Bikini Bottom Genetics Name _____
Codominance vs. Incomplete Dominance

SpongeBob loves growing flowers for his pal Sandy! Her favorite flowers, Poofkins, are found in red and blue as well as flowers with both colors. Use the information provided and your knowledge of CODOMINANCE to complete each section below.

1. Write the correct genotype for each color if R represents a red gene and B represents a blue gene.

Red Flowers - _____ Blue Flowers - _____ Flowers with Red & Blue - _____

2. What would happen if SpongeBob crossed a Poofkin with red flowers with a Poofkin with blue flowers. Complete the Punnett square to determine the chances of each flower color.

(a) Give the genotypes and phenotypes for the offspring.

(b) How many of the plants would have red flowers? _____%

(c) How many of the plants would have flowers with both colors? _____ %

(d) How many of the plants would have blue flowers? _____ %

3. What would happen if SpongeBob crossed two Poofkins with flowers made of a mix of red and blue? Complete the Punnett square to show the probability for each flower color.

(a) Give the genotypes and phenotypes for the offspring.

(b) How many of the plants would have red flowers? _____%

(c) How many of the plants would have flowers with both colors? _____ %

(d) How many of the plants would have blue flowers? _____ %

4. What would happen if SpongeBob crossed flowers with both colors with one with only blue flowers? Complete the Punnett square to show the probability for plants with each flower color.

(a) Give the genotypes and phenotypes for the offspring.

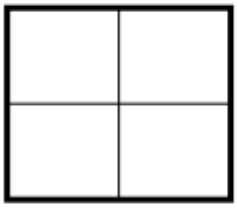
(b) If SpongeBob planted 100 seeds from this cross, how many should he expect to have of each color?

Blue flowers - _____ Red flowers - _____

Flowers with both colors = _____

SpongeBob and his pal Patrick love to go jellyfishing at Jellyfish Fields! The fields are home to a special type of green jellyfish known as Goobers and only really great jellyfishermen are lucky enough to catch some on every trip. Many of the jellyfish are yellow (YY) or blue (BB), but some end up green as a result of INCOMPLETE DOMINANCE. Use this information to help you complete each section below.

5. What would happen if SpongeBob and Patrick crossed two "goobers" or green jellyfish? Complete the Punnett square to help you determine the probability for each color of jellyfish.



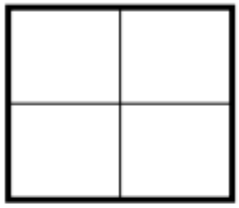
(a) Give the possible genotypes and phenotypes for the offspring.

(b) What percentage of the offspring would be yellow? _____%

(c) What percentage would be blue? _____ %

(d) What percentage would be "goobers" (green)? _____ %

6. What would happen if they crossed a yellow jellyfish with a goober? Complete the Punnett square to help you determine the probability for each color of jellyfish.



(a) Give the possible genotypes and phenotypes for the offspring.

(b) What percentage of the offspring would be yellow? _____%

(c) What percentage would be blue? _____ %

(d) What percentage would be "goobers" (green)? _____ %

7. What would happen if they crossed a blue jellyfish with a yellow jellyfish? Complete the Punnett square to help you answer the questions.

If 100 jellyfish were produced from this cross, how many would you expect for each?

Yellow - _____ Blue - _____ Goobers - _____

8. What would happen if they crossed a blue jellyfish with a goober? Complete the Punnett square to help you answer the questions.

If 100 jellyfish were produced from this cross, how many would you expect for each?

Yellow - _____ Blue - _____ Goobers - _____