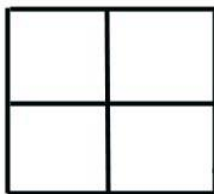


Single-gene traits that are inherited according to the principle of complete dominance can be predicted using Punnett squares.

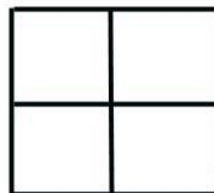
- 1.) In pea plants, the allele for round seeds (R) is dominant to the allele for wrinkled seeds (r). A pea plant that is heterozygous for seed shape is crossed with a pea plant that produces wrinkled seeds. What are the genotypes of the plants being crossed? What are the expected genotypes and phenotypes of the offspring?



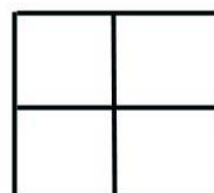
- 2.) In a species of plant, the allele for purple flowers (P) is dominant to the allele for white flowers (p). Predict the phenotypes and genotypes of offspring produced from a cross between plants that are both heterozygous for the trait.



- 3.) Green pea pod colour (G) is dominant to yellow pea pod colour (g). Predict the phenotypes and genotypes of the offspring produced when a plant homozygous for green pods is crossed with a plant homozygous for yellow pods.



- 4.) In zucchini (*Cucurbita pepo*), yellow-coloured flesh is recessive to white-coloured flesh. A plant breeder would like to know if any of the white-fleshed zucchini are heterozygous for the yellow-fleshed allele. Describe how this could be determined.



- 5.) In one of his experiments, Mendel counted 6022 yellow seeds and 2001 green seeds. What are the genotypes and phenotypes of the plants that were crossed to achieve this?

