# Shad Drawing: Body Outline, Fin Placement, and Scale Detail

Original tasks 1, 2, 3 / complete keys

Task 1

On a 24 cm wide paper, draw a shad with body length 18 cm and maximum depth 6 cm. Mark the deepest point and place the dorsal fin base above it. State the dorsal fin height using the one-quarter depth convention.

Answer: Deepest point at 6 cm from snout; dorsal fin base above it; dorsal fin height 1.5 cm.

Reason: Body depth 6 cm; one-quarter of depth is 1.5 cm. Deepest point is one-third of body length from snout: 18 divided by 3 equals 6 cm.

Check: Measure from snout to deepest point (should be about 6 cm) and measure dorsal fin height (about 1.5 cm). Confirm the fin base aligns vertically with the deepest point.

Task 2

Draw a shad body outline 12 cm long and 4 cm deep. Place pectoral, pelvic, and anal fins. Use pectoral length one-fifth of body length and pelvic length half of pectoral length. List the fin order from head to tail.

Answer: Pectoral length 2.4 cm; pelvic length 1.2 cm; order of the fins placed: pectoral, pelvic, anal (with the caudal base as the tail reference).

Reason: Pectoral length is 12 divided by 5 equals 2.4 cm. Pelvic is half of 2.4 equals 1.2 cm. Fin order follows body landmarks from head to tail.

Check: Measure pectoral and pelvic fin lengths against the calculated values. Trace a line from head to tail and confirm the order of fin bases.

Task 3

A shad drawing has body length 15 cm and depth 5 cm. You plan scale rows every 1 cm along a 12 cm lateral line. How many row starts will you mark, and what is the scale size convention if each scale is one-tenth of body depth?

Answer: 12 row starts; scale size 0.5 cm. Mark row starts at 1, 2, ..., 12 cm along the lateral line (12 starts, excluding the 0 cm endpoint).

Reason: 12 cm lateral line divided by 1 cm spacing equals 12 starts. One-tenth of 5 cm depth equals 0.5 cm per scale.

Check: Count marks along the lateral line (should be 12) and measure one scale against 0.5 cm.

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Original tasks 4 / complete keys

Task 4

Draw a forked caudal fin for a shad with body length 16 cm. Use caudal fin length one-quarter of body length. Describe how you check the notch is centered and the two lobes are equal.

Answer: Caudal fin length 4 cm; notch centered on the peduncle axis; lobes equal by measuring from notch to each lobe tip.

Reason: 16 divided by 4 equals 4 cm. A centered notch and equal lobe lengths produce a symmetrical fork.

Check: Measure caudal fin length (about 4 cm), then measure from the notch to each lobe tip; the two measurements should match within a small tolerance.

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Source rubric / reflection

- [ ] Body outline is fusiform with deepest point about one-third of body length from the snout and smooth taper to peduncle (1-3).
- [ ] All five fins are present and in correct order along the body (1-3).
- [ ] Caudal fin is forked with a clear notch (1-3).
- [ ] Scale rows follow body curvature with even spacing and consistent overlap (1-3).
- [ ] Labels or self-check marks show fin positions and scale row count (1-3).

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