



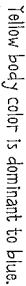
For each set of genes below, indicate whether it is a hybrid (H) OR purebred (P).

Use the information for SpongeBob's traits to write what each would look like

Trait	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)

Use the information in the chart to write the genes for each sponge family trait below. (hint: some may have more than one possible answer)

Determine what each set of genes would look like using the information provided about SpongeBob.



$\frac{1}{2}$
 $\frac{1}{2}$

Square shape is dominant to round.

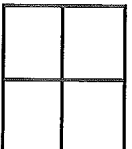
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SpongeBob is known for his big round eyes (R), which is dominant over an oval eye shape (r). If he is hybrid for his round eye shape and marries Spongesue who has oval eye shape, what type of eyes might their kids have?

Complete the Punnett square to show the possibilities that would result if SpongeBob had children with SpongeSusie.

What are the chances of a child with a round eye shape? ____%

What are the chances of a child with an oval eye shape? ____%



For each trait, give the genes that are possible for Patrick.

A tall head (T) is dominant to short (t).

Short = **Tall =**

Pink body color (P) is dominant to yellow (p).

Pink body = _____ Yellow body = _____

Patrick met Patti at the dance. Both of them are hybrid for their pink body color. Create a Punnett square to show the possibilities that would result if Patrick and Patti had children. (Hint: look at the starfish traits above)

What are the chances of a child with a pink body? ____ out of ____ or ____%

What are the chances of a child with a yellow body? ____ out of ____ or ____?

Now that Patrick and Patti just married, they want to know what type of heads their children will have. He is considered a punberbed for his tall head shape, but Patti is short-headed. What type of heads would their children have?

List the genes (letters) for each: Patrick - _____ Patti - _____

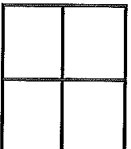
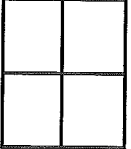
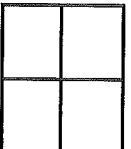
Complete the Punnett square to show the possible outcomes (looks) for the children.

Which type of head is most likely: tall or short? Explain.

Would the children be considered purebreds? Explain.



In Squidward's family, a blue body color (B) is dominant to green (b). Determine what each would look like based on this information.

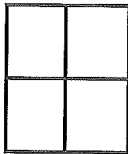


Everyone in Squidward's family has light blue skin, which is the dominant trait for body color in his hometown of Squid Valley. His family brags that they are a "purebred" line. He recently married a nice girl who has light green skin, which is a recessive trait. Create a Punnett square to show the possibilities that would result if Squidward and his new bride had children. Use B to represent the dominant gene and b to represent the recessive gene.

What are the chances of a child with light blue skin? ____%

What are the chances of a child with light green skin? ____%

Would Squidward's children still be considered purebreds? Explain!



If tall eyeballs (T) are dominant to short eyeballs (t), give the gene letters that are possible for members of Mr. Krabbs' family.

Tall eyeballs = _____ Short eyeballs = _____



Mr. Krabbs and his wife recently had a lit' Krabby, but it has not been a happy occasion for them. Mrs. Krabbs has been upset since she first saw her new baby who had short eyeballs. She claims that the hospital goofed and mixed up her baby with someone else's baby. Mr. Krabbs is purebred for his tall eyeballs, while his wife is a hybrid for her tall eyeballs, although some members of her family have short eyes.

What are the possible genes for their children?

Did the hospital make a mistake? Explain your answer

Don't Panic! Two-trait Practice

Use the chart to identify the genotypes of the following traits.

List the same letters together (SSRr)

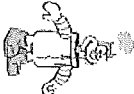
Hybrid round eyes, blue body _____

Hybrid eye shape, purebred roundpants _____

Purebred squarepants, hybrid long nose _____

Trait	Dominant Gene	Recessive Gene
Body Shape	Squarepants (S)	Roundpants (s)
Body Color	Yellow (Y)	Blue (y)
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Nose Style	Long (L)	Stubby (l)

Incomplete Dominance – this is when the hybrid form is a blend of the two traits



SpongeBob loves growing flowers for his pal Sandy! Her favorite flowers, Pookkins, are found in red, blue, and purple. Use the information provided and your knowledge of incomplete dominance to complete each section below.

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

Red - _____ Blue - _____ Purple - _____

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

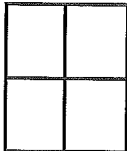
How many of the plants would have red flowers? ____%

How many of the plants would have purple flowers? ____%

How many of the plants would have blue flowers? ____%



What would happen if SpongeBob crossed two purple Pookkins? Complete the Punnett square to show the probability for each flower color.



Purple flowers - _____ Blue flowers - _____ Red flowers - _____

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.

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.

What percentage of the jellyfish would be "goobers" (green)? ____%

What are the chances of the jellyfish being yellow? ____%

What percentage of the offspring would be blue? ____%

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

Yellow - _____ Blue - _____ Goobers - _____

