How to Draw a Snake Worksheet: Coil and Head Construction

Original tasks 1, 2, 3 / complete keys

Task 1

Draw a coil with three turns and a widest gap of 1.5 cm. Attach a head whose length is 2 cm. Check the neck connection and state whether the head size is within the suggested range.

Answer: The head is within range because 2 cm is between 1.5 cm and 2.25 cm (1 to 1.5 times the 1.5 cm gap). The neck should flow smoothly into the skull and jaw.

Reason: Multiply the widest gap by 1 and by 1.5 to get the suggested head-length range. Compare the drawn head length to that range.

Check: Measure the widest gap and the head length with a ruler. Confirm the neck has no sharp corner by tracing the outer and inner coil edges into the head.

Task 2

A drawing has four coil turns, but the second and third turns touch. The head length is 1 cm and the widest gap is 2 cm. Identify two problems and give one fix for each.

Answer: Problem one: coil turns touch, so the body reads as a solid mass. Fix: redraw the turns with a visible gap. Problem two: the head is too short for the 2 cm gap (suggested range 2 to 3 cm). Fix: lengthen the head to about 2 to 3 cm.

Reason: Touching turns break the tube reading. The head-length range comes from multiplying the 2 cm gap by 1 and 1.5.

Check: Check that a gap is visible between every pair of turns. Measure head length and compare with 2 cm and 3 cm.

Task 3

Draw a snake whose head points toward the center of the coil. Then redraw it so the head points away from the coil. Describe the difference in the neck line.

Answer: When the head points inward, the neck folds back and creates a tight corner. When the head points outward, the neck extends from the outer turn and the outer coil edge flows into the back of the skull.

Reason: The neck should continue the direction of the outer coil turn. Pointing the head inward reverses that direction and forces a fold.

Check: Trace the outer coil edge with a finger. Confirm it reaches the back of the skull without reversing direction.

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Original tasks 4 / complete keys

Task 4

Using a widest coil gap of 2.5 cm, choose a head length that is within the suggested range. State the length you chose and show the arithmetic. Then list one check you would perform on the finished drawing.

Answer: A valid choice is 3 cm, because 2.5 times 1 equals 2.5 cm and 2.5 times 1.5 equals 3.75 cm; 3 cm lies between them. One check is to confirm the coil turns remain separated and the neck has no sharp corner.

Reason: The suggested range is calculated by multiplying the widest gap by 1 and by 1.5. Any length between those values is acceptable under this convention.

Check: Measure the widest gap and the head length. Verify the chosen length falls between the two calculated values, and inspect the neck connection.

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Source rubric / reflection

- [ ] Coil is drawn as one continuous spiral path from center to outer end.
- [ ] Spacing between coil turns is roughly even and turns remain separated.
- [ ] Head is constructed from a skull wedge, snout wedge, and jaw curve.
- [ ] Eye and nostril are placed on the head as construction marks.
- [ ] Neck connects smoothly to the head without a sharp corner.
- [ ] Head length is roughly one to one and a half times the widest coil gap, or an explained valid alternative.
- [ ] Final outline is clear and guide marks are removed or lightened.

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