

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

Food chains and webs show how energy flows through an ecosystem. Energy is progressively lost at each step.

- Food chain: producer → primary consumer → secondary consumer → apex predator
- ~10% energy transfers between levels (rest lost as heat, movement, waste)
- Food web: all interconnected food chains in an ecosystem — more realistic model
- Removing a species affects all others connected to it in the food web
- ★ HT Pyramids of biomass always wider at base
- ★ HT Energy loss explains why: more land needed to produce meat than plant food

### Key Terms

<b>Trophic level</b>	A feeding level in a food chain
<b>Pyramid of biomass</b>	Diagram of dry mass at each trophic level — always widest at base

■ **Exam Tip:** ~10% energy transfer is the key figure. Always explain WHY energy is lost: respiration (heat), movement, excretion. Not just "energy is lost".