

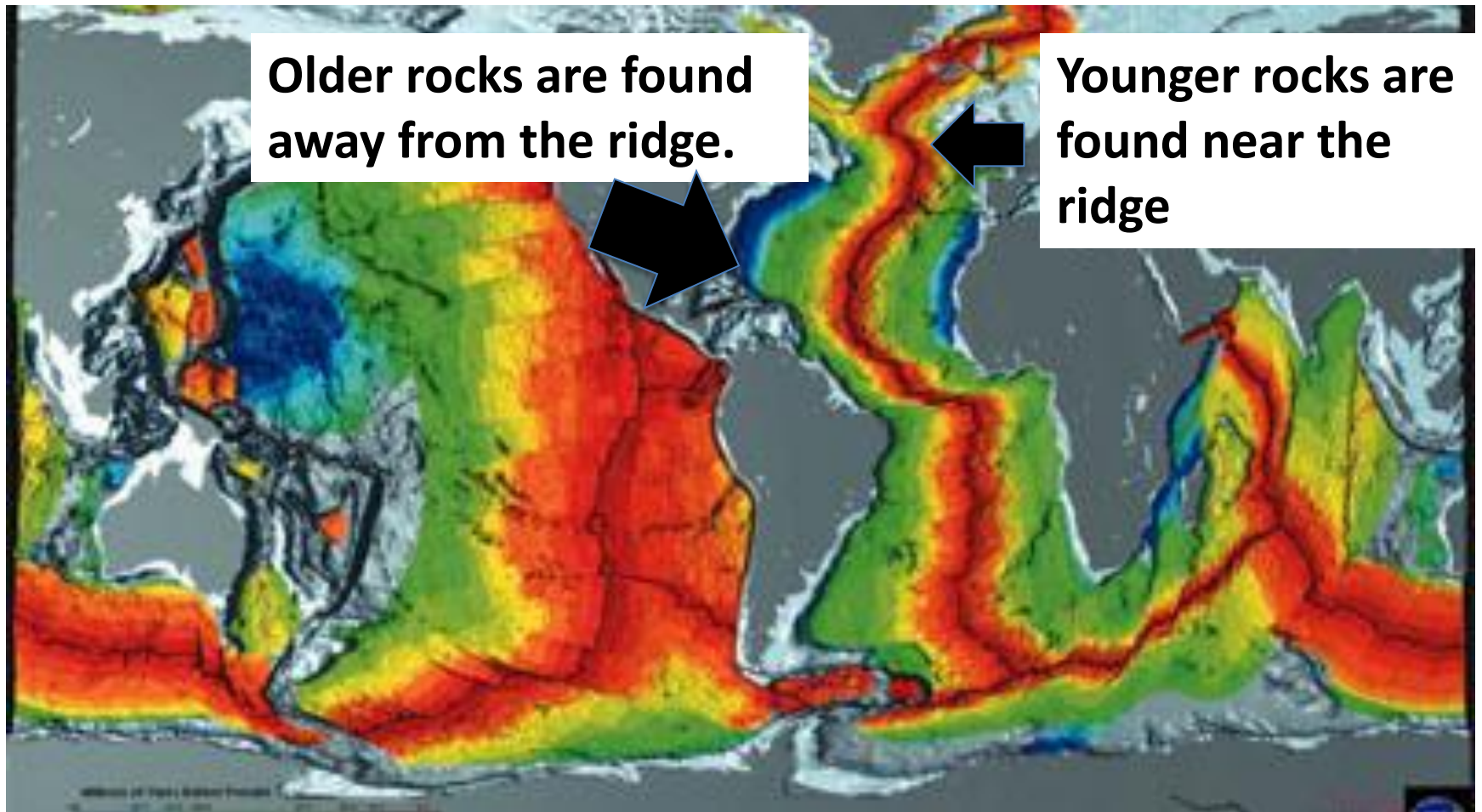
Daily Routine

- Sit in your appropriate seat quietly
- Make sure you are wearing your ID's
- Have all necessary materials out
- All back packs on the floor
- All cell phones on silent and away in backpacks
- All iPods off and headphones out of your ears
- Hats off
- No food or drink except for water

