

Name: _____

Class: _____

ACTIVITY SHEET

Chapter 2 Revision

Use this revision sheet to check your understanding and guide your revision. Identify any concepts, models or other content that require more study, and then plan your study approach.

By the end of this chapter **you should know:**

	Revise	Complete
Protein expression creates an organism's phenotype		
How proteins are synthesised: transcription and translation		
How to use the genetic code		
The process of gene expression		
The structure of a nucleosome		
The effect of chemical modification of genes		
Epigenetics and the epigenome		
The role of regulatory proteins, including transcription factors		
How the environment influences gene expression		

By the end of this chapter **you should be able to:**

	Revise	Complete
Define the term 'phenotype'; include an example of a phenotype found in humans		
Summarise the role of enzymes		
Outline the genetic code, including a definition of a codon		
Describe the role of messenger RNA (mRNA)		
Compare DNA and RNA (overlaps with Chapter 1)		
Outline the process of transcription, including the terms intron and exon, and the changes made to mRNA		
Outline the process of translation, including the use of polyribosomes and transfer RNA (tRNA)		
Use the genetic code to identify an amino acid from a codon		
Define the term 'gene expression'		
Describe the structure of a nucleosome, using a labelled diagram		
Recall the role of housekeeping genes		
Describe DNA methylation and its effect on gene expression		
Explain gene silencing using an example		
Explain the field of epigenetics including a list of causes for DNA modification		
Summarise the types of regulatory proteins, including activators and repressors and micro RNAs		
Summarise gene regulation by the <i>lac</i> operon		
Summarise how the environment influences gene expression; include an example		
Describe an example of how the environment influences the epigenome		