Duck-Rabbit Ambiguity: Draw and Compare Two Readings

Original tasks 1, 2 / complete keys

Task 1

Draw a duck-rabbit figure using a 4 cm x-height unit (hypothetical example). Make the upper front projection 2.5 cm and the lower front projection 2 cm. Label the duck reading and the rabbit reading on two small overlays. State one feature that changes interpretation.

Answer: A shared head with two front projections of 2.5 cm and 2 cm, an eye behind the projections, and two overlays labeling the projections as bill edges and as ears. The changing feature is the front projections: bill edges in the duck reading, ears in the rabbit reading.

Reason: The two projections are close enough to support both readings, and the eye is shared. The overlays make the comparison explicit by pointing to the same lines.

Check: Measure the projections against the 4 cm x-height unit and confirm both overlays point to identical line positions. Ask a viewer to switch readings without changing the lines.

Task 2

A student draws a duck-rabbit with both front projections exactly 2 cm long and at the same height. The viewer sees only a duck. Suggest one change and predict its effect.

Answer: Raise the upper projection by about 0.5 cm (hypothetical example) or lengthen it slightly. This should strengthen the rabbit far-ear reading while keeping the duck reading possible.

Reason: Separating the projections in height or length gives the rabbit reading two distinct ears, with the upper projection reading as the far ear, while the duck reading can still use the lower projection as a bill edge.

Check: Retest with a viewer after the change and record whether the rabbit reading becomes available. Keep the x-height unit unchanged.

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Original tasks 3, 4 / complete keys

Task 3

Using a 3 cm x-height unit, draw the shared head and place the eye 1 cm behind the front projections. Explain why the eye position works for both readings.

Answer: The eye sits on the shared head behind the front projections, so in the duck reading it is behind the bill and in the rabbit reading it is behind the ear bases. Because the eye does not move, it supports both interpretations.

Reason: The eye is a shared feature; only the front projections change meaning. Placing it behind the projections keeps it visible in both overlays.

Check: Draw both overlays and confirm the eye dot falls in the correct relative position in each. Measure the 1 cm offset from the projection base.

Task 4

Draw a duck-rabbit figure and annotate one shared feature and one changing feature. Then write a feature log entry for a 0.5 cm adjustment to the lower projection (hypothetical example).

Answer: Shared feature: the eye on the shared head. Changing feature: the front projections, which read as bill edges or ears. Log entry: lowering the lower projection by 0.5 cm weakened the duck-bill reading and weakened the rabbit near-ear reading.

Reason: The annotation separates what stays constant from what switches, and the log records a controlled change with its perceptual effect.

Check: Compare the annotated figure with the log entry and confirm the adjustment is measurable against the x-height unit. Ask a viewer whether the switch still works.

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Source rubric / reflection

- [ ] Shared outline is drawn with a consistent x-height unit and clear front projections.
- [ ] Duck overlay labels the front projections as bill edges and places the eye correctly.
- [ ] Rabbit overlay labels the same projections as ears and places the eye correctly.
- [ ] Comparison annotation names which features change interpretation and which stay shared.
- [ ] Feature log records at least one adjustment and its effect on the two readings.
- [ ] Figure allows a viewer to switch readings without changing the lines.
- [ ] Valid alternative solutions are accepted if the two readings are clearly supported and labeled.

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