Bellwork/Quick-write

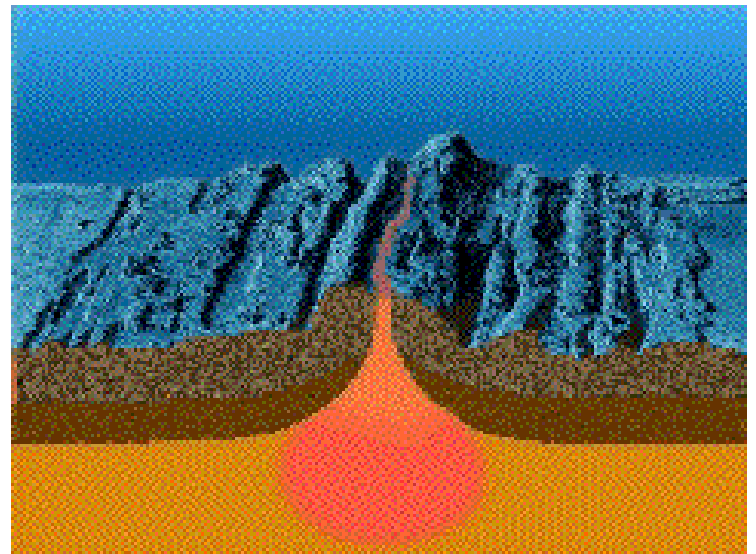
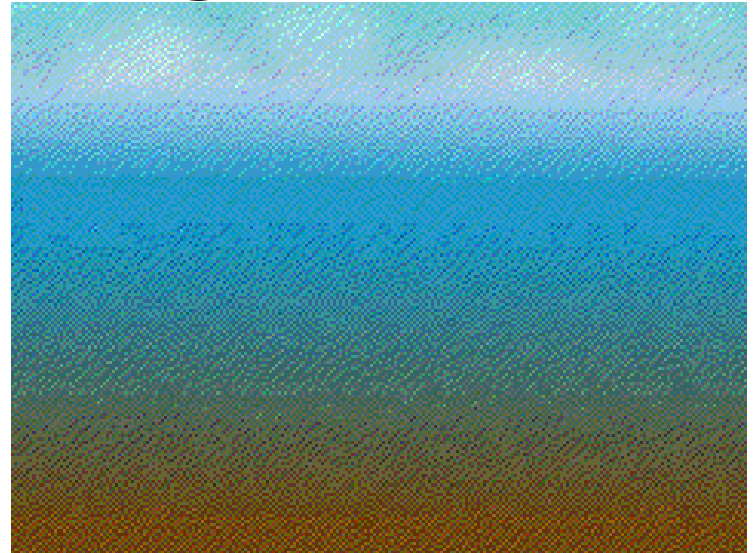
- When comparing the ages of rocks at and away from the mid-ocean ridge, describe the age patterns modeled in yesterday's activity.
- Why was Wegener's hypothesis not accepted?

