

18 9	A 189 BP_D13 S317 #13 Mater. Chromo			D 189 BP_D13 S317 #13 Mater. Chromo
18 1		B 181 BP_D13 S317 #13 Pater. Chromo B 181 BP_D13 S317 #13 Mater. Chromo		
17 3	A 173 BP_D13 S317 #13 Pater. Chromo		C 173 BP_D13 S317 #13 Pater. Chrom	E 173 BP_D13 S317 #13 Pater. Chromo
16 9			C 169 BP_D13 S317 #13 Mater. Chromo	
16 5			C 165 BP_D5 S818 #5 Pater. Chromo	E 165 BP_D5 S818 #5 Pater. Chromo
15 3		B 153 BP_D5 S818 #5 Pater. Chromo		
14 9		B 149 BP_D5 S818 #5 Mater. Chromo		
14 5	A 145 BP_D5 S818 #5 Pater. Chromo			
14 1			C 141 BP_D5 S818 #5 Mater. Chromo	
13 7	A 137 BP_D5 S818 #5 Mater. Chromo			D 137 BP_D5 S818 #5 Mater. Chromo

Questions

Two points per question - plus 8 points for correctly completing the electrophoresis gel table.

- Which two of samples A, B, and C were the actual parents of your baby? **A and C**
- How did you know which samples represented the parents? **I looked at where the fragments from column D+E matched up with where those specific DNA fragments appear in the DNA profile of A, B, and C. An example is that Chromosome #2 with DNA locus TPOX with a length of 248 base pairs was only found in the parent sample A. None of the chromosomes from sample B matched any of the chromosomes from A, C, or D+E except for maternal TPOX chromosome from B and the paternal TPOX chromosome from C.**
- Would this exercise still work properly if you had chosen any combination of maternal and paternal chromosomes for chromosomes 2, 5, 7, and 13 from samples D & E? **Yes this exercise would still work properly. All the maternal and parental chromosomes would still be put on the electrophoresis table. However, the parents may turn out to be different based on which DNA fragment combinations you decide to choose.**
- What is the term for the random arrangement of homologous pairs of chromosomes during the first division of meiosis? **Independent Assortment**