



Seven Easy Steps
to Installing
Your Own Walkway,
Driveway and Patio
Without
Mortar or Concrete

Here's what you'll need to get started:

Brick – Brick pavers are different from the brick used on house walls in that they are solid, i.e., without holes. Sizes vary from manufacturer to manufacturer, but they generally come in 4" x 8", 3 5/8" x 7 5/8" and 3 3/4" x 7 1/2". Typical thicknesses run from about 1 1/4" to 2 1/4". There are also many different styles to choose from, with each manufacturer carrying its own selection.

Sand – This is what holds the brick in place. Use only well-graded, washed concrete sand.

Crushed Stone – This creates a strong base. It may be called different things in different parts of the country—gravel, road base, or crusher run. Whatever the name, the stones should range in size from about 3/4" down to fine dust.

Border or Edging Materials

(your choice)

1. Brick
2. Rigid plastic or metal specifically intended as edging material
3. Wood: 2 x 4 or 4 x 4 pressure-treated, or natural redwood

For wood, metal or rigid plastic, you'll need metal spikes that are at least 8" long.

String and Wooden Stakes

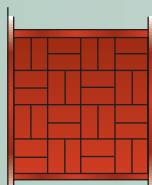
(for aligning brickwork)

Tools

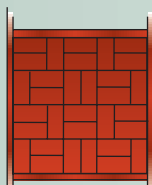
1. Flat shovel
2. Wheelbarrow
3. Garden hose with fine spray nozzle
4. Hard garden rake
5. Broad-blade chisel, brick splitter or masonry saw for cutting and fitting the brick (the last two are readily available for rent at your local rental store or brick distributor)
6. Carpenter's level
7. Wood "screed" strip—a 2 x 4, at least 3' long (used to create a uniform sand bed depth)
8. Electric drill and appropriate size bit (for wood edging only)
9. Trowel
10. Broom
11. Plate compactor (rented)

32" Square Patterns

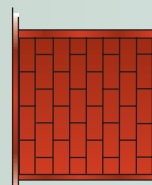
All patterns shown are for brick having a 4" x 8" face size and would have to be adjusted to accommodate other brick sizes



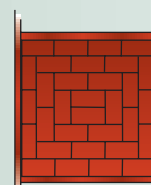
Basket Weave



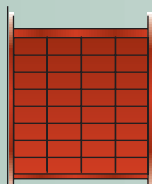
Basket Weave (Variation)



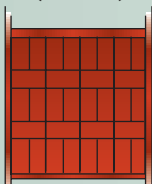
Running Bond



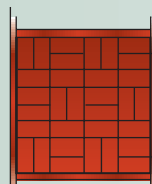
Running Bond (Variation)



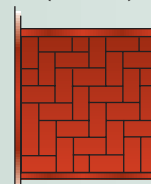
Stack Bond



Stack Bond (Variation)



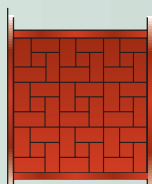
Stack Bond (Variation)



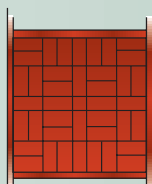
Herringbone

36" Square Patterns

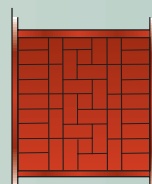
All patterns shown are for brick having a 4" x 8" face size and would have to be adjusted to accommodate other brick sizes



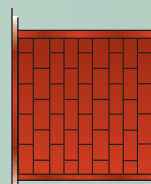
Basket Weave (Variation)



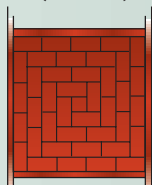
Basket Weave (Variation)



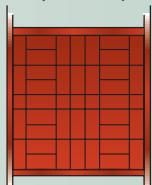
Basket Weave & Stack Bond



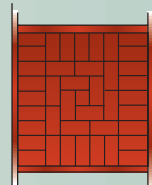
Running Bond



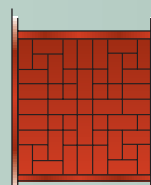
Running Bond (Variation)



Stack Bond (Variation)



Stack Bond (Variation)



Variegated

Step 1

Determining How Much You'll Need

Pavers

1. Determine the square feet

(length x width) of the area you want to pave.

