Celebrity Punnett Squares

Name _____ Hour _____

Use the table below, and your notes on Punnett squares, to answer the following questions about the offspring celebrities could produce if they married and had children.

Dominant trait	Allele	Recessive trait	Allele
Dark hair (brown or black)	B	Light hair (red or blond)	b
Widow's peak	D	Straight hair	d
Dark eyes (brown or black)	A	Light eyes (blue, hazel, green, or violet)	a
Freckles	G	No freckles	g

1. **Selena Gomez is homozygous for dark hair and Justin Bieber is homozygous for blond hair.**


   a. Selena's genotype _____

   b. Justin's genotype _____

   c. Fill out the Punnett square to the right for Justin and Selena's offspring.

   d. What is the only possible genotype for their offspring? _____

   e. What is the percentage chance that their child inherits Justin's blond hair? _____

2. **Macklemore has one dominant allele for freckles and one recessive allele for freckles. Nicki Minaj has no freckles.**


   a. Macklemore's phenotype _____

   b. Nicki's phenotype _____

   c. Fill out the Punnett square to the right for Macklemore and Nicki's offspring.

   d. What are the 2 possible genotypes for their offspring? _____ & _____

   e. If they have 8 children, how many of them will probably have no freckles? _____

3. **Taylor Swift is homozygous green-eyed and Channing Tatum is also homozygous green-eyed.**


   a. Taylor's genotype _____ Taylor's phenotype _____

   b. Harry's genotype _____ Harry's phenotype _____

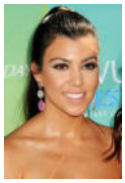
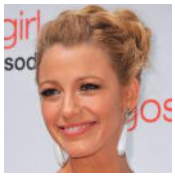
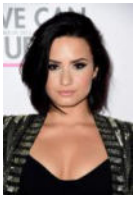
   c. Fill out the Punnett square to the right for Harry and Taylor's offspring.

   d. What is the percentage chance their child will have dark eyes? _____

   e. What is the percentage chance their child will have light eyes? _____

4. **For the widow's peak gene, Leonardo DiCaprio has one of each kind of allele. Which female celebrity should Leonardo date to give him the greatest chance of NOT passing on his widow's peak allele to his children?**

Female celebrity	Genotype	Phenotype
Kourtney Kardashian	DD	Widow's peak
Blake Lively	Dd	Widow's peak
Demi Lovato	dd	Straight hairline

Leo & Kourtney **Leo & Blake** **Leo & Demi**

DD = ____% Widow's peak = ____%

Dd = ____% Straight hairline = ____%

dd =____%

DD = ____% Widow's peak = ____%

Dd = ____% Straight hairline = ____%

dd =____%

DD = ____% Widow's peak = ____%

Dd = ____% Straight hairline = ____%

dd =____%

If Leonardo doesn't want to pass on his widow's peak to his children, he should date _____.

5. Using the provided reference sheet, choose a celebrity match up for the dimple trait. Dimples are dominant.

Parents: _____ & _____

a. Mother's phenotype _____ Mother's Genotype _____

b. Father's phenotype _____ Father's Genotype _____

c. What percentage of the children would have dimples? _____

6. Using the provided reference sheet, choose a celebrity match up for the cleft chin trait. A cleft chin is dominant.

Parents: _____ & _____

a. Mother's phenotype _____ Mother's Genotype _____

b. Father's phenotype _____ Father's Genotype _____

c. What percentage of the children would have a smooth chin? _____

7. Using the provided reference sheet, choose a celebrity match up for the curly hair trait? Curly hair is dominant.

Parents: _____ & _____

a. Mother's phenotype _____ Mother's Genotype _____

b. Father's phenotype _____ Father's Genotype _____

c. What percentage of the children would have curly hair? _____

8. Using the provided reference sheet, choose a celebrity match up for a trait of your choice.

Parents: _____ & _____

Trait: _____

a. Mother's phenotype _____ Mother's Genotype _____

b. Father's phenotype _____ Father's Genotype _____

c. What percentage of the children would have the recessive phenotype? _____

Name(s) _____ Hour _____

EXTENSION:

Now it's all up to you! Choose any two celebrities to match up for each of the traits listed in the table below. Find a picture of each celebrity and then record each celebrity's genotype and phenotype for each trait. Complete a Punnett square (on the next page) for each trait and use the provided Punnett square spinner to determine which of the four potential genotypes the child will inherit. Then, circle the genotype (on the Punnett square) the child will inherit. Finally, draw what the child would look like (as an adult). All 10 of the traits in the table below must be shown in your picture. **Any other traits are your choice.**

