Biology 1 Hour:
Face Lab: A Study in Human Variation Date:
Data Sheet

Parents' Name:_____ and _____

Child's Name_____ (Trait 1) Gender:_____

Trait #	Trait	Phenotype of Mother (and Alleles Present)	Phenotype of Father (and Alleles Present)	Genotype Of Offspring	Phenotype Of Offspring
2	Face Shape				
3a	Chin Shape				
3b	Chin Shape				
3c	Cleft Chin				
4	Skin Color				
5a	Hair Color Melanin				
5b	Hair Color Red				
6	Hair Type				
7	Widow's Peak				
8	Eyebrows/Color				
9	Eyebrows/ Thickness				
10	Eyebrows/ Placement				
11	Eye Color				
12	Eyes/ Distance				

Trait #	Trait	Phenotype of Mother (and Alleles Present)	Phenotype of Father (and Alleles Present)	Genotype Of Offspring	Phenotype Of Offspring
13	Eyes/ Size				
14	Eyes/Shape				
15	Eyes/Slantedness				
16	Eyelashes:				
17	Mouth/Size				
18	Lips				
19	Protruding Lip				
20	Dimples				
21	Nose/Size				
22	Nose/Shape				
23	Nostril/Shape				
24	Earlobe Attachment				
25	Darwin's Earpoint				
26	Ear Pits				
27	Hairy Ears				
28	Freckles on Cheeks				
29	Freckles on Forehead				

Conclusion Questions

1. If each coin represents a homologous pair of chromosomes, which of Mendel's principles is demonstrated by each flip of the coin?

2. List at least one trait that matches the following inheritance patterns.

   Co-dominance

   Incomplete Dominance

   Polygenic (multiple genes)

   Sex-linked

   Epistasis

3. Is a greater variety of traits possible with co-dominant or dominant/recessive crosses? Explain:

4. Define the following terms:
   a. genotype:

   b. phenotype:

   c. allele:

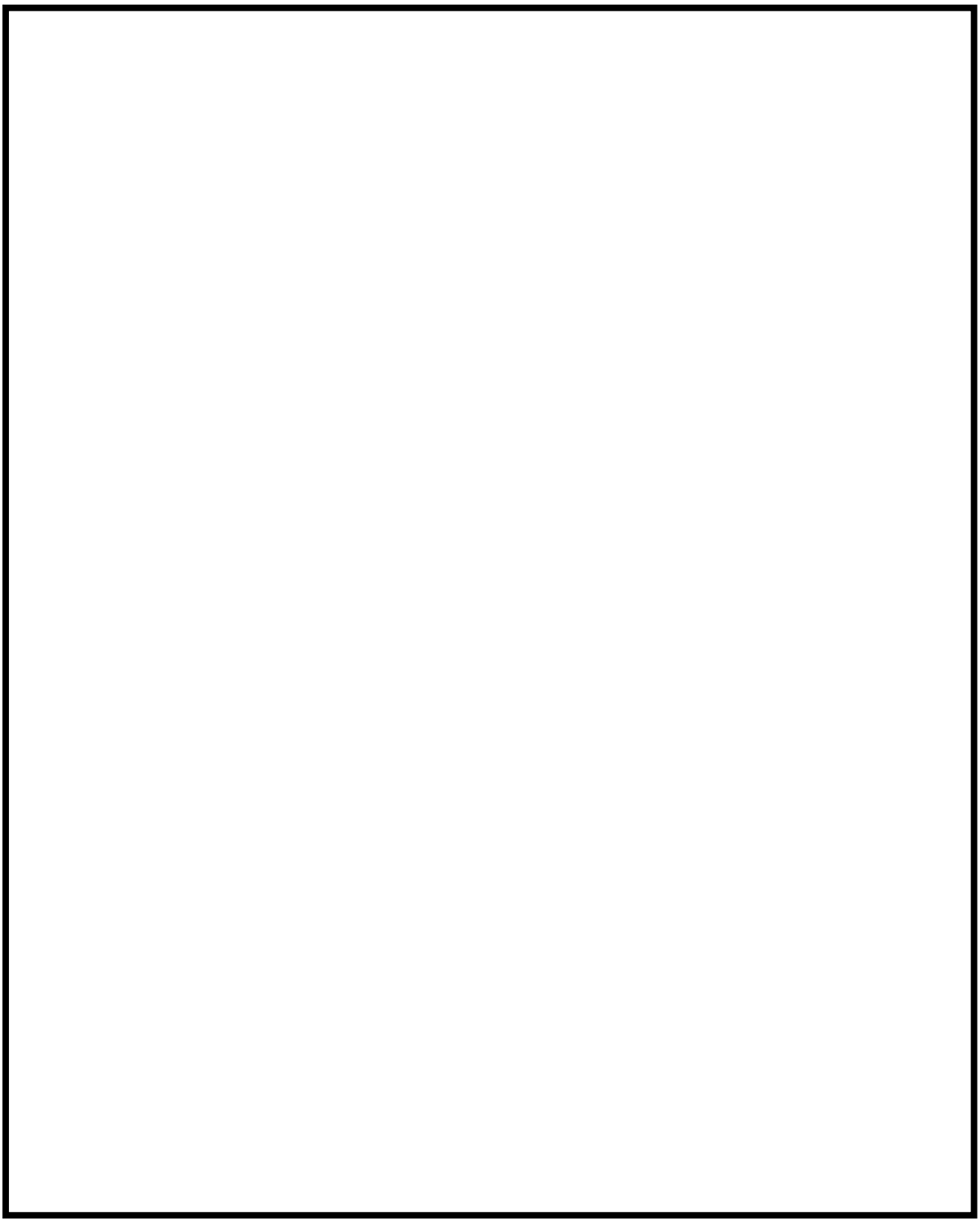
5. If the same two people repeat this lab would you expect them to get the same results? Explain:

6. Tabulate the number of dominant and recessive phenotypes for traits 1, 2, 7, 9, 10, 14, 15, 16, 18, 20, 22, 23, 24, 25, 26, 28, 29

	# dominant traits	# recessive traits	Ratio of dominant to recessive
Mother			
Father			
Child			

7. The traits in this lab represent actual traits that are inherited on the human face. What <u>pros and cons</u> do you see for using the human genome information to develop "designer babies." This question should be answered in paragraph form and your pros and cons should be clearly stated and supported. Use the back if needed…

Please sketch your progeny:



Birth Record:

Gender: ____
Child Name: _____

Mother: _____
Father: _____