Rock Ages through radiometric dating



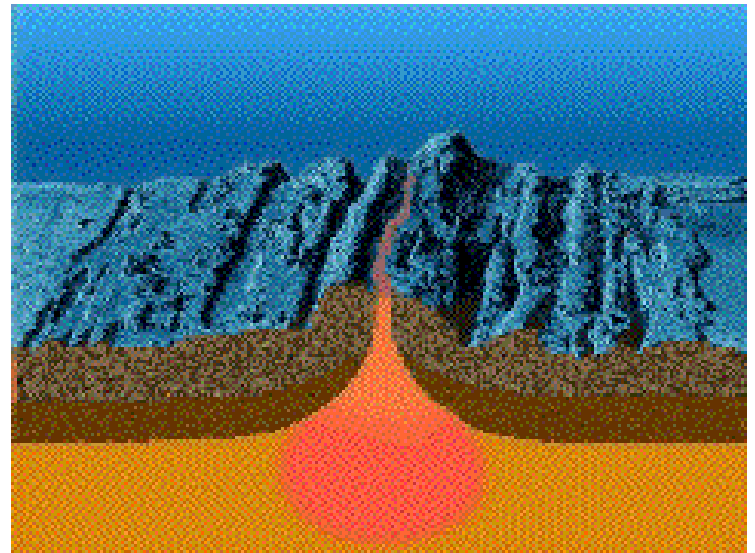
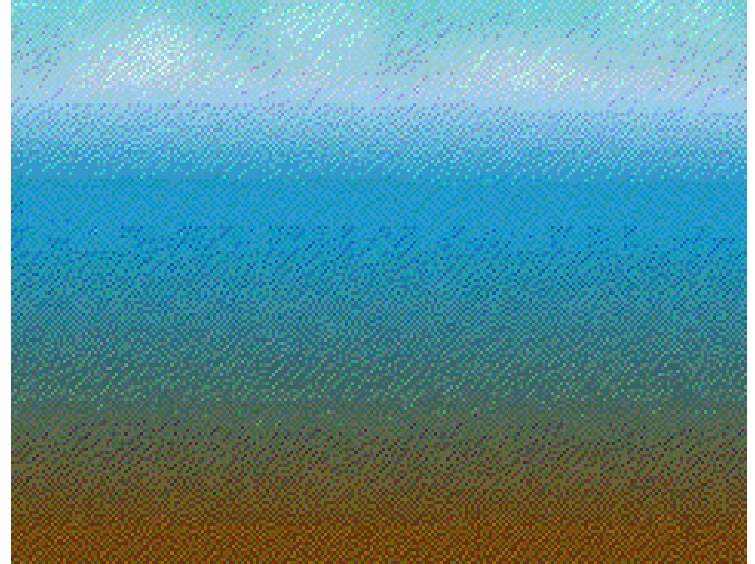
How do magnetic clues help show sea floor spreading?

- As Harry Hess mapped the ocean bottom, he dragged a magnetometer behind his boat
- He discovered stripes or anomalies on the seafloor bottom
- Paleomagnetism: the arrangement of magnetic metals in minerals pointing toward magnetic North after formation



