

This is the **Higher Separate** version — includes all Higher Tier content (marked ★) and all Separate Science content.

Organisms reproduce either sexually (with variation) or asexually (genetically identical offspring).

- Asexual: 1 parent, offspring identical (clones), mitosis, no variation, fast
- Sexual: 2 parents, offspring varied, meiosis + fertilisation, slower
- Advantages of asexual: fast, energy-efficient, all offspring can reproduce
- Advantages of sexual: variation → better adaptation to changing environments
- Examples of asexual: bacteria (binary fission), strawberry (runners), potato (tubers), yeast (budding)
- ★ HT Meiosis produces 4 different haploid gametes. Variation through crossing over and independent assortment

Key Terms

Asexual reproduction	One parent — identical offspring (clones) — mitosis
Sexual reproduction	Two parents — varied offspring — meiosis and fertilisation

■ **Exam Tip:** Asexual = fast but no variation (bad if environment changes). Sexual = slower but creates variation (helps species adapt).