2. Estimate the number of pavers needed:

For 4"x8" pavers—

4.5 pavers per sq. ft.

For 3-5/8"x7-5/8" pavers—

5.2 pavers per sq. ft.

For 3-3/4"x7-1/2" pavers—

5.1 pavers per sq. ft.

Add 5% extra for chipped or broken pavers.

Example: A 10' by 20' patio = 200 sq. ft. x 4.5 pavers/sq. ft. = 900 pavers

An additional 5% (900 x .05) = 45 pavers

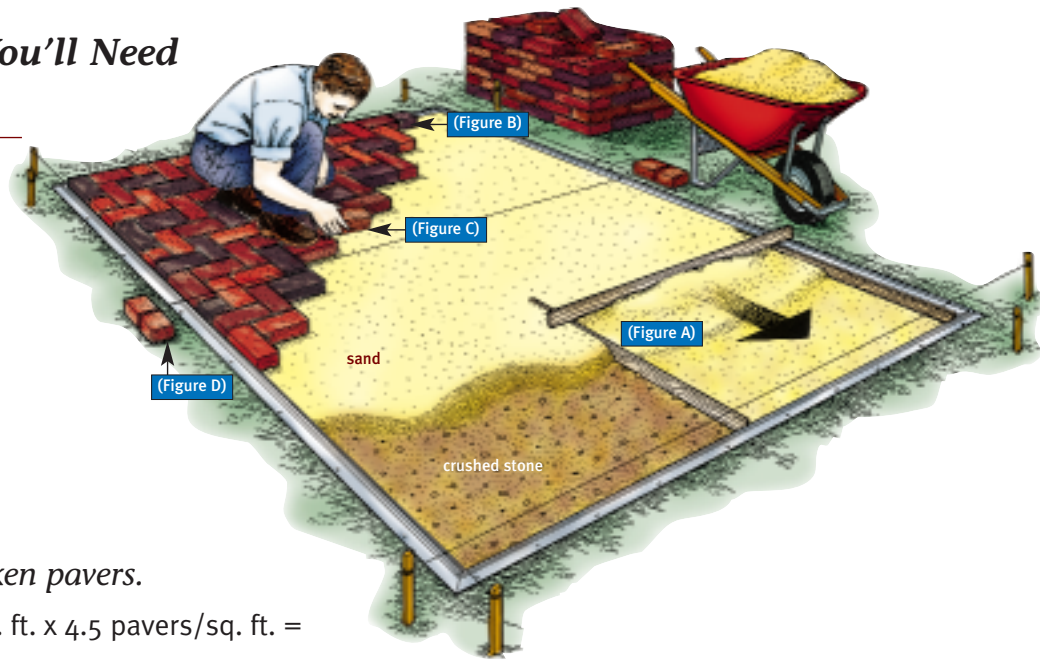
Total needed so far = 945 pavers

Typically, you should also include an additional 1-1/2 bricks per linear foot of edge for cutting.

Example: linear footage = 10+20+20+10 = 60 linear feet

60 x 1.5 = 90 pavers

945 + 90 = 1035 total pavers needed for the job



Edging Material

1. **Measure the linear foot** of open edges—those not up against a house, curb, driveway, etc. This is the number of feet of edging material you will need. If you plan to edge with brick standing on end (soldier position), calculate one brick for each 4" of edge.

2. For wood or rigid plastic

edging, plan on one stake for each 2 to 3 feet of edge.

Sand and Crushed Stone

1. The sand and crushed stone you will use in your project are measured in cubic yards (1 cubic yard = 27 cubic feet).

2. For *any* type of paving project, whether patio, walkway or driveway, you will *always* use a 1" depth of sand. To determine the number of cubic yards of sand, multiply the square footage by .00309.

Example: 200 sq. ft. patio x .00309 = 0.62 cubic yards of sand

3. The amount of crushed stone you will need depends on your type of paving project:

For light duty projects—such as walkways or patios—you will use a 4" depth of crushed stone. To determine the cubic yards of crushed stone needed to create a 4" base, multiply the total square footage by .01235.

For heavy duty projects—such as driveways—you will use an 8" depth of crushed stone. To determine the cubic yards of crushed stone needed to create an 8" base, multiply the total square footage by .02469.

