



Handout 04.14: Model Build Guide and Label Cards

Print the build guide (pages 1 and 2) one per team. Print the label cards (page 3) on card stock, one set per team, and cut. Print the isometric grid page (page 4) for any team using the no-materials alternative.

Page 1: The build guide, Day 1 (walls and floor)

Name(s): _____ Client: _____ Model scale (circle): $1/2$ inch = 1 foot / 1 inch = 1 foot

The scale. A shoebox is about 13 inches by 8 inches inside. At $1/2$ inch = 1 foot, that is a room 26 feet by 16 feet, so every client room fits at the same scale as your plan. If you use a bigger box or a foam board base, you may use 1 inch = 1 foot. Whichever you use, **write the scale on the rim of the box or the edge of the base.**

Picture 1: a shoebox with the lid off, the scale written on the rim.

Step 1. Mark the floor. Measure the room's length and width from your plan (count the squares, convert to feet, convert to model inches). Draw the room's outline on the floor of the box with a pencil and ruler. If the room is smaller than the box, the extra floor is outside the room; draw the walls in with card later or just mark the line. Tiny house: the box is 4 inches by 12 inches at $1/2$ inch = 1 foot (8 by 24 feet); mark it.

Picture 2: a ruler on the box floor with a pencil line.

Step 2. Mark the door and windows. Find the wall and the spot from your plan. Draw the door opening (3 feet is 1.5 inches at $1/2$ inch = 1 foot; 3 inches at 1 inch = 1 foot). Take the box to the teacher's cutting station to cut the door opening. Draw the window as a frame with a marker, or cut it out at the station.

Picture 3: a box wall with a door cut out and a window drawn.

Step 3. Extra walls. The closet: cut a card strip the closet's depth, fold a tab at the bottom, glue it in. The tiny house bathroom: two card walls, 3 by 5 feet at scale, with a gap for the door. The tiny house loft: a card shelf glued across the end of the box 4 feet (2 inches at $1/2$ inch = 1 foot) below the rim. Wall height: rooms are 8 feet, which is 4 inches at $1/2$ inch = 1 foot; most shoeboxes are 4 to 5 inches deep, so the box wall is the room wall.

Picture 4: a card strip folded into an L, glued to the floor as a closet wall.

Step 4. The floor covering. Cut paper, felt, fabric, or a printed wood or tile pattern to the room's floor size and glue it down. A rug (if the client allows one) goes on later, as its own piece.

Picture 5: felt glued to the box floor.

Station check before the bell: glue caps on, scraps in the scrap bin (not the trash), model on the shelf with your team name on masking tape.

Page 2: The build guide, Day 2 (color and furniture) and Day 3 (finish and labels)

Day 2, Step 5. Color first. Pull your Lesson 4.8 color card. Cover the walls with the main color (paper, a paint chip, marker, or fabric). The accent color goes on the focal point: the headboard, a rug, a chair, one wall. Name the scheme (monochromatic, analogous, complementary) on the label later. Do the walls before the furniture goes in; you cannot paint behind a bed.

Picture 6: three walls covered in light blue paper, one wall a darker blue.

Day 2, Step 6. Furniture from card and scrap, to scale. Every piece on your plan gets built. Use the cut-out sheet sizes (Handout 04.12, page 2). Convert: at 1/2 inch = 1 foot, a 3 by 6.5 foot twin bed is 1.5 by 3.25 inches. Ways to build:

Piece	How
Bed or crib	A small card box (fold a rectangle, tab the ends) with a fabric scrap as the blanket. A crib gets card rails.
Desk or table	A card rectangle with four legs (toothpicks, rolled paper, or a folded card skirt). A wheelchair user's desk has open space under it.
Chair or loveseat	A card L (seat and back) with a folded card base, or a foam scrap. Arms are two small card strips.
Dresser, bookcase, cubes	A stacked card block. Draw the drawers or shelves on the front.
Wardrobe or closet rod	A card box with a toothpick rod.
Lamp	A toothpick or a paper straw with a paper cone.
Rug	A fabric or felt scrap, cut to the plan's size, taped down (the walker and wheelchair rule).
Window covering	A fabric strip glued above the window, or a paper blind. No dangling strings on the Ahmed model.
Hooks	Pins or bent paper clips in the wall at two heights.
Plant	A green paper scrap in a card cup.
Tiny house kitchen	A card block with a drawn cooktop and a foil sink. The fridge is a card box.
Tiny house bathroom	A card shower base and a card toilet inside the two walls.

Loft ladder	Toothpicks or card strips glued in a ladder.
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Place every piece where the plan has it. Hold the plan up next to the box. **Do not glue a piece down until it matches the plan.** If a piece looks better somewhere else, that is allowed; change the plan too (in pencil, with a note).

Picture 7: a card bed with a fabric blanket next to the plan showing the same bed on the same wall.

Day 3, Step 7. Finish. Glue the furniture. Add the lamp, the rug, the window covering, the plant, the hooks. Fix anything out of scale.

