Fire Ant Drawing: Segmented Body and Leg Construction

Original tasks 1, 2, 3 / complete keys

Task 1

Draw a top-view fire ant with head height 1.0 cm, thorax height 1.0 cm, and abdomen height 1.5 cm above baseline. Place six legs and two antennae. Count and record segments, legs, and antennae.

Answer: A top-view sketch with three segments in order, six legs on the thorax (three per side), and two elbowed antennae on the head. Recorded counts: 3 segments, 6 legs, 2 antennae.

Reason: The baseline-to-midline heights set each segment size. Legs must attach only to the thorax, and antennae only to the head. Counting confirms the required numbers.

Check: Count segments (3), legs (6), and antennae (2). Confirm all leg attachment points lie on the thorax and antennae on the head. Measure heights against the chosen values.

Task 2

Draw a side-view fire ant with three overlapping segments along a baseline. Show three legs on the visible side of the thorax and one clear elbowed antenna. State the body order from front to back.

Answer: A side-view sketch with head at front, thorax in middle, abdomen at rear. Three legs attach to the visible thorax side. One antenna bends forward from the head. Body order: head, thorax, abdomen.

Reason: Side view uses overlapping shapes to show depth. Only the visible side legs are drawn, so three legs is correct for this view. The antenna is elbowed with two segments.

Check: Check order front to back, count visible legs (3), and confirm the antenna has a long first segment and short second segment. Confirm all legs attach to the thorax.

Task 3

A sketch shows four legs on the left side of the thorax and two on the right, plus one antenna on the head. Identify the errors and state the corrections.

Answer: Errors: too many legs on the left (should be three) and too few on the right (should be three); only one antenna (should be two). Corrections: move one leg from left to right so each side has three, and add a second elbowed antenna to the head.

Reason: A fire ant has six legs, three per side, and two antennae. The sketch violates both counts. Correcting counts restores the required structure.

Check: Count legs per side (must be 3 and 3) and antennae (must be 2). Confirm all legs remain on the thorax and antennae on the head.

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Original tasks 4 / complete keys

Task 4

Using a practice strip, draw the same fire ant from top and side views. Use head height 1.2 cm, thorax height 1.0 cm, and abdomen height 1.8 cm above baseline for the top view. For the side view, use abdomen height 2.0 cm. Compare the two views and list two features that must match.

Answer: Two sketches side by side. Top view: three segments, six legs, two antennae. Side view: three overlapping segments, three visible legs, one clear antenna. Matching features: body segment order (head, thorax, abdomen) and leg attachment to the thorax only.

Reason: Both views represent the same animal, so segment order and leg placement must agree. Heights differ by view because side view shows depth, but the chosen values are consistent within each view.

Check: Compare segment order in both views, count legs in top view (6) and visible legs in side view (3), and confirm antennae count (2 in top, at least 1 clear in side). Measure heights against the stated values.

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Source rubric / reflection

- [ ] Three body segments present in correct order: head, thorax, abdomen.
- [ ] Six legs total, all attached to the thorax, three per side in top view.
- [ ] Two elbowed antennae attached to the head.
- [ ] Baseline-to-midline convention used consistently for each segment.
- [ ] Side view shows overlapping segments in correct order and three visible legs on the thorax.
- [ ] Valid alternatives accepted: different segment proportions, leg angles, and antenna curves, provided counts and placement are correct.

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