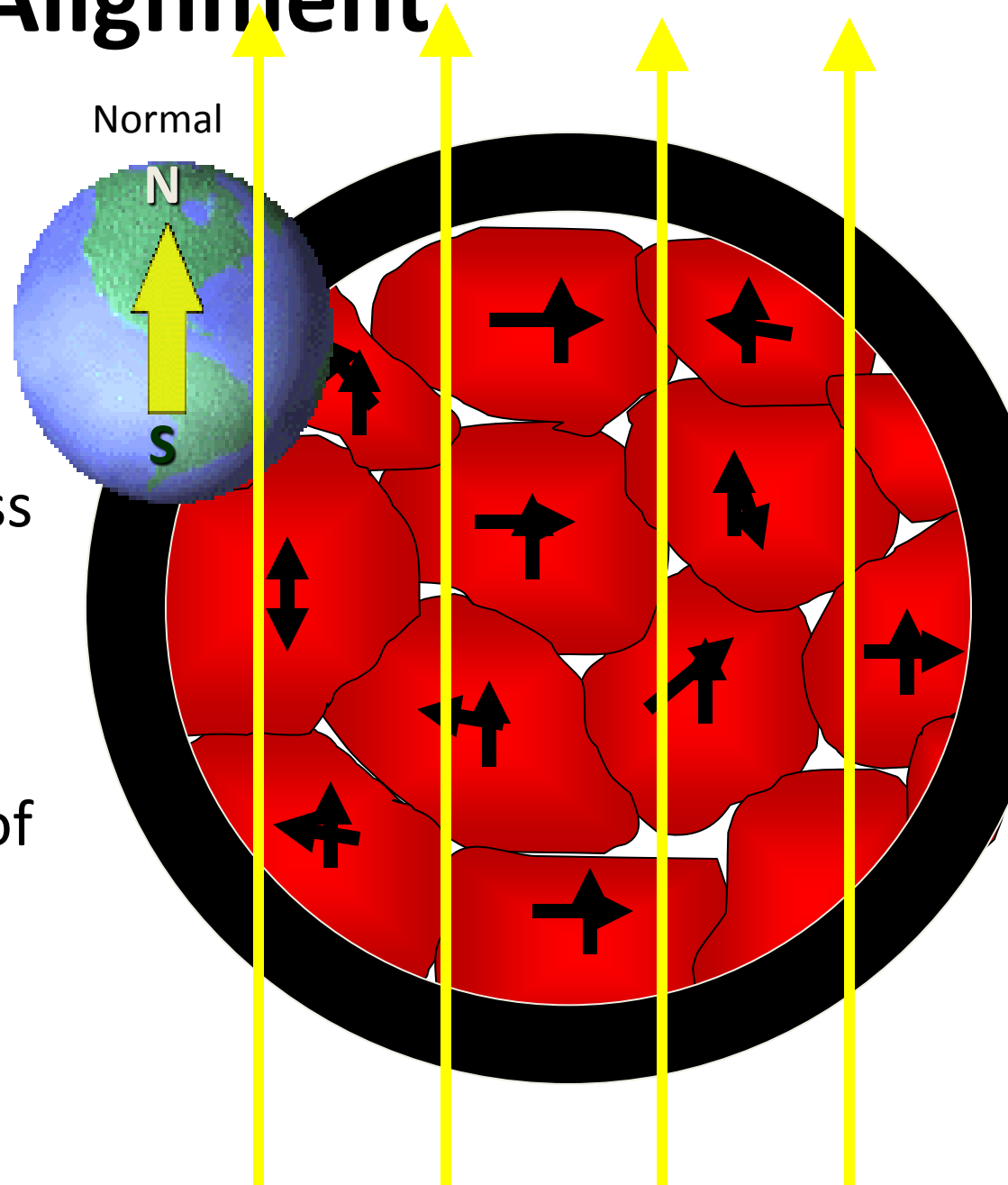
How do magnetic clues help show sea floor spreading?