Day 3, Step 8. The labels. Fill the three cards on page 3 and glue them to the inside wall or the rim:

- GREEN: one green choice from Lesson 4.5 and why it matters for this client.
- SAFE: one safety feature from Lesson 4.2 and why it matters for this client.
- WHY: two sentences. Sentence one: the biggest design choice and the client need it serves. Sentence two: the principle of design it uses (balance, focal point, rhythm, proportion, emphasis, unity).

Day 3, Step 9. The client card goes on the outside of the box, front wall. **The scale** is on the rim. **Your names** on masking tape on the bottom.

Day 3, Step 10. Self-check. Read Rubric 04, criterion 4. Circle your level. Fix one thing.

Picture 8: the finished model with the three label cards inside and the client card on the front.

Word bank: wall (duvar / parede / pared), floor (zemin / piso / piso), door (kapı / porta / puerta), window (pencere / janela / ventana), glue (yapıştır / colar / pegar), cut (kes / cortar / cortar), label (etiket / etiqueta / etiqueta). *[check with a native speaker]*

Page 3: Label cards (cut on the lines)

GREEN

This is: _____

It is a green choice because it _____ (conserves energy / conserves water / reuses something / reduces waste / cleaner air).

It matters for this client because _____.

Frame: "This is . ***It is green because the client .***"

SAFE

This is: _____

It is a safety feature because it prevents _____ (a fall / a trip / a burn / a cord hazard / a crib hazard / a blocked exit).

It matters for this client because _____.

Frame: "This is . ***It is safe because the client .***"

WHY (the justification)

The biggest design choice in this room is _____, and it serves the client's need for _____.

It uses the principle of _____ (balance / focal point / rhythm / proportion / emphasis / unity) because _____.

ACCESSIBLE (grade 8 stretch, optional)

This is: _____ It is set at _____ inches so that _____.

Client card mount

Glue the client card here (outside, front wall). Scale of this model: _____ inch = 1 foot.

Page 4: The isometric grid alternative (no box, no materials, or absent for the build days)

Draw the room in 3-D on isometric grid paper (the triangle grid). If the school has none, print a free isometric sheet [*Sal: any free grid generator; set the triangle side to 1/4 inch*] or draw the room on plain paper using the steps below.

Scale: 1/2 inch = 1 foot. One grid triangle side is 1/4 inch, so two triangle sides equal 1 foot.

1. **The floor.** Draw the room's floor as a parallelogram: the length along one grid direction, the width along the other, counting two triangle sides per foot.
2. **The walls.** From the two back corners and the middle back corner, draw straight up 8 feet (16 triangle sides). Connect the tops. You now have a floor and two back walls, like an open box seen from a corner.
3. **The door and window.** Draw the door as an opening in the wall the plan puts it on, 3 feet wide and 7 feet tall. Draw the window as a rectangle in its wall at the plan's spot, its bottom 3 feet off the floor.
4. **The furniture.** Every piece on the plan is a box: draw its footprint on the floor where the plan has it (count the squares from the plan; two triangle sides per foot), then draw it up to its height. Typical heights: bed 2 feet, crib 3 feet, desk 2.5 feet, chair seat 1.5 feet with a back to 3 feet, dresser 4 feet, bookcase 3.5 feet, wardrobe 6 feet, table 2.5 feet.
5. **The color.** Color the walls in the main color, the focal point in the accent. Name the scheme in the corner.
6. **The labels.** Draw the GREEN and SAFE labels as callouts with an arrow to the feature. Write the WHY sentences under the drawing.
7. **The client card** is stapled to the drawing. **The scale** is written in the corner.

A digital 3-D room in any free room-planner app the school allows, printed or shown on a screen at the gallery walk, is also accepted. It needs the same labels, the same scale note, and the client card. [*Sal: name the app.*]

It is scored on Rubric 04 criterion 4 exactly like a box model.

Teacher key

- Conversions to keep on the slide all three days: at 1/2 inch = 1 foot, 1 foot = 0.5 inch, 3 feet = 1.5 inches, 8 feet = 4 inches. At 1 inch = 1 foot, 3 feet = 3 inches, 8 feet = 8 inches.
- Day 3 clipboard check: matches the plan (door, window, every piece placed as drawn); color scheme named and applied; GREEN and SAFE labels each give a reason for this client; scale written; WHY has a need and a principle. Four or five yeses is a Meets on criterion 4 before the pitch.
- Green choices students will pick, and whether they count: an LED lamp (yes); a secondhand piece (yes, reuse); low-VOC paint (yes); a recycled-fiber rug (yes); a window placed for daylight so the lamp stays off (yes); a plant (yes, weakly; push for a reason); “it is blue like the ocean” (no).
- Safety features students will pick, and whether they count: a night light on the path (yes); cordless blinds (yes); a rug taped down or no rug (yes); a crib 3 feet from the window (yes); a smoke alarm on the ceiling (yes, and rare, praise it); furniture anchored (yes); a 36-inch path (yes, and it is also criterion 2); “a lock on the door” (only if the client card gives a reason).
- Materials per model, target under \$4: shoebox free; foam board about \$3 to \$4 per 20 by 30 sheet, two or three bases per sheet; card stock \$0.30; glue sticks \$0.25; scraps free. Realistic total \$2 to \$3.50 [update].