Draw and Label an Amoeba: Freehand Outline and Labeling Guide

Original tasks 1, 2, 3 / complete keys

Task 1

In a 10 cm by 8 cm frame, draw an amoeba outline with exactly three pseudopodia and one nucleus. Label nucleus, membrane, and pseudopodia. Describe your shape in words.

Answer: A valid answer describes a closed rounded outline with three projections of different lengths, a nucleus fully inside, and three labels with leader lines touching the correct parts.

Reason: The task checks a closed outline, three pseudopodia, an internal nucleus, and correct label pointing. Shape variation is allowed.

Check: Trace the outline to confirm it is closed; confirm the nucleus is inside and not touching the boundary; confirm three labels and no crossing leader lines.

Task 2

A learner draws an amoeba with four pseudopodia but places the nucleus so it touches the membrane. State the error and describe the correction.

Answer: The error is that the nucleus touches the membrane. The correction is to redraw the nucleus fully inside the main body, off-center, with a clear gap from the boundary.

Reason: The nucleus must be an internal structure separate from the membrane; touching the boundary confuses the two structures.

Check: Look for a visible gap between the nucleus outline and the membrane outline; confirm the nucleus is fully inside.

Task 3

Draw an amoeba with three pseudopodia. Label membrane by pointing to a clear outer boundary section, and label pseudopodia by pointing to one projection. Explain why the two labels point to different places.

Answer: The membrane label points to the outer boundary line itself, while the pseudopodia label points to a projection of that boundary. They are different structures: the membrane is the whole outer line, and a pseudopodium is a projection of it.

Reason: Correct pointing distinguishes the boundary from its projections, which is the main labeling skill in this task.

Check: Confirm the membrane leader line ends on the outer boundary away from a projection tip; confirm the pseudopodia leader line ends on a projection.

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Original tasks 4 / complete keys

Task 4

Using a 12 cm by 9 cm frame, draw an amoeba with four pseudopodia. Write three labels in joined handwriting at least 5 mm tall. Check that no leader lines cross. Describe one valid alternative shape.

Answer: A valid answer shows a closed outline with four rounded projections, an internal nucleus, three readable labels, and no crossing leader lines. A valid alternative is a shape with three pseudopodia instead of four, or a different arrangement of projection lengths.

Reason: The rubric allows valid alternatives; the key checks are closure, internal nucleus, correct pointing, and legibility.

Check: Measure label height against a 5 mm mark; trace the outline; confirm the nucleus is inside; confirm no leader lines cross.

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Source rubric / reflection

- [ ] Outline is one closed curve with three or four rounded pseudopodia of varied length.
- [ ] Nucleus is drawn fully inside the main body and does not touch the membrane.
- [ ] Three labels are present: nucleus, membrane, pseudopodia.
- [ ] Each leader line touches only its target structure and no leader lines cross.
- [ ] Labels are readable at arm's length; print or joined handwriting is acceptable.
- [ ] Drawing fits inside the frame with labels outside the cell boundary.

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