LESSON GUIDE

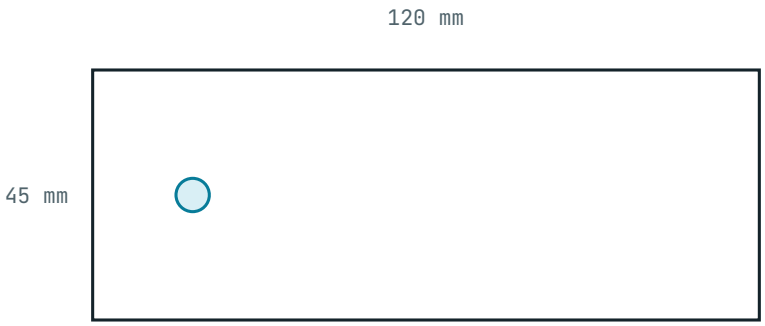
Resizing while preserving proportions

Resize the complete design without stretching it, and account for the way scaling changes holes and spacing.

Software practice

No laser is needed. Supplied projects have no machine profile and operation Output is off. Their saved speed and power values are not a material recipe.

Open **resize-tag-start.lzrproj**. The rectangle is 80 × 30 mm and the circle is 4 × 4 mm. They are separate objects.



The 120 mm demonstration is 1.5 times the original size. The hole becomes 6 mm. Illustration, not an app screenshot.

1. Click empty canvas, then use **Cmd + A** on Mac or **Ctrl + A** on Windows/Linux. Confirm **2 objects selected** in Properties.

2. Try dragging a corner handle with no modifier key. Proportions stay locked. Use Cmd + Z or Ctrl + Z to undo this trial.

3. For an exact size, turn the lock between W and H **on**. Enter W **120** and press Enter or Return. H becomes **45**.

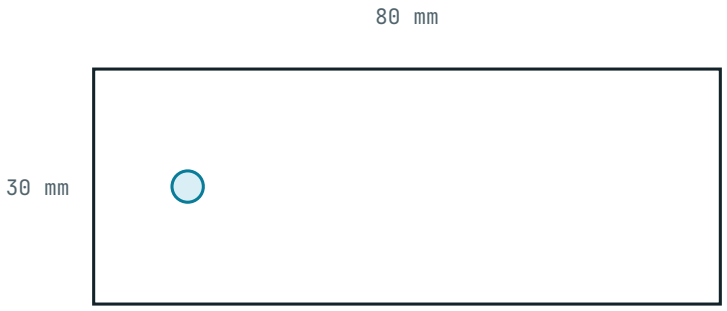
4. Clear the selection, then select the circle alone. W and H should both be **6**. Compare with resize-tag-complete.lzrproj.

INDEPENDENT PRACTICE

Independent practice

Return to the original design so you can predict the result from its known dimensions.

Reopen **resize-tag-start.lzrproj**. Select both shapes and make the whole design **100 mm wide**, with the W/H lock on. Save a separate project copy.



Starting dimensions. Predict the new height and hole diameter before resizing.

Scale factor: 100 divided by 80 = _____

Predicted height: _____ mm Hole diameter: _____ mm

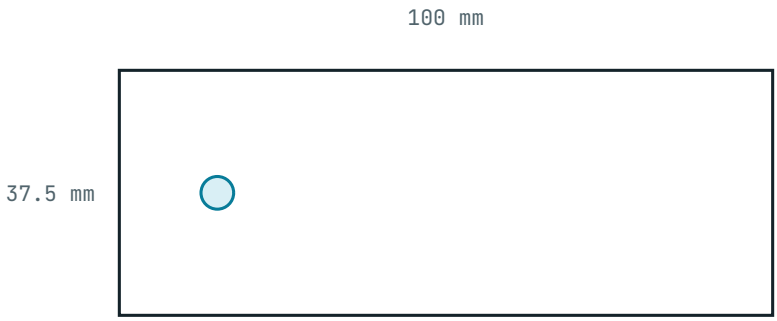
☐ Confirm both objects are selected before changing W.

☐ Check the rectangle and circle separately after resizing.

☐ Compare with resize-tag-practice-check.lzrproj after making your own attempt.

EXPLAINED ANSWER

Explained answer



Practice result: 100 × 37.5 mm, with a 5 mm hole. Illustration, not an app screenshot.

The scale factor is **100 ÷ 80 = 1.25**. Multiply the original height by 1.25: **30 × 1.25 = 37.5 mm**. The hole grows too: **4 × 1.25 = 5 mm**.

Scaling changes the whole selection

Hole diameter and spacing grow with the design. If a real fitting needs the original hole size, check and adjust that hole separately after scaling.

resize-tag-start.lzrproj
Demonstration and practice starter. Rectangle 80 × 30 mm; circle 4 × 4 mm.

resize-tag-complete.lzrproj
Demonstration answer. Rectangle 120 × 45 mm; circle 6 × 6 mm.

resize-tag-practice-check.lzrproj
Independent answer. Rectangle 100 × 37.5 mm; circle 5 × 5 mm.

If the circle stayed at 4 mm, it was probably outside the selection. Undo, select both shapes, and try again from the starter.

Matches the demonstrated Beam Bench 0.2.37 interface. Panel layout may differ in later versions.