Water Strider Drawing: Leg Layout, Body Segments, and Ripple Cues

Original tasks 1, 2 / complete keys

Task 1

Draw only the body axis and three body regions on a 10 cm horizontal line. Mark head as the front 1.2 cm, thorax as the next 2.5 cm, and abdomen as the remaining 6.3 cm. Add five abdomen segment lines and label the three regions.

Answer: A horizontal 10 cm axis with three marked zones, a small head oval, a wider thorax oval, a tapered abdomen ellipse with five cross-lines, and three legible labels.

Reason: The zones sum to 10 cm (1.2 + 2.5 + 6.3 = 10), keeping the abdomen longest. Centering shapes on the axis produces an elongated silhouette.

Check: Measure the three zones with a ruler to confirm they sum to 10 cm; check that five segment lines cross the abdomen and that all three labels are readable.

Task 2

Starting from a finished body axis, add six legs in three pairs. Use hypothetical angles: front 30 degrees forward, middle 90 degrees outward, rear 45 degrees backward. Mark six tarsal dots on a level waterline and draw one centered horizontal ellipse under each dot.

Answer: Six legs with visible knees in three distinct pair angles, six contact dots along one level line, and six centered horizontal ellipses.

Reason: Distinct pair angles prevent the legs from merging visually. A single waterline ensures the insect appears to rest evenly on the surface.

Check: Confirm each pair has a different angle, count six knees and six contact dots, and verify all dots lie on one horizontal line with an ellipse centered on each.

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Original tasks 3, 4 / complete keys

Task 3

Redraw one middle leg so its knee is clearly visible and its tarsal dot sits on the waterline. Then add two concentric ripple ellipses around that dot, keeping them lighter than the leg line.

Answer: A middle leg with a distinct knee bend, a tarsal dot on the waterline, and two lighter concentric horizontal ellipses centered on the dot.

Reason: A visible knee separates femur and tibia, improving leg readability. Lighter concentric ellipses suggest spreading ripples without competing with the insect outline.

Check: Check that the knee bend is visible, the dot is on the waterline, and the ripple lines are lighter than the leg line; count two concentric ellipses.

Task 4

Evaluate a practice drawing that has all six legs at the same angle and circular ripples under each foot. List two specific fixes and redraw one leg pair and one ripple to show the corrections.

Answer: Fix one: change leg angles so front, middle, and rear pairs are distinct with visible knees. Fix two: replace circular ripples with flat horizontal ellipses centered on contact dots. The redrawn pair shows a distinct angle and a horizontal ellipse.

Reason: Same-angle legs read as a generic bug, and circular ripples read as bubbles. Distinct angles and flat ellipses match the water strider's surface cues.

Check: Verify the redrawn pair has a different angle from the other pairs and that the new ripple is wider than it is tall and centered on the contact dot.

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Source rubric / reflection

- [ ] Body axis is horizontal and the three regions (head, thorax, abdomen) are clearly distinguishable.
- [ ] Abdomen is tapered and shows segment lines; thorax shows attachment points for three leg pairs.
- [ ] Six legs are present in three visually distinct pairs with visible knee bends and tarsal contact dots.
- [ ] All six contact dots lie along a level waterline.
- [ ] Each foot has a centered horizontal ripple ellipse, with lighter concentric lines optional.
- [ ] Labels are legible under the x-height convention; alternative letter styles are acceptable.
- [ ] Final drawing separates insect lines from lighter ripple lines for clarity.

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