

Evidence Hunter: Teacher's copy (10 to 15-min activity)

Goal: Pupils link evolutionary milestones to the scientific evidence that supports them, learning how fossils, living species, and DNA are used.

Preparation: Print out several copies of page 2: one per pupil/pair/team

- 1. Work out which evidence fits each event** — pupils write letters A–I.
- 2. Check & discuss** – Whole-class check together. Then ask:
 - a) Which matches were the **trickiest**? Which were easy?
 - b) What **kinds of evidence** are used: Fossils, DNA, or other things?
 - c) What **new features** appear at each step (e.g., eggs, warm blood)?
 - d) Why is the evidence convincing (each pupil/pair talks through 1 example)
- 3. If time allows, discuss:** **Darwin**, who collected clues in the Galápagos: finches, tortoises, and more. Ask: *If Darwin were playing Evidence Hunter, which evidence would he spot first? Think about what evidence was and wasn't available in Darwin's time – e.g., he could find fossils and observe living species, but DNA hadn't been discovered yet.*

Oldest signs of life	H	H. Chemical traces and tiny fossilised shapes in ancient rocks
Swallowed microbe becomes a power station	F	F. Mitochondria have their own DNA – evidence they were once separate living things
Neanderthals and humans interbred	A	A. People today often have 1–4% of their DNA that exactly matches DNA from Neanderthal fossils
First fishy footsteps on land	B	B. Fossil skeletons with limb bones and joints showing the transition from fins to legs.
Fully land-living animals	E	E. Fossilised land eggs, stronger leg bones, and joints shaped for walking.
Milk making mammals	I	I. Fossil baby jaws show tiny teeth for sucking, not chewing.
Colour vision returns	G	G. Comparing eye genes across primates shows colour vision re-evolved after earlier mammals lost it.
Early apes were king of the swingers	D	D. Fossilised wrist bones with joints for twisting – ideal for swinging, climbing, and tool handling.
Early humans made tools and art	C	C. Stone tools and cave paintings dated to the time of early humans.

Want to take it further?

Try the Timeline Challenge. This zooms out to the **full 4.5 billion years of Earth's history**, then zooms in on the last 300 million years, so pupils can see which milestones are close together and which are far apart. It works brilliantly as a follow-up — pupils often **change their minds** about which events are "close" once they see the real distances.

The Timeline Challenge is also free to download tinyurl.com/linebehindyou