

Study Guide: Reproduction

1. What is the primary aim of reproduction?
2. Asexual reproduction passes an exact copy of a genome to offspring. Under what environmental conditions might this be appropriate?
3. Why might sexual reproduction be more suitable under rapidly changing environmental conditions?
4. What are the sporophytic and gametophytic generations in plants and how do these relate to a genome “formulas” such as those shown in lecture ($2n = 2x = 14$; $2n = 4x = 28$; and $2n = 6x = 42$)?
5. Identify which of the following floral parts belong to the pistil or stamen
 - a) Anther
 - b) Style
 - c) Stigma
 - d) Filament
6. Compare and contrast megasporogenesis and microsporogenesis.
7. How is a triploid endosperm formed and how does it differ from the nucleus in terms of parental genome doses?
8. Apomixis could be considered the Holy Grail of plant breeding. Why might that be?
9. Define the following terms, in your own words, based on the definitions provided in Table 1 of the paper by Hand and Koltunow (2014. *Genetics*. 197:441-450).
 - a) Apomixis
 - b) Embryo sac
 - c) Apomeiosis
 - d) Diplospory
 - e) Apospory
 - f) Parthenogenesis
10. How does knowledge of reproductive strategies help to explain why the Himalayan blackberry is such a successful invasive plant?