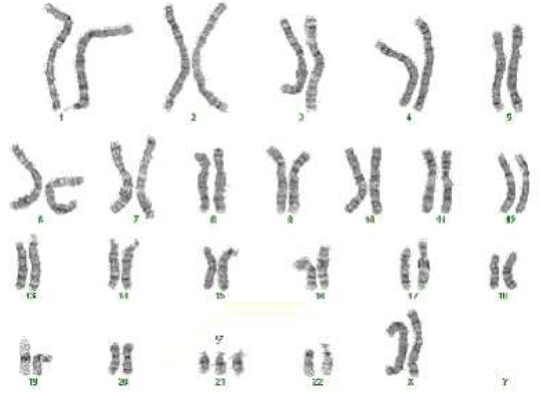


Unit 7 Checklist – DNA & Gene Expression

#	Question	Lesson Exit Ticket
1	Identify the 3 most important scientists involved in discovering DNA's structure	1. 2. 3.
2	Identify the shape of the DNA molecule	
3	Explain why knowing the structure of DNA was important.	
4	Draw a nucleotide (the monomer of DNA). Label the phosphate, sugar, and nitrogen base	
5	Describe the complimentary base pairing pattern of DNA	A binds with _____, G with _____, C with _____, T with _____
6	Describe the types of chemical bonds that hold DNA together.	The sugar-phosphate backbones are held together by _____ The nitrogen base pairs are held together by _____
7	Write the complimentary DNA sequence.	A T G C T G A G T C A G T C
8	What are the percentages of each nucleotide in the DNA sequence	A = 28% G = _____ T = _____ C = _____
9	Explain why a cell needs to replicate its DNA (hint: what is it preparing to do?)	
10	Describe the process of DNA replication in 3 steps (or ignore the numbers and draw a picture)	1. 2. 3.
11	Identify the two most important structural characteristics of DNA.	1. 2.

12	In general, what is the purpose of genetic or DNA technology ?	
13	Explain why it is possible to insert foreign genes into organisms .	
14	Describe recombinant DNA .	
15	Explain why a “ DNA fingerprint ” can be used to identify a suspect, parent, or mystery organism?	
16	Describe the process of cloning .	
17	Identify the product of transcription	
18	Explain the function of transcription	
19	Write the complimentary RNA sequence .	A T G C T G A G T C A G T
20	Identify 2 differences between RNA and DNA structure	1. 2.
21	Describe the product of translation	
22	Explain the function of translation	
23	Write the amino acid sequence that is coded for by this mRNA sequence.	A U G G U C C G A U A G
24	Explain how a gene results in a trait (is “expressed”) in 3 steps.	1. 2. 3.
25	In your own words, define “ mutation ”	
26	Explain the main cause of point mutations .	
27	Explain the main cause of chromosomal mutations .	

28	<p>Given the karyotype, identify the gender and any conditions this person may have.</p>	
29	<p>When are mutations passed on to offspring?</p>	
30	<p>Give an example of a lethal mutation.</p>	
31	<p>Give an example of a harmful mutation.</p>	
32	<p>Give an example of a beneficial mutation.</p>	
33	<p>Explain how a mutation can be neutral or silent.</p>	