Draw a Sit-Up Pose with Motion Arrows: A Step-by-Step Guide

Original tasks 1, 2 / complete keys

Task 1

Draw a single-frame sit-up pose at the mid position (spine at 45 degrees) with a solid arrow showing the shoulder lifting toward the knee. Use a hip-to-shoulder length of 5 cm and a hip-to-knee length of 3 cm. Label the arrow lift.

Answer: A side-view figure with hip dot, spine line at about 45 degrees from the floor, shoulder dot 5 cm from hip, knee dot 3 cm from hip. A solid arrow starts at the shoulder dot and points along the lifting arc toward a point above and toward the knee, representing the shoulder's next position; the arrowhead is 5 mm. The label lift is placed beside the arrow. All numerical values are hypothetical examples; measure your own paper.

Reason: The mid position is between start and end, so the spine angle is between 15 and 80 degrees. The arrow shows the shoulder's upward path. Constant lengths keep proportions checkable.

Check: Measure hip-to-shoulder (5 cm) and hip-to-knee (3 cm). Confirm the spine angle is about 45 degrees using a protractor or by comparing to a 45-degree reference. Check that the arrow tail is at the shoulder dot and the head is above it. All numerical values are hypothetical examples.

Task 2

Draw a two-frame sequence (start and end) with a dashed return arrow from the end shoulder to the start shoulder. Use a hip-to-shoulder length of 7 cm and a hip-to-knee length of 4 cm. Label the dashed arrow lower.

Answer: Frame 1: spine at about 15 degrees from the floor, shoulder 7 cm from hip. Frame 2: spine at about 80 degrees, shoulder 7 cm from hip. A dashed arrow starts at the frame 2 shoulder dot and ends at the frame 1 shoulder dot, with a 5 mm arrowhead. The label lower is placed below the dashed arrow. All numerical values are hypothetical examples; measure your own paper.

Reason: The dashed arrow shows the return phase. Keeping the hip and knee fixed and the torso length constant makes the motion clear.

Check: Measure both torso lengths (7 cm) and knee distances (4 cm). Confirm the dashed arrow points from frame 2 to frame 1 and that the label is legible. Check arrowhead size is about 5 mm. All numerical values are hypothetical examples.

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Original tasks 3, 4 / complete keys

Task 3

Draw a three-frame sequence with a single curved solid arrow from the start shoulder to the end shoulder, passing near the mid shoulder. Use a hip-to-shoulder length of 6 cm and a hip-to-knee length of 3.5 cm. Label the arrow lift.

Answer: Frame 1: spine at about 15 degrees from the floor. Frame 2: spine at about 45 degrees. Frame 3: spine at about 80 degrees. All shoulders are 6 cm from the hip; all knees are 3.5 cm from the hip. A smooth curved arrow starts at frame 1 shoulder, passes within 2 mm of frame 2 shoulder, and ends at frame 3 shoulder. The label lift is placed above the curve. All numerical values are hypothetical examples; measure your own paper.

Reason: A single curved arrow can represent the continuous lifting motion. Passing near the mid shoulder confirms the path is correct.

Check: Measure torso and knee lengths in all frames. Check that the curve passes within 2 mm of the mid shoulder dot (a hypothetical example tolerance). Confirm the arrowhead points toward the end shoulder and the label is readable. All numerical values are hypothetical examples.

Task 4

Draw a two-frame sequence and add a joint-landmark guide: label the hip, shoulder, and knee dots in both frames. Use a hip-to-shoulder length of 5.5 cm and a hip-to-knee length of 3 cm. Add a solid arrow from start shoulder to end shoulder and label it lift.

Answer: Frame 1: hip dot labeled H1, shoulder dot labeled S1, knee dot labeled K1. Frame 2: hip dot labeled H2, shoulder dot labeled S2, knee dot labeled K2. Spine angles about 15 and 80 degrees from the floor. Torso lengths 5.5 cm; knee distances 3 cm. A solid arrow from S1 to S2 with label lift. All numerical values are hypothetical examples; measure your own paper.

Reason: Labeling landmarks makes the construction checkable and helps avoid drift. The arrow connects the moving shoulder landmarks.

Check: Verify each label is next to the correct dot. Measure H1-S1 and H2-S2 (5.5 cm) and H1-K1 and H2-K2 (3 cm). Confirm the arrow starts at S1 and ends at S2 within 2 mm. All numerical values are hypothetical examples.

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Source rubric / reflection

- [ ] Three frames (or two frames with a curved arrow) show start, mid, and end positions clearly.
- [ ] Hip-to-shoulder length is constant across frames within 2 mm (a hypothetical example tolerance; measure your own drawing).
- [ ] Hip-to-knee length is constant across frames within 2 mm (a hypothetical example tolerance; measure your own drawing).
- [ ] Motion arrow tail and head align with shoulder joint dots within 2 mm (a hypothetical example tolerance).
- [ ] Solid arrow indicates lifting phase; dashed arrow, if used, indicates lowering phase.
- [ ] Arrowhead size and line weight are consistent and legible.
- [ ] Labels are readable and do not overlap body outlines.
- [ ] Valid alternatives, such as a single curved arrow or two-frame sequence, are accepted if direction and endpoints are clear.

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