

Logic 4 — Workshop: induction, the fork and the black swan

Logic · Lesson 4 · Workshop sheet

One lesson, worked alone, about 45 minutes. Tick each step. You need this sheet, your Lesson 4 handout, and the four codes below.

Step	min
☐ 1 • Key terms. Terms quiz (code 3), one round: definition → term. Under 10 of 14? Read the handout's key terms once, then a second round.	5
☐ 2 • Recall Lesson 3. Exercise 1 on the workshop page (code 1), from memory, before scrolling on.	3
☐ 3 • Stage 1 — the case first. Read the RBS case, do Exercise 2, then take your seat in your notebook: two or three sentences, seat and one reason. Stage 3 needs this.	7
☐ 4 • Stage 2, Part A — Hume's fork and the circle. Exercises 3–4. Scroll the tables away before each.	9
☐ 5 • Part B — the black swan and falsifiability. Exercises 5–6. <i>Meaningless, unscientific, false</i> : three words, keep them apart.	8
☐ 6 • Part C — the Neptune move. Exercises 7–9. Exercise 8's key says <i>cannot say yet</i> ; that is the point.	7
☐ 7 • Stage 3 — your verdict, with the tools. Exercise 10 from memory; rewrite your Stage 1 paragraph in three sentences; run the self-check.	4
☐ 8 • Compare. Only now open the model paragraphs (code 2) and mark your paragraph 1–4 against the checklist.	2

New in this lesson

- ▶ Hume's fork: *relations of ideas* (necessary, empty of the world) or *matters of fact* (about the world, never necessary). "Nature is uniform" is a matter of fact — so only past experience supports it, and that is the circle.
- ▶ One black swan refutes what a thousand white ones cannot prove. *Unverifiable* means meaningless (Ayer), *unfalsifiable* means unscientific (Popper); neither means false.
- ▶ A failed prediction condemns *some* premise, not which. Drop an auxiliary (Neptune, 1846) and it is science only if the rescue predicts something new.
- ▶ The trap: "confirmed" when you mean "proved".

If you get stuck

- ▶ Exercise 3: does denying the claim produce a *contradiction*, or only a falsehood? Contradiction → relation of ideas.
- ▶ Exercise 5: can you describe one observation that would count against it? If not, unfalsifiable.
- ▶ Exercise 7: write the premise as "theory **and** helper". Modus tollens hits the *and*.
- ▶ Stage 3: a reason that names the collapse or the £45.5 billion names an outcome. Find the inference behind it — and fix which sense of "rational" you mean.
- ▶ Anything else: ask me.



1 • Workshop page



2 • Model paragraphs



3 • Key terms quiz



4 • This sheet

All at salvemec.ch/toktok/core/ · On the back: which exercise went wrong at the first try. Next lesson starts there.