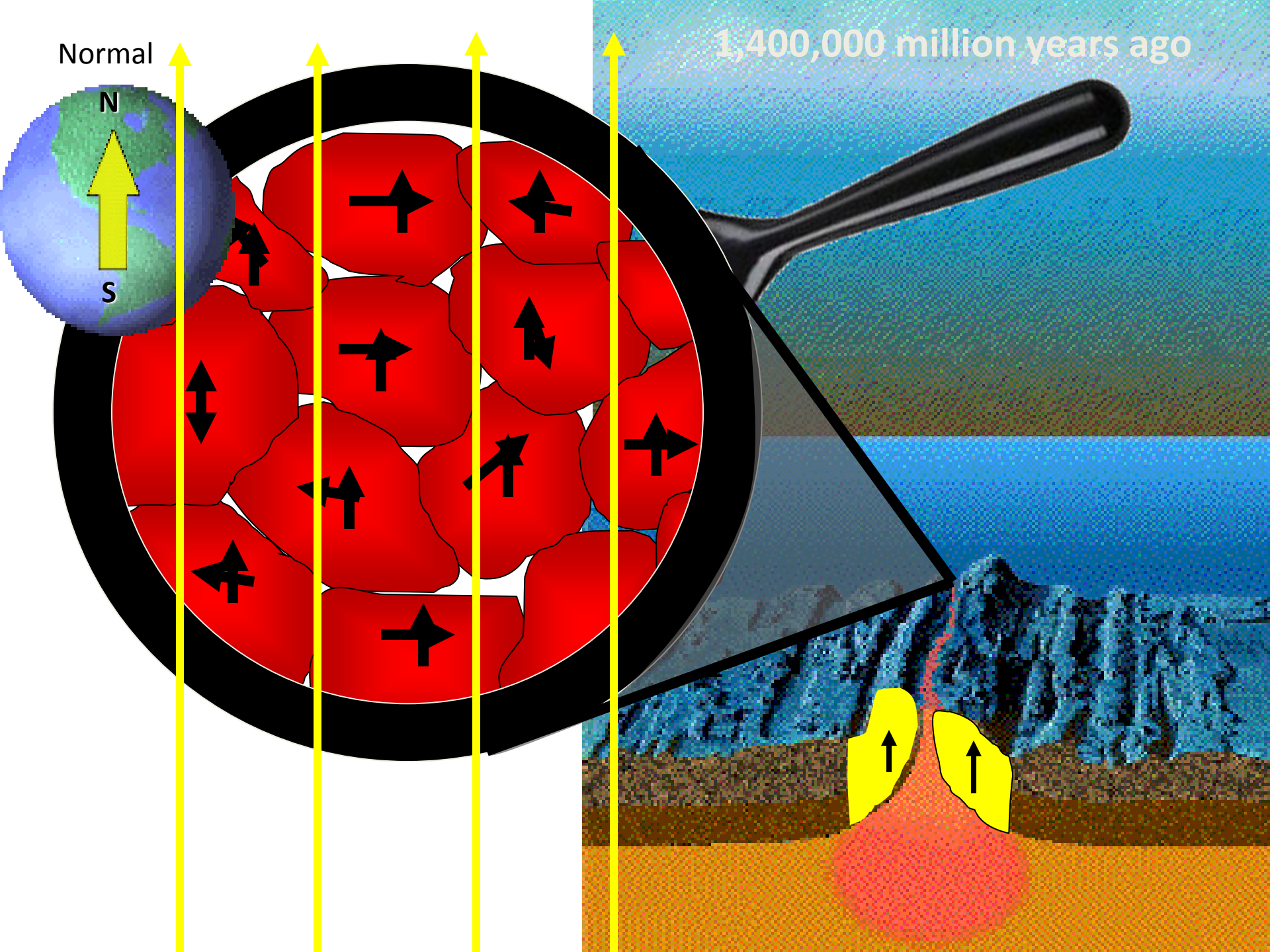
- What Harry Hess realized was that each stripe was a reversal in the magnetic field
- Each stripe was a record of earth's magnetic history
- Pattern remain consistent on both sides of the ridge
- This discovery provided strong evidence for Seafloor Spreading



Mineral Alignment

- Iron minerals (magnetite) in basaltic lava rock **Align** themselves with the earth's magnetic field like a miniature compass needle
- As lava cools, these magnetic minerals **Record** the direction of the earth's magnetic field like a compass needle





