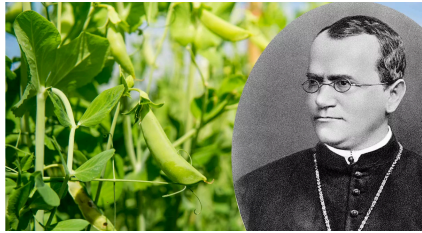
















## ***Dihybrid Crosses with Mendelian Genetics:***

***Name:***



Last time we conducted monohybrid crosses (one trait) with Mendel's peas. Now we will look at dihybrid crosses (two traits).

	Flower Colour	Plant Height	Seed Color	Seed Shape	Pod Colour	Pod Shape	Flower Position
Dominant Trait	 Purple	 Tall	 Yellow	 Round	 Green	 Inflated (full)	 Axial
Recessive Trait	 White	 Short	 Green	 Wrinkled	 Yellow	 Constricted (flat)	 Terminal

1. Draw a Punnett square to show the cross between a true breeding tall, round seed plant with a true breeding short, wrinkle seed plant. What are the genotypes and phenotypes of the pea offspring?
2. Make an F-1 cross of the peas generated in problem 1 above. What is the phenotypic ratio of their offspring?
3. What are the genotypic and phenotypic ratios of the cross between a homozygous yellow seeded, heterozygous axial flowered plant and a green seeded terminal flowered plant?



X



4. In cats, short hair is dominant to long hair and tabby (striped) is dominant to stripeless. A heterozygous short haired, homozygous tabby is crossed with a long haired, stripeless cat. What percent of their offspring will likely be long haired, tabby kittens?



X



5. In dogs, pointy ears are dominant to floppy ears and piebald (dark marks on white fur) is dominant to solid fur.
- a) A homozygous pointy eared, heterozygous piebald dog is crossed with floppy eared, solid furred dog. Can they have the puppy shown below? Why or why not? Justify your answer with a Punnett square.



- b) Can they have this puppy? Explain your answer.

