The solar system.

Rarity of the non-radiogenic isotopes of the noble gases heavy enough to be trapped by the earth’s gravity (i.e. neon through krypton, excepting argon-40 from decay of potassium-40) is prime evidence that the earth’s original atmosphere was blown off into space and that today’s atmosphere developed subsequently.
Planetary specific gravity vs. distance from sun, showing planets’ relative sizes.
Comments: The temperature gradient in the solar nebula, showing how it controlled planetary composition by controlling the condensation of mineral phases.
1. Earth accreting from planetesimals 4.6 Ga ago.

Heating by impacts and radioisotopes drives the smelting of iron oxides and/or sulfides at or near the surface; the resulting molten iron sinks to form the growing core, releasing its gravitational potential energy as heat enroute. Volatile elements escape to space from the intensely hot atmosphere.

2. Mars-sized protoplanet of about 0.1 present-day earth masses impacts at 10-15 km/s 4.6 Ga ago.

The impact throws a moon's worth of mantle-derived magma and metal-rich vapor into orbit around the earth.

3. A century or so after the protoplanet's impact.

The earth is covered by a magma ocean, enshrouded in vapor, and bombarded by debris from its Saturn-like ring. Moonlets are beginning to condense. Energy from the impact has accelerated the earth's devolatilization and internal differentiation.

4. A few tens of millions of years after the protoplanet's impact.

The accretion of the earth and moon are going to completion, as is the earth's internal differentiation. Devolatilization continues as the earth's interior cools by convection, but less volatile elements no longer escape the atmosphere. A few moonlets, the possible makers of subsequent lunar maria craters, perhaps linger in orbit.

Formation of the earth and moon, showing the collision hypothesis of the moon's origin.