

Genetics with a Smile

Name _____

Part A: Smiley Face Traits

- (1) Obtain two coins from your teacher. Mark one coin with a “F” and the other with a “M” to represent each of the parents. The parents are heterozygous for all the Smiley Face traits.
- (2) Flip the coins for parent for each trait. If the coin lands with heads up, it represents a dominant allele. A coin that lands tails up indicates a recessive allele. Record the result for each person by circling the correct letter. Use the results and the Smiley Face Traits page to determine the genotype and phenotype for each trait.

| Trait | Female | Male | Genotype | Phenotype |
|-------------|--------|------|----------|-----------|
| Face Shape | C c | C c | | |
| Eye Shape | E e | E e | | |
| Hair Style | S s | S s | | |
| Smile | T t | T t | | |
| Ear Style | V v | V v | | |
| Nose Style | D d | D d | | |
| Face Color | Y y | Y y | | |
| Eye Color | B b | B b | | |
| Hair Length | L l | L l | | |
| Freckles | F f | F f | | |
| Nose Color | R Y | R Y | | |
| Ear Color | P T | P T | | |

Part B: Is it a boy or girl?

To determine the sex of your smiley face, flip the coin for the male parent. Heads would represent X, while tails would be Y.

| | Female | Male | Genotype | Phenotype |
|-----|--------|------|----------|-----------|
| Sex | X | X Y | | |

Part C: Create Your Smiley Face!

Use the Smiley Face Traits chart and your results from Part A to create a sketch of your smiley face in the box. Once you have completed the sketch, use the drawing tools in Microsoft Word to create your smiley face!

Two things to remember ...

√ Do not add color on the computer! Print a black and white copy and then use crayons or colored pencils to finish it.

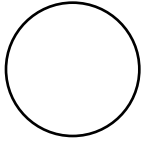
√ Don't forget to give your smiley face a name! You will also need to include your name as parent and your class hour.



Smiley Face Traits

Face Shape

Circle (C)

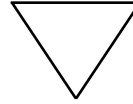


Oval (c)

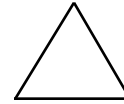


Nose Style

Down (D)



Up (d)

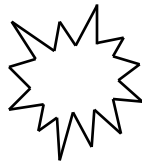


Eye Shape

Star (E)



Blast (e)



Face Color

Yellow (Y)

Green (y)

Eye Color

Blue (B)

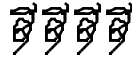
Red (b)

Hair Style

Straight (S)



Curly (s)



Hair Length

Long (L)

Short (l)

Freckles

Present (F)

Absent (f)

Smile

Thick (T)



Thin (t)



Nose Color

Red (RR)

Orange (RY)

Yellow (YY)

Ear Color

Hot Pink (PP)

Purple (PT)

Teal (TT)

Ear Style

Curved (V)



Pointed (v)



Sex

To determine the sex, the flip the coin for the male parent. Heads equals X and tails equals Y.

XX - Female - Add pink bow in hair

XY - Male - Add blue bow in hair