

MAGNETIC STRIPING & SEA FLOOR SPREADING

Core science (explain in THIS order)

- Magma rises at **mid-ocean ridges** → cools → forms new oceanic crust
 - As it cools, iron particles in the rock **line up with Earth's magnetic field** at that time
 - Earth's magnetic field **flips polarity** (N/S swap) every so often over time
 - New crust keeps forming at the ridge and pushes older crust outward → creates **matching stripes of "normal" and "reversed" polarity** on both sides of the ridge
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Why this proves plate tectonics

- Stripes are **symmetrical** on both sides → shows crust is made at the ridge and moves apart in both directions = sea floor spreading
 - Stripes get **older the further out you go** → shows direction + speed of plate movement
 - It's basically a "recording" of magnetic history in the rock → lets scientists measure/date plate movement, not just guess
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HOW TO ANSWER IN EXAM

1. Explain how it forms first — magma rises, cools, minerals line up
 -  Don't skip this and jump straight to "proves plates move"
2. Name the pattern — symmetrical, alternating stripes either side of ridge
3. Link back to theory — say this proves new crust keeps forming at ridges and spreads outward

For "explain" questions

- Need BOTH: describe the pattern + link it to spreading/movement
- Just describing the stripes (they exist, they alternate) without saying "this proves plates are moving apart" = won't get full marks