

Genetics of a Mookalaki Baby

Today you will be partnering up and flipping coins to represent the possible outcomes for what a mookalaki baby could look like, given certain traits of parents. You will assume that both parents are heterozygous for all traits (one dominant and one recessive allele, represented by one capital and one lower case letter, for example Tt).

Procedures

1. Obtain two coins.
2. Determine which coin will represent male and which will represent female.
3. Flip the coins for each trait
4. If the coin lands “heads up” this represents a dominant allele (Capital letter)(for example dark hair, and is represented by a capital letter, for example T)

If the coin lands “tails up” this represent a recessive allele (Lower case letter) (for example light hari, and is represented by a lower case letter, for example t).

Note: Because dominant “overrides” recessive alleles, the dominant feature will be shown if you get for example TT or Tt. This means for example if you got TT or Tt you would get dark hair, the only way you would get light hair is if you got tt). So you have a 2/3 chance of getting dark hair and 1/3 chance that you will get light hair.

5. After you flip the coins, record what the female coin turned up with as well as the male coin.

6. Look at what the female and male got, then record what the genotype and phenotype would be.

Note: Genotype is represented by the letters and phenotype is represented by what the trait would look like.

Draw your baby Mookalaki below

Name: _____

Boy or girl- Only dad flips Coin! (Heads= Boy/ Tails= Girl) Result:

<u>Trait</u>	<u>Female</u>	<u>Male</u>	<u>Genotype</u>	<u>Phenotype</u>
Height D= Tall R= Short	H/h	H/h		
Face Shape D= Triangle R= Square	F/f	F/f		
Hair Style D= Curly R= Spiky	S/s	S/s		
Hair Color D= Purple R= Green	C/c	C/c		
# of Eyes D= 3 R= 6	E/e	E/e		
Eye Shape D= Circle R= Square	Q/q	Q/q		
Eye Color D= Pink R= Orange	R/r	R/r		
Nose D= Large R= Small	N/n	N/n		
Smile D= Showing teeth R= Not ST	T/t	T/t		
Ear Shape D= Pointy R= Fluffy	B/b	B/b		
Ear Color D= Orange R= Red	D/d	D/d		
Pimples D= Yes R= No	P/p	P/p		
Eyebrows D= No R= Yes	Y/y	Y/y		
Face Color D= Orange R= Grey	Z/z	Z/z		
Number of Arms D= 4 R= 12	G/g	G/g		
Number of legs D= 1 R= 3	L/l	L/l		
Number of fingers (per hand) D= 2 R= 3	H/h	H/h		
Body Odor D= stinky R= not stinky	J/j	J/j		
Favorite Toy D= Dead Rat R= Dead Bird	K/k	K/k		