Name: _____ Date: _____

Plastic Egg Genetics

½ Egg Phenotype	½ Egg Genotype
Purple	PP
Orange	Pp
Pink	pp

½ Egg Phenotype	½ Egg Genotype
Blue	BB
Green	Bb
Yellow	bb

½ egg + ½ egg = 1 whole plastic egg

Directions:

1. On your lab table, there are a variety of plastic eggs.
2. **Choose** one egg, but do not open it yet.
3. **Record** the Phenotypes and Genotypes of your egg.
4. **Place** the genotypes of your egg into the Punnett Square.
5. **Determine** the genotypes and phenotypes of the offspring.
6. **Open** your egg – do your results match the results inside the egg?
    a. If yes, then place the egg back together and pick another egg!
    b. If no, check your work and make corrections.
7. Continue until you have completed **5 eggs**.

Example of how to fill in data:

Punnett Squares

Phenotype:

My egg is ½ Blue
and ½ Green

Genotype:

(B B) x (B b)

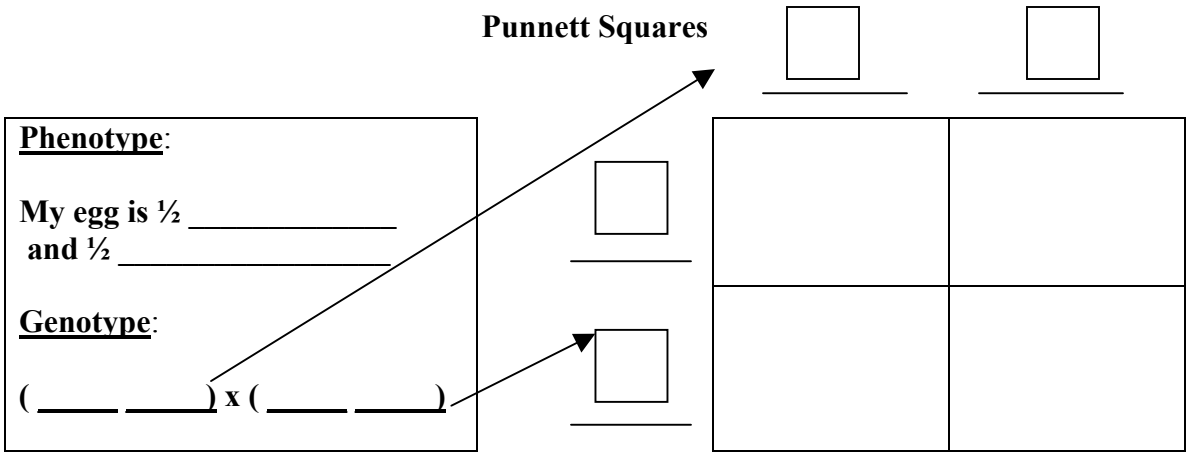
	B	B
B	BB	BB
b	Bb	Bb

My Results: 2 (BB) Blue and 2 (Bb) Green

Inside the Egg: **2 Blue Pieces and 2 Green Pieces**

Worksheet created by Liz LaRosa at http://www.middleschoolscience.com/ 2004 - to be used with
http://www.accessexcellence.org/AE/ATG/data/released/0256-AnneBuchanan/index.html

