

Create a "Pretend" Baby Lab

Name _____

Period _____

Student Learning Objective: The student will be able to demonstrate the concepts of phenotype, genotype, gene, allele, dominant, recessive, homozygous and heterozygous by flipping a coin to determine inherited traits in a "pretend" baby.

Materials: coin, art supplies, paper

Procedure:

1. Working with a partner, determine the genotype of the baby by flipping a coin. "Mom" flips one penny to choose an allele for her egg and "Dad" flips the other to choose an allele for his sperm.
2. Record the alleles which resulted from the coin flips, and put sperm and egg together. Write down baby's genotype for each trait in appropriate column. Heads represent allele #1 and tails represents allele #2.
3. Record the resulting phenotype in the appropriate column. Co-dominant alleles are written as uppercase letters with a subscript. Co-dominant alleles result in a phenotype that is blended.
4. Repeat steps 1, 2, and 3 for all the traits. Then, draw, color and name your creation. Remember that you are drawing a baby's face. You can draw your baby in the space below.
5. Turn in your drawing and results paper.

Results:

Table 1: **Circle here** whether you are the mom or dad and fill in the data below.

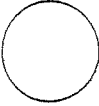
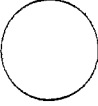






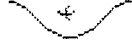

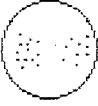
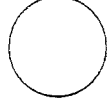


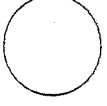

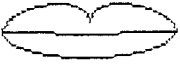
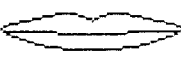


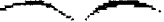

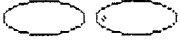


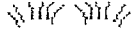
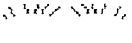
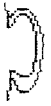





Mom's Name: _____ Dad's Name _____ Per. _____







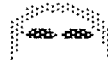
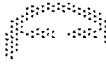
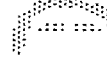


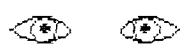
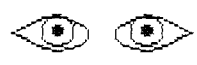


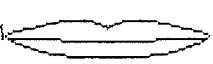
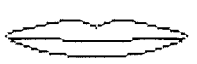
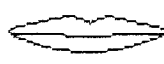
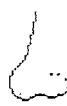


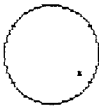

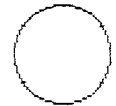
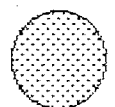
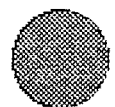

Baby's Name: _____

<u>Trait</u>	<u>Allele from Mom</u>	<u>Allele from Dad</u>	<u>Genotype</u>	<u>Phenotype</u>
Sex	X	_____	_____	_____
Face Shape	_____	_____	_____	_____
Chin Shape	_____	_____	_____	_____
Chin Dimple	_____	_____	_____	_____
Freckles	_____	_____	_____	_____
Cheek Dimples	_____	_____	_____	_____
Lip Thickness	_____	_____	_____	_____
Eye Brows	_____	_____	_____	_____
Eye Shape	_____	_____	_____	_____
Eyelashes	_____	_____	_____	_____
Ear Shape	_____	_____	_____	_____
Ear Lobes	_____	_____	_____	_____
Widow's Peak	_____	_____	_____	_____
Hair Curliness	_____	_____	_____	_____
Eyebrow Color	_____	_____	_____	_____
Eye Width	_____	_____	_____	_____
Eye Size	_____	_____	_____	_____
Mouth Size	_____	_____	_____	_____
Nose Size	_____	_____	_____	_____
Birth Mark	_____	_____	_____	_____
Skin Tone	_____	_____	_____	_____

<u>Polygenic Trait</u>	<u>Alleles from Mom</u>	<u>Alleles from Dad</u>	<u>Genotype</u> 1st / 2nd	<u>Phenotype</u>
Hair Color	#1 _____ #2 _____	#1 _____ #2 _____	____ / ____	_____
Eye Color	#1 _____ #2 _____	#1 _____ #2 _____	____ / ____	_____

Create a Baby Lab: Genotype/Phenotype reference sheet

Trait	Homozygous for Allele #1	Heterozygous	Homozygous for Allele #2
Face Shape			
Genotype:	RR	Rr	rr
Phenotype:	Round 	Round 	Square 
Chin Shape			
Genotype:	NN	Nn	nn
Phenotype:	Noticeable 	Noticeable 	Less Noticeable 
Chin Dimple			
Genotype:	AA	Aa	aa
Phenotype:	Absent 	Absent 	Present 
Freckles			
Genotype:	FF	Ff	ff
Phenotype:	Present 	Present 	Absent 
Cheek Dimples			
Genotype:	DD	Dd	dd
Phenotype:	Present 	Present 	Absent 
Lip Thickness			
Genotype:	TT	Tt	tt
Phenotype:	Thick 	Thick 	Thin 
Eye Brows			
Genotype:	BB	Bb	bb
Phenotype:	Bushy 	Bushy 	Fine 
Eye Shape			
Genotype:	WW	Ww	ww
Phenotype:	Wide 	Wide 	Round 
Eyelashes			
Genotype:	LL	Ll	ll
Phenotype:	Long 	Long 	Short 
Ear Shape			
Genotype:	RR	Rr	rr
Phenotype:	Long 	Long 	Round 
Ear Lobes			
Genotype:	FF	Ff	ff
Phenotype:	Free 	Free 	Attached 

Trait	Homozygous for Allele #1	Heterozygous	Homozygous for Allele #2
Widow's Peak			
Genotype:	WW	Ww	ww
Phenotype:	Present 	Present 	Absent 
Hair Curliness			
Genotype:	C ₁ C ₁	C ₁ C ₂	C ₂ C ₂
Phenotype:	Curly 	Wavy 	Strait 
Eye Color			
Genotype:	D ₁ D ₁	D ₁ D ₂	D ₂ D ₂
Phenotype:	Darker than hair 	Same as hair 	Lighter than hair 
Eye Width			
Genotype:	W ₁ W ₁	W ₁ W ₂	W ₂ W ₂
Phenotype:	Close Together 	Average 	Far apart 
Eye Size			
Genotype:	S ₁ S ₁	S ₁ S ₂	S ₂ S ₂
Phenotype:	Large 	Medium 	Small 
Mouth Size			
Genotype:	M ₁ M ₁	M ₁ M ₂	M ₂ M ₂
Phenotype:	Wide 	Medium 	Narrow 
Nose Size			
Genotype:	P ₁ P ₁	P ₁ P ₂	P ₂ P ₂
Phenotype:	Small 	Medium 	Large 
Birth Mark (mole)			
Genotype:	B ₁ B ₁	B ₁ B ₂	B ₂ B ₂
Phenotype:	Left cheek 	Right cheek 	Absent 
Skin Tone			
Genotype:	S ₁ S ₁	S ₁ S ₂	S ₂ S ₂
Phenotype:	Light 	Medium 	Dark 
Hair Color	AABB=Black AABb=Black AAbb=Red	AaBB=Dark Brown AaBb=Light Brown Aabb=Dark Blond	aaBB=Blond aaBb=Blond aabb=white (albino)
Eye Color	AABB=Deep Brown AABb=Deep Brown AAbb=Brown	AaBB=Greenish Brown AaBb=Light Brown Aabb=Gray-Blue	aaBB=Green aaBb=Light Blue aabb=Pink