Dominant Trait	**Genotype**	**Recessive Trait**	**Genotype**
Round Head Shape	RR or Rr	Oval Head Shape	rr
Unattached Earlobes	EE or Ee	Attached Earlobes	ee
Widow's Peak Hairline	WW orWw	Smooth Hairline	ww
Dimples	DD or Dd	No Dimples	dd
Curly Hair	HH or Hh	Straight Hair	hh
Cleft Chin	CC or Cc	Smooth Chin	cc
Brown Eye Color	BB or Bb	Blue or Green Eye Color	bb
Dark Hair Color (brown or black)	BB or Bb	Light Hair Color (red or blond)	bb
Thin Lips	LL or Ll	Thick Lips	ll
Freckles	GG or Gg	No Freckles	gg

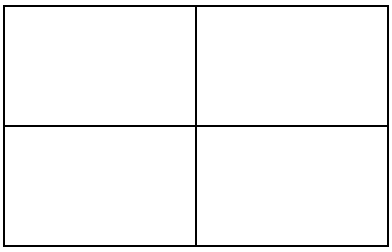
Flip a coin. Heads = Heterozygous

Female Parent: _____ Male Parent: _____

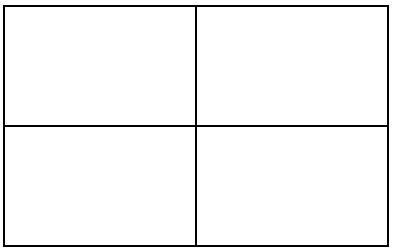
Trait	**Phenotype**	**Genotype**	**Trait**	**Phenotype**	**Genotype**
Head Shape			Head Shape		
Earlobes			Earlobes		
Hairline			Hairline		
Dimples			Dimples		
Straight or Curly			Straight or Curly		
Chin			Chin		
Eye Color			Eye Color		
Hair Color			Hair Color		
Thin or Full Lips			Thin or Full Lips		
Freckles			Freckles		

****REMEMBER TO CIRCLE THE GENOTYPE THIS CHILD "INHERITS" (DETERMINED BY THE SPINNER) FOR EACH TRAIT!****

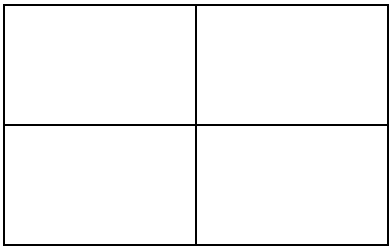
Head Shape, Phenotype = _____



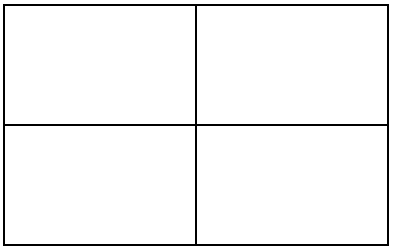
Earlobes, Phenotype = _____



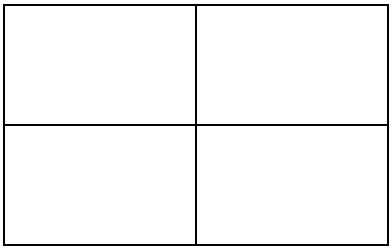
Hairline, Phenotype = _____



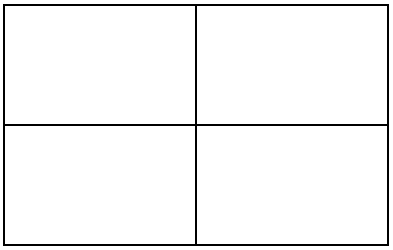
Dimples, Phenotype = _____



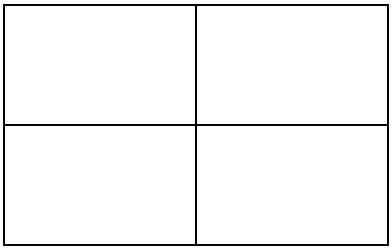
Straight or Curly Hair, Phenotype = _____



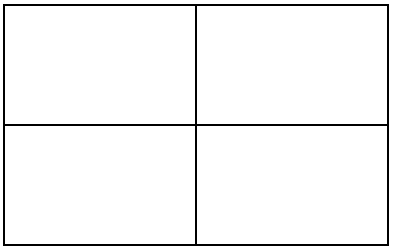
Chin, Phenotype = _____



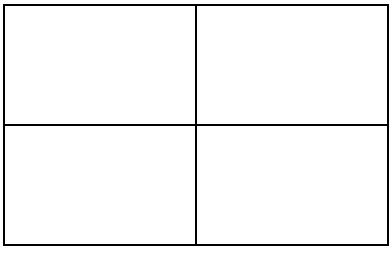
Eye Color, Phenotype = _____



Hair Color, Phenotype = _____



Lips, Phenotype = _____



Freckles, Phenotype = _____