Owl Wings Drawing: Layered Flight-Feather Construction

Original tasks 1, 2, 3 / complete keys

Task 1

Draw a spread wing with a hypothetical axis of 10 cm from shoulder S to tip T, wrist W at 3 cm from S. Add two primaries and three secondaries. State the layer order you used.

Answer: Axis 10 cm; W at 3 cm. Two primaries at the tip, three secondaries overlapping toward the shoulder. Layer order: primaries first, then secondaries, then any coverts if added.

Reason: The primaries occupy the tip because they are the outermost flight feathers; secondaries sit closer to the shoulder and overlap the primary bases. The wrist position at 3 cm keeps the leading-edge curve shallow near the shoulder.

Check: Trace the leading edge to confirm it is forward-most; point to each feather and confirm primaries are at the tip and secondaries toward the shoulder; confirm each overlap steps toward the leading edge.

Task 2

Convert the spread wing from the previous exercise into a folded wing. Keep S, W, T labels. Describe how the trailing-edge band and feather tips change.

Answer: The axis angles down and back; the trailing-edge band is shorter; the flight-feather tips stack closer near the wrist. The layer order stays the same, with primaries crossing over secondaries near the wrist.

Reason: Folding compresses the same layers into a narrower shape. Shortening the trailing-edge band and stacking tips near the wrist preserves the geometry while showing the folded pose.

Check: Compare the folded sketch to the spread sketch: S, W, T should still be identifiable; the leading edge should remain forward-most; the layer order should still read from tip to shoulder.

Task 3

A sketch shows coverts drawn first, then primaries on top of the coverts. Identify the layer-order mistake and describe the corrected drawing order.

Answer: The mistake is drawing coverts before flight feathers. Correct order: primaries first, then secondaries, then coverts over the flight-feather bases, then smaller covert rows toward the leading edge.

Reason: Coverts overlap the bases of flight feathers, so they must be drawn after the flight feathers to appear on top. Drawing them first makes the long feathers look incorrectly layered.

Check: Point to the covert row and confirm it sits over the bases of the primaries and secondaries; confirm no flight feather is drawn on top of a covert.

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Original tasks 4 / complete keys

Task 4

Draw a folded wing with a hypothetical axis of 8 cm from S to T and W at 2 cm from S. Add three primaries and two secondaries. Check that the leading edge is forward-most and that the overlap direction is correct.

Answer: Axis 8 cm; W at 2 cm. Three primaries stacked near the wrist, two secondaries toward the shoulder. The leading edge is a tight forward curve; every overlap steps toward the leading edge.

Reason: A shorter axis and wrist closer to the shoulder suit the folded pose. Stacking primaries near the wrist shows compression while keeping the layer order readable.

Check: Trace the leading edge; confirm it does not cross the axis; point to each feather and confirm tips point away from the shoulder; confirm each layer overlaps toward the leading edge.

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Source rubric / reflection

- [ ] Leading edge is a smooth forward boundary that does not cross the wing axis.
- [ ] Primaries are at the tip, secondaries toward the shoulder, and coverts overlap the flight-feather bases.
- [ ] Every feather layer overlaps toward the leading edge; no tip points toward the shoulder.
- [ ] Folded and spread variants share the same shoulder, wrist, and tip structure.
- [ ] Feather shapes and spacing may vary, but the layer order and overlap direction remain readable.

Reflection: What did you check, what did you change, and what will you try next?