Draw Different Plants: Labeled Specimen Variety Worksheet

Worked example / separate key

A student compares two specimens. Specimen A has broad oval leaves, one upright stem, and a single flower. Specimen B has narrow pointed leaves, branching stems, and clustered flowers. The student draws both in separate blank boxes and labels them. Check the label count and the x-height convention.

Answer: Two boxes require two labels. Label A reads broad oval leaf, upright stem, single flower. Label B reads narrow pointed leaf, branching stem, clustered flower. Each label uses x-height from baseline to midline. The label count is two, matching the two boxes. The drawings show at least two differing features, so the variety requirement is met.

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Original tasks 1, 2 / complete keys

Task 1

A worksheet has four blank boxes. Each box requires one variety label. A student draws four specimens but writes only three labels. How many labels are missing, and what should the student check?

Answer: One label is missing. The student should check that each blank box has exactly one label and that the label describes a visible feature of that specimen.

Reason: Four boxes require four labels. Three labels are present, so four minus three equals one missing label. The check method is a one-to-one count of boxes and labels.

Check: Count boxes and labels separately. Confirm the totals match and that each label is paired with its box.

Task 2

A student labels a specimen with x-height measured from baseline to midline. The capital letter extends above the midline, and a descender falls below the baseline. Is this allowed by the convention? Explain.

Answer: Yes. The convention fixes x-height as baseline to midline. Capitals may extend above the midline, and descenders may fall below the baseline. Letter width, slant, and stroke style may also vary.

Reason: The convention defines only the x-height measure. It does not require a single letter style, so valid alternatives are allowed.

Check: Measure the lowercase x-height from baseline to midline. Confirm that capitals and descenders are not counted as part of x-height.

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Original tasks 3, 4 / complete keys

Task 3

Two specimens are described. Specimen C has narrow leaves and a trailing stem. Specimen D has broad leaves and an upright stem. A student draws both but gives both the label upright stem. What is wrong, and how can it be fixed?

Answer: The label for Specimen C is wrong because its stem is trailing, not upright. Replace the label with a plain-language phrase such as narrow leaf, trailing stem. Keep the label for Specimen D as upright stem or broad leaf, upright stem.

Reason: Labels must match visible features. Specimen C and Specimen D differ in leaf outline and stem type, so identical stem labels remove the variety the worksheet is meant to record.

Check: Compare each label to the drawn feature. If a label names a feature that is not visible, revise the label.

Task 4

A planned worksheet has six blank boxes. The teacher wants one variety label per box and one extra feature label in two of the boxes. How many labels are needed in total? Show the arithmetic.

Answer: Eight labels are needed. Six boxes require six variety labels. Two extra feature labels are added, so six plus two equals eight.

Reason: The base count is one label per box. Extra feature labels are added only where a second distinctive feature needs its own label.

Check: Count the boxes, add the number of extra feature labels, and confirm the total matches the labels written.

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Source rubric / reflection

- [ ] Each blank box contains one distinct plant specimen drawing.
- [ ] At least two visible features differ between specimens, such as leaf outline, stem type, or flower form.
- [ ] Each specimen has a plain-language variety label; taxonomic names are not required.
- [ ] Labels follow the baseline-to-midline x-height convention; letter width, slant, and stroke style may vary.
- [ ] Leader lines, if used, touch the feature and stop short of the label text.
- [ ] No shading is required or penalized.
- [ ] All numerical values are labeled as hypothetical examples or replaced by actual measurements.
- [ ] The worksheet can be solved from text alone without referring to an absent image.

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