Unit Outline – Genetics
Morales Biology

Unit Goal: To understand the mechanisms of heredity in organisms.

Vocabulary: (Words with an asterisk (*) are only mandatory for Honors)

1. Nucleotide
2. Double helix
3. Base pairing
4. Replication
5. DNA polymerase
*6. Central dogma
7. RNA
8. Transcription
9. RNA polymerase
10. mRNA
*11. rRNA
*12. tRNA
13. Translation
*14. Start codon
15. Stop codon
16. Anticodon
17. Somatic cell
18. Gamete
19. Gamete
20. Homologous chromosome
21. Autosome
22. Sex chromosome
23. Sexual reproduction
24. Fertilization
25. Diploid
26. Haploid
27. Meiosis
28. Trait
29. Genetics
*30. Purebred
*31. Cross
*32. Law of segregation
33. Gene
34. Allele
35. Homozygous
36. Heterozygous
37. Genome
38. Genotype
39. Phenotype
40. Dominant
41. Recessive
42. Punnett square
*43. Monohybrid cross
*44. Testcross
*45. Dihybrid cross
*46. Law of independent assortment
47. Probability
*48. Carrier
*49. Sex-linked genes
*50. X chromosome inactivation
*51. Incomplete dominance
*52. Codominance
*53. Polygenic trait
54. Pedigree
*55. Karyotype

Homework: All notes should be Cornell Notes with margin questions and summary. The summary should focus on answering the focusing question below.

<table>
<thead>
<tr>
<th>Topic/Focusing Question</th>
<th>Assignment</th>
<th>Vocabulary</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the structure of DNA? How does DNA store energy?</td>
<td>CN 8.2 Vocabulary</td>
<td>1-3</td>
<td>4/22-23</td>
</tr>
<tr>
<td>How is the structure of DNA related to its function?</td>
<td>CN 8.3 Vocabulary</td>
<td>4-5</td>
<td>4/24-27</td>
</tr>
<tr>
<td>How does transcription make RNA from DNA?</td>
<td>CN 8.4 Vocabulary</td>
<td>6-12</td>
<td>4/28-29</td>
</tr>
</tbody>
</table>

TURN OVER FOR REST OF UNIT OUTLINE
<table>
<thead>
<tr>
<th>How does translation make protein from RNA?</th>
<th>CN 8.5 Vocabulary</th>
<th>13-17</th>
<th>4/30-5/1</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does meiosis relate to sexual reproduction? What did Mendel’s research show about the inheritance of traits?</td>
<td>6.1 and 6.3 (not 6.2) Vocabulary</td>
<td>18-32</td>
<td>5/4-5</td>
</tr>
<tr>
<td>What is the relationship between genes and traits? How do Punnett squares show patterns of probabilities?</td>
<td>6.4 and 6.5 Vocabulary</td>
<td>33-47</td>
<td>5/6-7</td>
</tr>
<tr>
<td>How does the location of genes affect the expression of traits? How do your alleles control how you look? What is the relationship between genotype and phenotype?</td>
<td>7.1 (and 7.2*) Vocabulary</td>
<td>48-53</td>
<td>5/8-11</td>
</tr>
<tr>
<td>How can you trace your alleles through your family tree?</td>
<td>7.4 Vocabulary</td>
<td>54-55</td>
<td>5/12-13</td>
</tr>
</tbody>
</table>

Assessments:
- QUIZ 4/30-5/1 (DNA to PROTEIN)
- UNIT TEST 5/18-5/19 (HEREDITY, including material from quiz)