

Name: _____

Class: _____

ACTIVITY SHEET

Chapter 3 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
Types of intraspecific variation		
Sources of variation: crossing over and mutations		
Types of mutagens: physical, chemical, biological		
Types of gene mutations		
What a karyotype is and what it is used for		
The terms used to describe chromosome numbers		
Different changes to chromosome structure: deletions, inversions, translocation, duplication		
The role of homeobox (toolkit) genes		
The role of the X and Y chromosomes		

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

	Revise	Complete
Summarise the four types of intraspecific variation		
Describe the process of crossing over		
List the features of mutations, including how they arise and when (in the cell cycle) they occur		
List the types of mutagens; include examples of each		
Explain the process of horizontal gene transfer, using <i>Agrobacterium</i> as an example		
Explain what a jumping gene can do and its effect on genome size		
Summarise the types of mutations as substitution, insertions and deletions; include an explanation of a frameshift mutation and whether the mutation is neutral, deleterious or beneficial		
Define the term 'karyotype'; identify a normal/abnormal karyotype		
Compare the terms diploid, haploid, monoploid, polyploidy, aneuploidy and trisomy. Include examples of each term		
Explain the process of parthenogenesis		
Explain the process of non-disjunction		
Summarise the changes to chromosome structure: deletions, inversions, translocation, duplication; use diagrams to illustrate each one		
Describe the role of homeobox genes as regulatory proteins		
Explain the role of the Y chromosome in mammals		
Explain X chromosome inactivation		