic and eukaryotic cells. The processes involved and the sub-cellular locations where they take place
- Compare and contrast the chemical composition and structure of DNA and RNA
  What is the difference between the template (anti-sense) strand and the sense strand?
  Use your knowledge of the base-pairing rule to determine the sequence of the template strand from the mRNA coding sequence.
- Within the cell what defines which strand will serve as the template?
- Review the structure and roles of the different RNA molecules within the cell: mRNA, t-RNA, rRNA, and snRNA.
- Review the process of transcription: steps, mechanisms, and enzyme(s) involved, and role of promoters and termination signals in initiation and termination of transcription.
- Compare and contrast the transcription initiation and termination in prokaryotes and eukaryotes.
- Describe the split genes of eukaryotic genes (introns with exons).
- Compare and contrast:
  a. the structure of mRNA in prokaryotes with the eukaryotic pre-mRNA transcript.
  b. the post-transcriptional modifications of eukaryotic pre-mRNA processing (including the roles of snRNPs and spliceosomes), and 5’ and 3’-capping and their function.
- Review the advantages of having split genes in eukaryotes.
- Review the important roles of different ribo-proteins in eukaryotic cell: telomerase, spliceosomes.