Octopus Pencil Drawing: Arm Curl and Sucker Construction

Original tasks 1, 2 / complete keys

Task 1

Draw a single arm as an S-curl centerline about 9 cm long. Add width from 1 cm near the body to 0.5 cm at the tip. Place four suckers on the inner side of the curl. Describe where each sucker sits relative to the curl direction.

Answer: An S-curl has two bends facing opposite directions. The inner side of the first bend is the edge facing that bend's center; at the inflection point the inner side switches to the opposite edge for the second bend. Place four sucker centers: the first two on the inner edge of the first bend (near the body and just before the inflection point), and the last two on the opposite edge for the second bend (just after the inflection point and near the tip). Spacing shrinks from about 1 cm to 0.6 cm as hypothetical values. Each sucker is a circle about one third of the arm width with a smaller inner circle.

Reason: An S-curl has two bends facing opposite directions, so the inner side alternates: suckers sit on the edge facing the center of the first bend, then switch to the opposite edge for the second bend at the inflection point. This is why the sucker row is not a single continuous edge on an S-curl.

Check: Trace the inner edge of each bend separately. Confirm the first two suckers sit on the edge facing the first bend's center and the last two sit on the opposite edge facing the second bend's center, switching at the inflection point. Then measure spacing between centers and confirm it shrinks toward the tip.

Task 2

Draw a hook-curl arm that ends in a tight half-circle. The arm width is 1.2 cm near the body and 0.6 cm at the tip. Place three suckers: one near the body, one at the start of the hook, and one inside the hook. State which side of the arm each sucker is on.

Answer: The hook-curl bends in one direction and then tightens. The inner side is the side facing the hook's center. The first sucker sits on the inner edge near the body, the second on the inner edge at the start of the hook, and the third inside the hook on the inner edge. All three are on the same side of the arm because the curl does not change direction.

Reason: A hook-curl keeps bending the same way, so the inner side stays consistent. The tight half-circle at the end means the inner edge curves sharply, and the third sucker must sit inside that curve.

Check: Confirm all three sucker centers are on the same edge of the arm. Check that the third sucker is inside the hook's curve, not on the outer edge.

Octopus Pencil Drawing: Arm Curl and Sucker Construction

Original tasks 3, 4 / complete keys

Task 3

Draw two arms meeting the body at the lower mantle. Arm A is a C-curl bending right; Arm B is a C-curl bending left. Each arm has three suckers. Describe the connection zone and the sucker placement for both arms.

Answer: Both arms widen slightly at the body, about 1.2 cm as a hypothetical value, and blend into the mantle outline within 2 cm. Arm A bends right, so its suckers sit on the right inner edge. Arm B bends left, so its suckers sit on the left inner edge. Each arm has three suckers spaced about 1 cm apart near the body and closer near the tip.

Reason: The connection zone must look continuous, so the arm outline flows into the mantle. Because the arms curl in opposite directions, their inner sides are opposite, so the suckers appear on opposite edges.

Check: Check that each arm's outline blends into the mantle without a sharp step. Trace each inner edge and confirm the suckers are on the correct side for that arm's curl direction.

Task 4

Draw one arm with a C-curl bending left and one arm with a C-curl bending right. Use the same arm length and width for both. Place five suckers on each arm. Compare the two arms and state one way they are similar and one way they differ.

Answer: Both arms have the same length, width taper, and sucker count, so they are similar in size and rhythm. They differ in curl direction: the left-bending arm has suckers on its left inner edge, and the right-bending arm has suckers on its right inner edge. The silhouettes mirror each other.

Reason: Curl direction determines which edge is the inner side. When two arms have opposite curls, their sucker placement mirrors, even though the arm dimensions are the same.

Check: Measure both arms to confirm equal length and width. Trace each inner edge and confirm the suckers are on opposite sides. Check that the silhouettes mirror each other.

Octopus Pencil Drawing: Arm Curl and Sucker Construction

Source rubric / reflection

- [ ] Arm curls read clearly as C-curls, S-curls, or hook-curls, with at least two different curl directions.
- [ ] Suckers are placed on the inner side of each curl, not on the outer edge.
- [ ] Sucker spacing shrinks gradually toward the tip and sucker size is proportional to arm width.
- [ ] Arms connect to the lower mantle with a blended transition, not as separate tubes.
- [ ] Arm width tapers slightly toward the tip and the inner edge is smooth.
- [ ] The final silhouette is balanced and the arm count is clear.
- [ ] Valid alternatives are accepted: different curl directions, different sucker counts, and different arm styles are allowed if the inner-side rule and connection rule are followed.

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