

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. Model one example together first ("Let's do one as a class"), then pupils do the rest.
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, milk)?
 - d) Why is the evidence convincing (each pupil/pair talks through 1 example)
- 2. 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.*

H	🧬 Many people today have 1-2% Neanderthal DNA – based on Neanderthal fossils	🦠 A. Oldest signs of life
C	🦴 Fossil skeletons with limb bones and joints showing the transition from fins to legs.	⚡ B. Swallowed microbe became a power station
I	🪨 Stone tools and cave paintings dated to the time of early humans.	🐸 C. First fishy floppy steps in the shallows
G	🦴 Fossilised wrist bones with joints for twisting – ideal for swinging, climbing, and tool handling.	🐣 D. Fully land-living animals
D	🦴 Fossilised land eggs, stronger leg bones, and joints shaped for walking.	🍼 E. Early mammals made milk
B	🧬 Mitochondria have their own DNA – evidence they were once separate living things.	🌈 F. Colour vision returned
F	🧬 DNA: Mammals mostly show a lost colour gene; Old World primates show a duplicated colour gene	🦍 G. Early apes were king of the swingers
A	🪄 Chemical traces and tiny fossilised shapes in ancient rocks	❤️ H. Different human species interbred
E	🦴 All living mammals make milk, and fossil baby jaws show tiny teeth for suckling, not chewing.	🎨 I. Early humans made tools and art

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