

Bikini Bottom Genetics Review

Name _____

1. Purebred -Also called homozygous and consists of gene pairs with genes that are the same.
 Hybrid -Also called heterozygous and consists of gene pairs with genes that are different.
 Genotype is the actual genetic makeup represented by alleles or letters.
 Phenotype is the physical appearance of a trait, such as a yellow (sponge Bob) body color.

2. Classify each of the following gene pairs as heterozygous (He) or homozygous (Ho).

TT HO Bb HE dd HO Ff HE Rr HE

3. Give the possible genotypes for each trait based on the information provided in the chart.

Purebred squarepants - SS Blue body - yy

Hybrid round eyes - Rr Purebred roundpants - ss

Heterozygous squarepants - Ss

Homozygous yellow body - YY

Characteristic	Dominant Gene	Recessive Gene
Body Shape	Squarepants (S)	Roundpants (s)
Body Color	Yellow (Y)	Blue (y)
Eye Shape	Round (R)	Oval (r)

4. Give the phenotypes for each genotype based on the information provided in the chart.

SS - Squarepants Yy - Yellow body rr - Oval eyes
 Rr - Round eyes ss - Roundpants YY - Yellow body

5. SpongeBob SquarePants recently met SpongeSusie Roundpants at a dance. SpongeBob is heterozygous for his square shape, but SpongeSusie is round. Create a Punnett square to show the possibilities that would result if SpongeBob and SpongeSusie had children.

Create a Punnett square to help you answer the questions.

What are the possible genotypes and phenotypes for the offspring?

What percentage would be squarepants? 50 %

What percentage would be roundpants? 50 %

6. Spongebob's cousin, SpongeJimBob, is a heterozygous yellow sponge. He recently married a blue sponge gal.

Create a Punnett square to help you answer the questions.

What are the possible genotypes and phenotypes for the offspring?

What percentage would be yellow? 50 %

What percentage would be blue? 50 %

7. SpongeJimBob has oval eyes, while his bride is believed to be homozygous for her round eye shape.

Create a Punnett square to help you answer the questions.

What are the possible genotypes and phenotypes for the offspring?

What percentage would have round eyes? 100 %

What percentage would have oval eyes? 0 %