Draw an Ecosystem Scene: Habitat Zones and Species Placement

Original tasks 1, 2, 3 / complete keys

Task 1

A frame is 24 cm wide and 18 cm tall. You choose sky 6 cm, mid-level 7 cm, and ground 5 cm. Do the bands sum to the frame height? Show the arithmetic.

Answer: 6 + 7 + 5 = 18 cm, which matches the 18 cm frame height.

Reason: Add the three band heights and compare to the frame height. Consistent units in centimeters make the check simple.

Check: Re-add the three numbers and confirm the total equals 18 cm.

Task 2

Two silhouettes in the same zone have widths 4 cm and 6 cm. Their overlap is 1.5 cm. Does the overlap pass the quarter-width rule? Use the smaller width.

Answer: One quarter of the smaller width is 4 / 4 = 1 cm. The overlap is 1.5 cm, which exceeds 1 cm, so it fails.

Reason: The rule uses the smaller silhouette's width. Compute one quarter and compare to the measured overlap.

Check: Divide the smaller width by 4 and compare the result to the overlap value.

Task 3

A scene has five species: two in sky, two in mid-level, one in ground. The left half contains one species and the right half contains four. Which rubric check fails, if any?

Answer: No rubric check fails. The left half has one species and the right half has four, so the requirement that each half contain at least one species is met. Every zone also has at least one species (sky 2, mid-level 2, ground 1). The distribution is uneven, but the stated rubric does not require equal halves.

Reason: Count species per half and compare to the rubric. The zone check passes because every zone has at least one species.

Check: Count species on each side of the frame center and confirm each side has at least one; then judge balance against the stated rubric.

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Original tasks 4 / complete keys

Task 4

You state the convention center-on-midline. A fish is drawn with its base on the ground baseline. Is the placement consistent? Explain.

Answer: No. The stated convention is center-on-midline, but the fish uses base-on-baseline. Either redraw the fish so its center sits on the midline or change the stated convention and apply it to all species.

Reason: Consistency is checkable: compare each species' anchor point to the written convention.

Check: For each species, mark the anchor point and compare it to the convention written at the top of the page.

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Source rubric / reflection

- [ ] Three habitat zones are drawn and labeled.
- [ ] Band heights sum to the frame height.
- [ ] A placement convention is stated and followed for every species.
- [ ] Four to six species are placed, each assigned to a zone.
- [ ] No overlap exceeds one quarter of the smaller silhouette's width.
- [ ] Each zone contains at least one species.
- [ ] Left and right halves each contain at least one species.
- [ ] A legend panel labels each species with a short name.

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