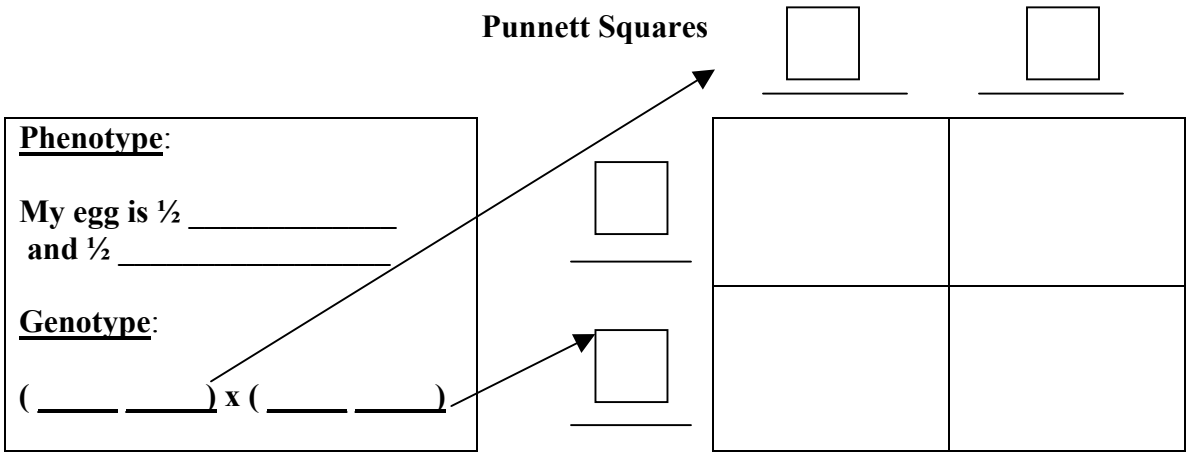
Punnett Squares



My Results: _____

Inside the Egg: _____

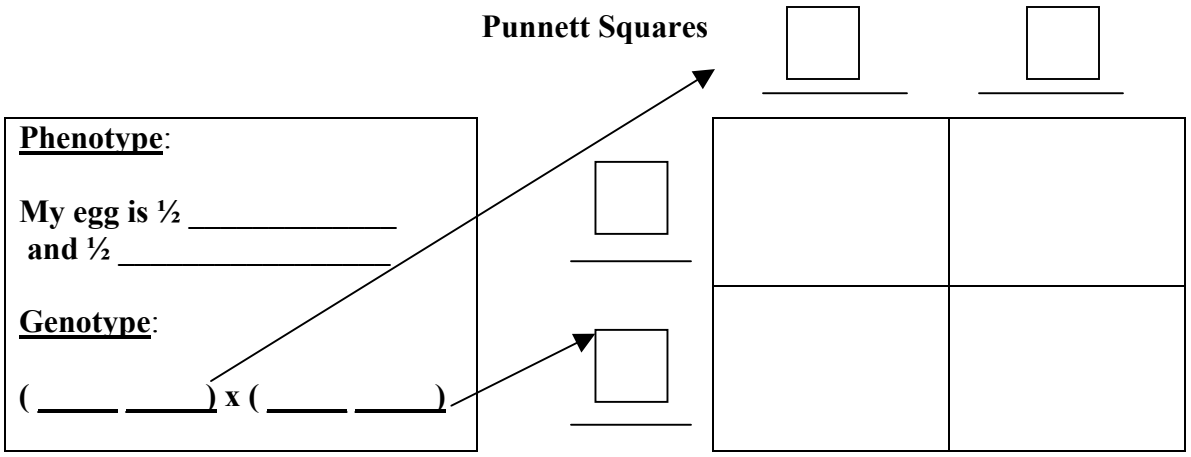
Punnett Squares



My Results: _____

Inside the Egg: _____

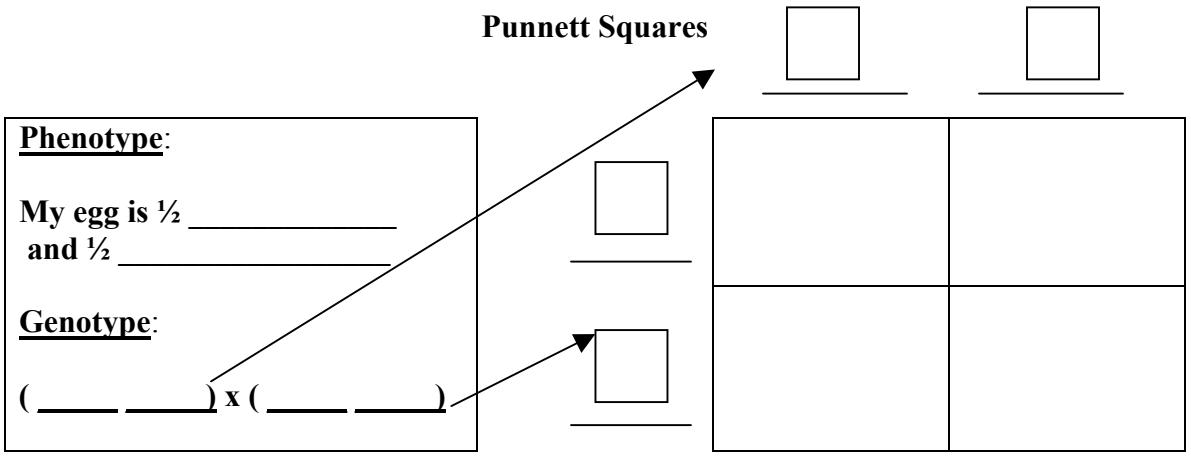
Punnett Squares



My Results: _____

Inside the Egg: _____

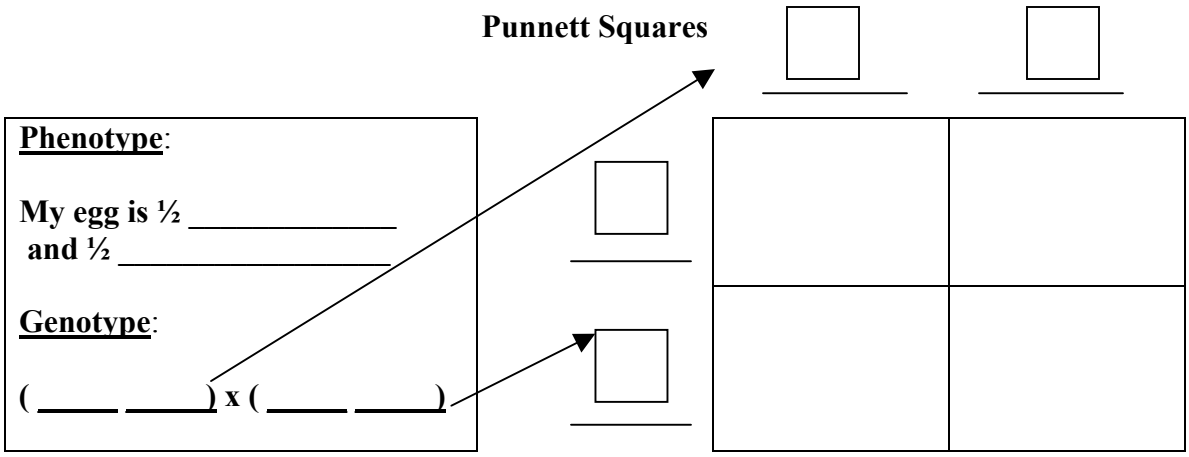
Punnett Squares



My Results: _____

Inside the Egg: _____

Punnett Squares



My Results: _____

Inside the Egg: _____

Results:

Egg	½ Color	Genotype	½ Color	Genotype	Results #XX	#Xx	# xx
Example	Blue	BB	Green	Bb	2 BB Blue	2Bb Green	
1							
2							
3							
4							
5							

Teacher information page:

Setting up eggs:

1. Make all 12 color combinations per lab group of 4 students.
2. Inside each egg, place the 4 correct colored pieces to show the offspring. You can use candy, but I would use plastic pieces of some type, like buttons, centimeter cubes, or any colored manipulative that will fit. If you use candy, you will have to restock each egg, if you use plastic, you can use it from class to class and year to year.
3. From the basket at each lab table, each student will select 5 eggs, one at a time.
4. Students may work independently or with a partner, or a combination of both. Maybe have them do 3 together, and 2 on their own.

Answer key:

purple x purple = (PP x PP)= all (PP) or purple possibilities

purple x pink = (PP x pp)= all (Pp) or orange possibilities

pink x pink = (pp x pp)= all (pp) or pink possibilities

orange x orange = (Pp x Pp)= 1 purple (PP), 2 orange (Pp) and 1 pink (pp)

orange x purple = (Pp x PP)= 2 purple (PP) and 2 orange (Pp)

orange x pink = (Pp x pp)= 2 orange (Pp) and 2 pink (pp)

blue x blue = (BB x BB) = all (BB) or blue possibilities

blue x yellow = (BB x bb) = all (Bb) or green possibilities

blue x green = (BB x Bb) = 2 blue (BB) and 2 Green (Bb)

yellow x yellow = (bb x bb) = all yellow (bb) possibilities

green x yellow = (Bb x bb) = 2 green (Bb) and 2 yellow (bb)

green x green = (Bb x Bb) = 1 Blue (BB), 2 Green (Bb), and 1 yellow (bb)