*This is the **Foundation Separate** version — Higher Tier content has been removed.*

The endocrine system uses hormones to coordinate body functions. Blood glucose control is a key example of negative feedback homeostasis.

- Endocrine glands secrete hormones into blood → travel to target organs
- Blood glucose rises: beta cells release insulin → glucose taken up; glycogen formed in liver (glycogenesis)
- Blood glucose falls: alpha cells release glucagon → glycogen broken down to glucose (glycogenolysis)
- Type 1 diabetes: autoimmune, no insulin → injections. Type 2: insulin resistance → diet and exercise
- Thermoregulation: hypothalamus controls. Hot: vasodilation, sweating. Cold: vasoconstriction, shivering
- Menstrual cycle: FSH → egg matures; oestrogen → uterus lining; LH surge → ovulation; progesterone → maintains lining

Key Terms

Insulin	From beta cells — lowers blood glucose — stimulates glycogen synthesis
Glucagon	From alpha cells — raises blood glucose — stimulates glycogen breakdown
Negative feedback	Response opposes change to restore normal level

■ **Exam Tip:** Insulin LOWERS blood glucose (stores as glycogen). Glucagon RAISES blood glucose (releases from glycogen). These do OPPOSITE things and work together to keep blood glucose stable.