Draw a Black Swan: S-Curve Neck and Reflection Check

Original tasks 1, 2 / complete keys

Task 1

On a page with a waterline at 8 cm from the top, sketch a body ellipse 5 cm wide and 3.5 cm deep, tilted so the tail is higher than the chest. Draw a neck base 0.8 cm thick tapering to 0.4 cm at the head. Use two guide arcs: a lower arc that rises 4 cm and leans forward, and an upper arc that rises 3 cm and leans back. Describe where the head and bill go.

Answer: The head sits at the top of the upper arc. The bill extends forward and slightly downward from the head, about 1.5 cm long. The eye is a small mark on the visible side of the head.

Reason: The tilted body ellipse reads as a deep, heavy body mass rather than a circle or thin oval. The neck tapers smoothly from 0.8 cm to 0.4 cm. The two arcs lean in opposite directions, forming an S curve. The head and bill follow the upper arc, so the pose reads as a profile.

Check: Check that the ellipse is tilted and reads as a deep, heavy body, not a circle or thin oval. Check that the neck thickness reduces smoothly. Confirm the two arcs lean in opposite directions. Verify the bill length is about 1.5 cm and points forward and slightly down.

Task 2

A student draws a neck as a single straight line 9 cm long from the chest to the head. The body ellipse is 4 cm wide and 4 cm deep. Identify two problems and describe how to fix them using guide arcs and a tilted ellipse.

Answer: Problem one: the neck is a straight line, so there is no S curve. Fix by replacing the line with two guide arcs that lean in opposite directions. Problem two: the body ellipse is circular, so the body mass looks like a ball. Fix by flattening and tilting the ellipse so it reads as a deep, heavy body rather than a circle.

Reason: A black swan's neck is defined by a long S curve, which requires two arcs leaning in opposite directions. A circular body ellipse does not convey the deep, heavy body mass needed to support the neck.

Check: Confirm the revised neck has two arcs leaning in opposite directions. Check that the revised ellipse is tilted and reads as a deep, heavy body, not a circle. Check that the neck tapers smoothly from base to head.

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Original tasks 3, 4 / complete keys

Task 3

With a waterline at 12 cm from the top, a student mirrors a body ellipse downward. The original ellipse is 6 cm wide and 4 cm deep. The reflected ellipse is 6 cm wide and 4 cm deep but shifted 1 cm to the left. Describe how to correct the reflection and why alignment matters.

Answer: Shift the reflected ellipse 1 cm to the right so it aligns with the original ellipse. Alignment matters because the reflection is a check: if the reflected body is shifted, the contact points with the waterline no longer match, and the check cannot reveal problems in the original construction.

Reason: The reflection should mirror the original construction directly below the waterline. A horizontal shift breaks the mirror relationship and makes the reflection unreliable as a check.

Check: Measure the horizontal distance between the original and reflected ellipse centers. Confirm they are aligned vertically. Check that the contact points with the waterline match.

Task 4

A student draws a swan with a neck base 1.2 cm thick tapering to 0.3 cm at the head. The lower arc rises 6 cm and leans forward; the upper arc rises 5 cm and leans back. The head is placed at the top of the lower arc instead of the upper arc. Describe the problem and the fix.

Answer: The head is placed at the top of the lower arc, which breaks the S curve because the upper arc is left unused. Fix by moving the head to the top of the upper arc and adjusting the bill to extend forward from that position.

Reason: The S curve is formed by the lower arc leaning forward and the upper arc leaning back. The head belongs at the top of the upper arc so the curve reads as a complete S. Placing the head on the lower arc shortens the neck and removes the backward bend.

Check: Confirm the head sits at the top of the upper arc. Check that the lower arc leans forward and the upper arc leans back. Verify the neck tapers smoothly from 1.2 cm to 0.3 cm.

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Source rubric / reflection

- [ ] The waterline is clearly drawn and used as a reference.
- [ ] The body ellipse is tilted and reads as a deep, heavy body mass.
- [ ] The neck is built from two guide arcs that form a readable S curve.
- [ ] The neck tapers smoothly from base to head.
- [ ] The head, bill, and eye are placed consistently with the profile pose.
- [ ] The reflection is an upside-down mirror of the construction below the waterline.
- [ ] The reflection is lighter than the swan and used as a check.
- [ ] Valid alternative styles are accepted if the S curve, body mass, and reflection check remain readable.

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