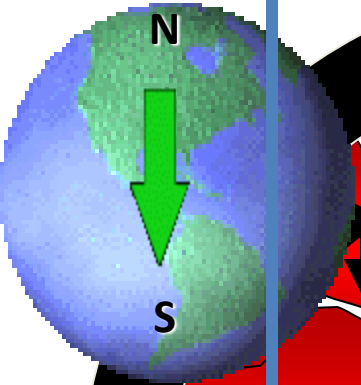
Normal

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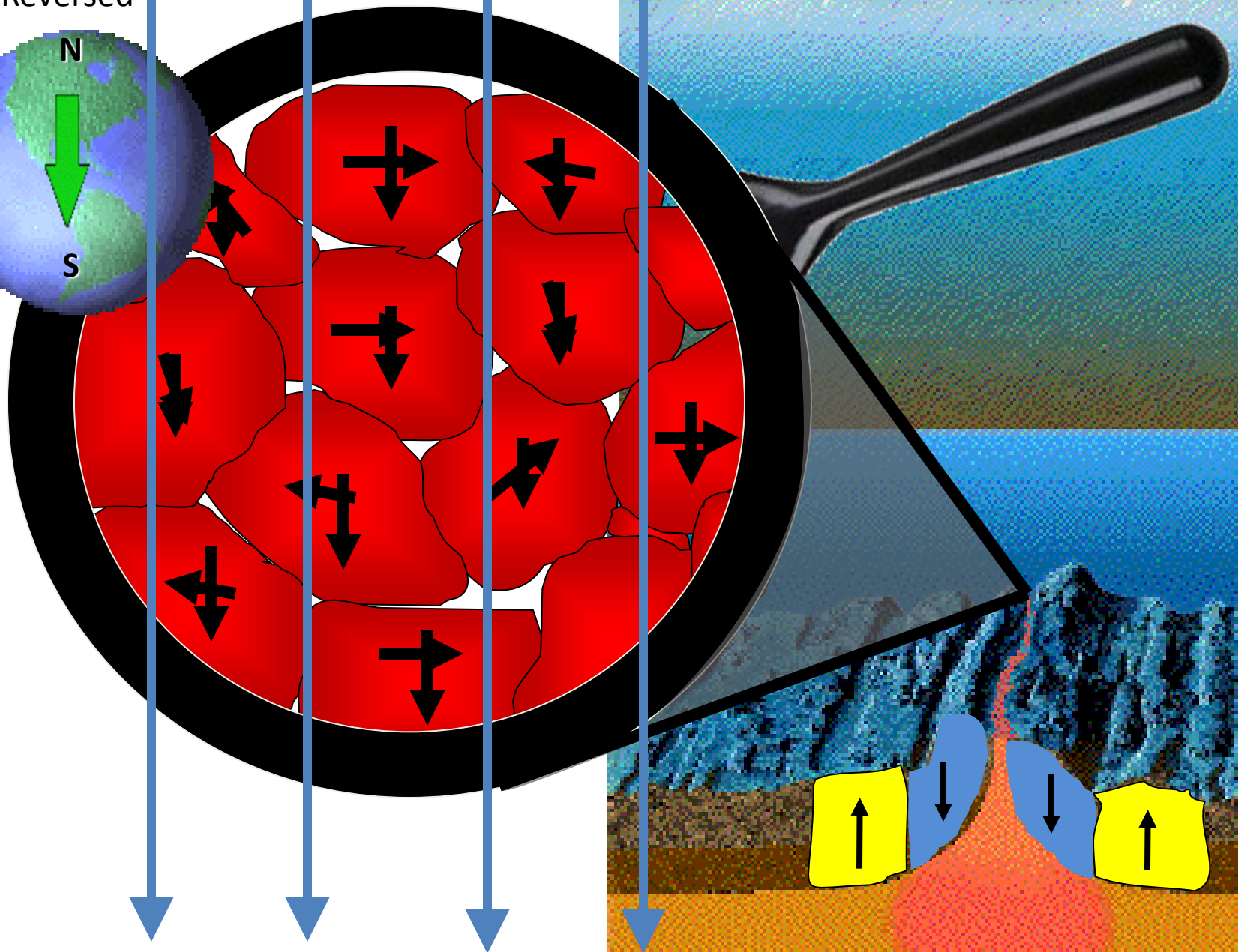
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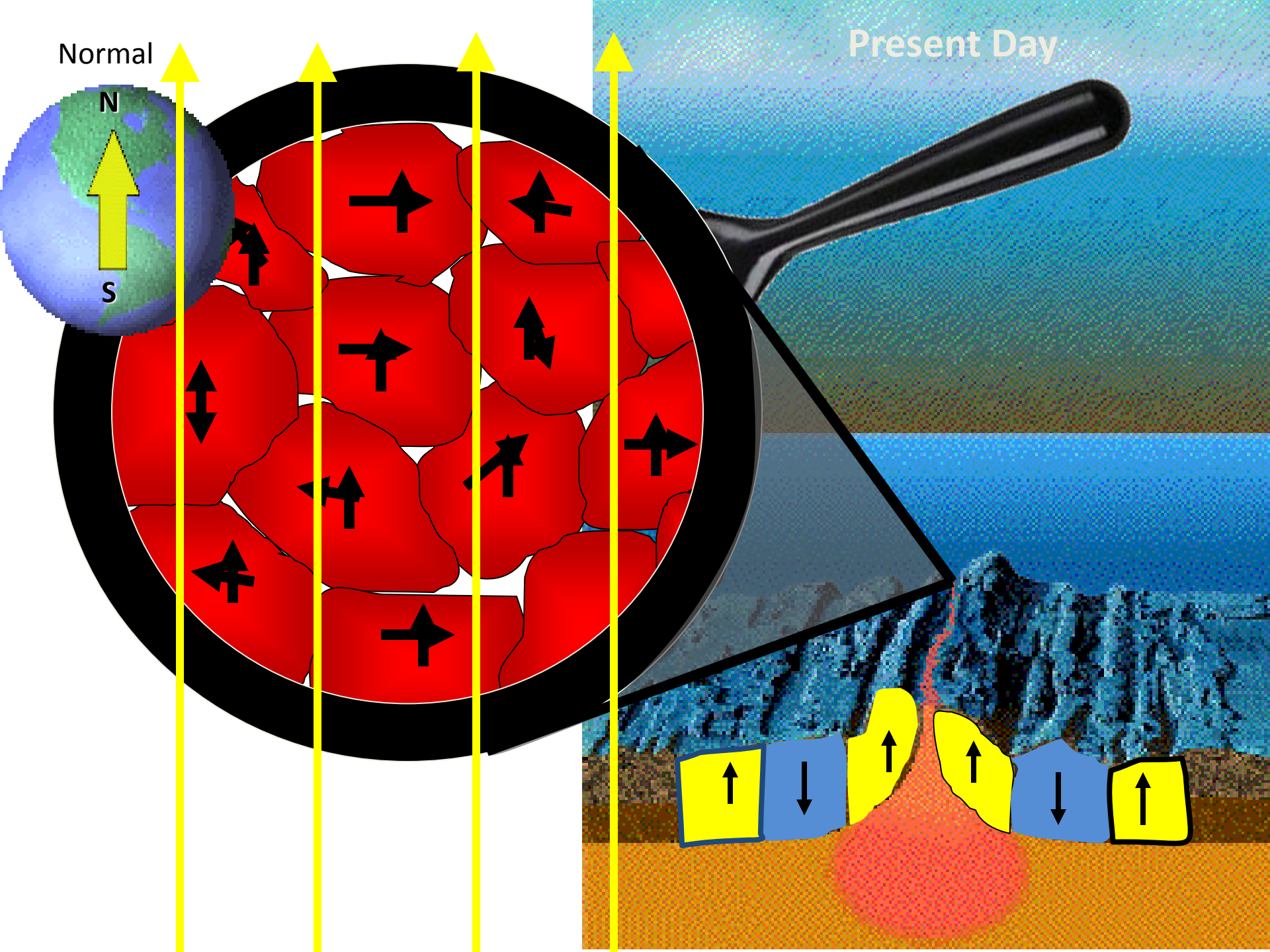
1,400,000 million years ago

Reversed



700,000 thousand years ago





Why doesn't the Earth continue to get bigger with sea floor spreading?

- If sea floor spreading was the only mechanism happening, then Earth's surface would continue to expand
- This doesn't happen, so Hess had to add to his explanation
- New crust created and old crust recycled back into the earth
- Earth's crust gets recycled into the Mantle through the process of subduction

How else do we know the plates are moving?

- Geography of Earth's Crust
 - Mountain ranges
 - Trenches
 - Valleys
 - Seamounts
- Volcanoes
- Earthquake data

