

**Bikini Bottom Genetics 2**

Name \_\_\_\_\_

Use your knowledge of genetics to complete this worksheet.

1. Use the information for SpongeBob's traits to write the phenotype (physical appearance) for each item.

Characteristic	Dominant Gene	Recessive Gene
Body Shape	Squarepants (S)	Roundpants (s)
Body Color	Yellow (Y)	Blue (y)
Eye Shape	Round (R)	Oval (r)
Nose Style	Long (L)	Stubby (l)

- (a) LL- \_\_\_\_\_ (e) Rr- \_\_\_\_\_
- (b) yy- \_\_\_\_\_ (f) ll- \_\_\_\_\_
- (c) Ss- \_\_\_\_\_ (g) ss- \_\_\_\_\_
- (d) RR - \_\_\_\_\_ (h) Yy - \_\_\_\_\_

2. Use the information in the chart in #1 to write the genotype (or genotypes) for each trait below.

- (a) Yellow body - \_\_\_\_\_ (e) Stubby nose - \_\_\_\_\_
- (b) Roundpants - \_\_\_\_\_ (f) Round eyes - \_\_\_\_\_
- (c) Oval eyes - \_\_\_\_\_ (g) Squarepants - \_\_\_\_\_
- (d) Long nose - \_\_\_\_\_ (h) Blue body - \_\_\_\_\_

3. Determine the genotypes for each using the information in the chart in #1.

- (a) Heterozygous round eyes - \_\_\_\_\_ (c) Homozygous long nose - \_\_\_\_\_
- (b) Purebred squarepants - \_\_\_\_\_ (d) Hybrid yellow body - \_\_\_\_\_

4. One of SpongeBob's cousins, SpongeBillyBob, recently met a cute squarepants gal, SpongeGerdy, at a local dance and fell in love. Use your knowledge of genetics to answer the questions below.

(a) If SpongeGerdy's father is a heterozygous squarepants and her mother is a roundpants, what is her genotype? Complete the Punnett square to show the possible genotypes that would result to help you determine Gerdy's genotype.


What is Gerdy's genotype? \_\_\_\_\_

(b) SpongeBillyBob is heterozygous for his squarepants shape. What is his genotype? \_\_\_\_\_

(c) Complete the Punnett square to show the possibilities that would result if Billy Bob & Gerdy had children.


(d) List the possible genotypes and phenotypes for the kids.

(e) What is the probability of kids with squarepants? \_\_\_\_\_ %

(f) What is the probability of kids with roundpants? \_\_\_\_\_ %