

In a particular plant species, the position of the flowers on the stem is controlled by a gene with two alleles. The allele coding for flowers growing in the middle of the stem (**G**) is dominant to the allele for flowers growing only at the end of the stem (**g**).

- Using the allele symbols, identify the genotype of a plant that is heterozygous for this trait.
- Draw a Punnett square to show the cross of two heterozygous plants.
- Using the cross in part (b), explain how heterozygous crosses demonstrate that alleles segregate. Be sure to describe the law of segregation in your answer.
- Identify the process that accomplishes segregation of alleles into sex cells.