*This is the **Foundation Combined** version — Higher Tier and Separate-only content removed.*

Global warming is the increase in average global temperatures caused by rising concentrations of greenhouse gases in the atmosphere.

- Greenhouse gases: CO■ (from burning fossil fuels, deforestation), methane (from cattle, rice paddies, landfill), water vapour, nitrous oxide.
- Greenhouse effect: greenhouse gases absorb infrared radiation from the Earth's surface and re-emit it → atmosphere warms.
- Consequences of global warming: rising sea levels (glaciers and ice caps melt), more extreme weather events, habitat change (species migrate or go extinct), ocean acidification (CO■ dissolves in seawater).
- Responses: reduce fossil fuel use, increase renewable energy, reduce deforestation, carbon capture and storage, international agreements (Paris Agreement).

Key Terms

Greenhouse gas	A gas (e.g. CO■, methane) that absorbs and re-emits infrared radiation, warming the atmosphere
Global warming	Rise in average global surface temperatures due to increased greenhouse gas concentrations
Climate change	Long-term changes in global weather patterns associated with global warming

■ **Exam Tip:** Distinguish greenhouse effect (natural and necessary) from enhanced greenhouse effect (extra warming due to human CO■ emissions). Global warming is not the same as "holes in the ozone layer" — these are different problems caused by different gases.