Example: For a 200 sq. ft. *patio*, you will want a 4" base of crushed stone. 200 sq. ft. x .01235 = 2.47 cubic yards of crushed stone

Example: For a 200 sq. ft. *driveway*, you will want an 8" base of crushed stone. 200 sq. ft. x .02469 = 4.94 cubic yards of crushed stone

(In areas of extreme wetness or severe freeze/thaw, you may need a deeper base. Consult your local brick distributor.)

Step 2

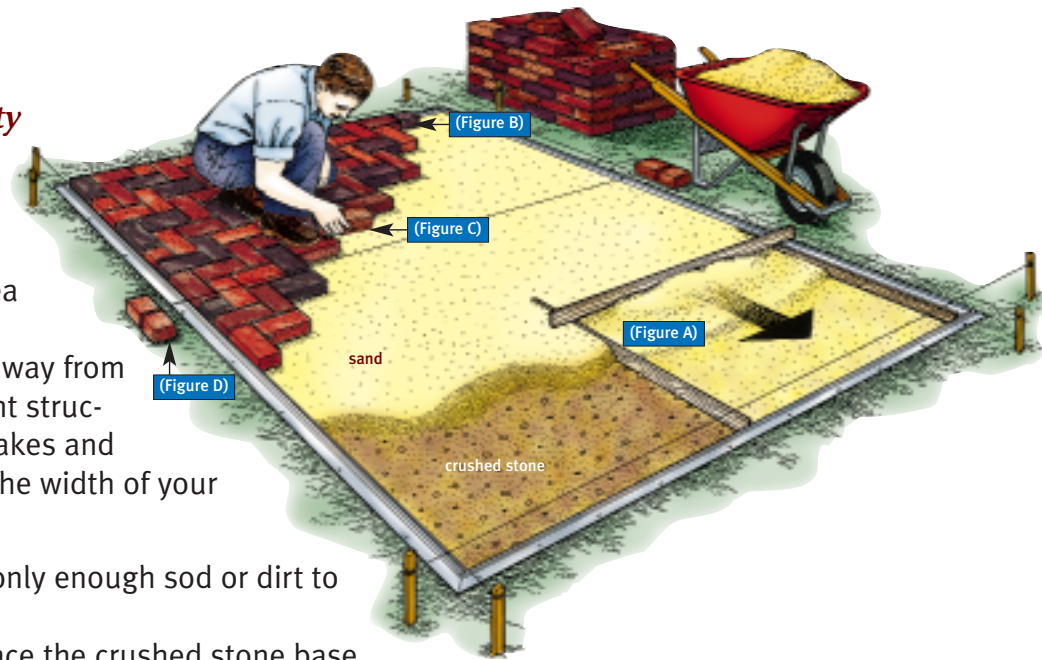
Preparing the Area

1. Check with your local utility

companies to determine the location of underground lines.

2. After you're sure that the area you intend to pave has proper drainage ($\frac{1}{4}$ " per foot slope away from foundations or other permanent structures), outline the area with stakes and string, and be sure to include the width of your edging material.

3. Use a flat shovel to remove only enough sod or dirt to provide a flat, level surface upon which to place the crushed stone base. It is important that dirt or excess soil that is removed and re-installed should be firmly settled with a plate compactor for an even base.



Step 3

Installing the Base

- 1. After compacting the soil**, place the crushed stone base into the excavation. Using a plate compactor, tamp down no more than 4" (depth) of base material at one time. This is a critical step—if not done carefully and thoroughly, the bricks will move over time.
- 2. The base material** should be slightly damp when compacting.

Step 4

Framing the Borders

- 1. The border, or edging system**, is necessary to insure that your brick paving remains firmly in place and stays beautiful for years. Begin by installing, but not anchoring, your edging. Experiment now with the pattern you've chosen by temporarily laying brick around the edge of the paving. (Note that complex designs, like herringbone, may require significant amounts of cut brick.)
- 2. Once you're satisfied** with placement, anchor the edging by driving spikes at least 8" into the base every 2 to 3 feet. For wood edging, drill holes and drive the spikes through the middle of the wood. For brick edging, dig a trench deep enough so that the top edge of the edging brick will be flush with the brick surface of your finished project.
- 3. One border can remain unanchored** until final brick installation to insure a tight fit. Now, remove the bricks you temporarily installed.

Step 5

Installing the Sand Bed

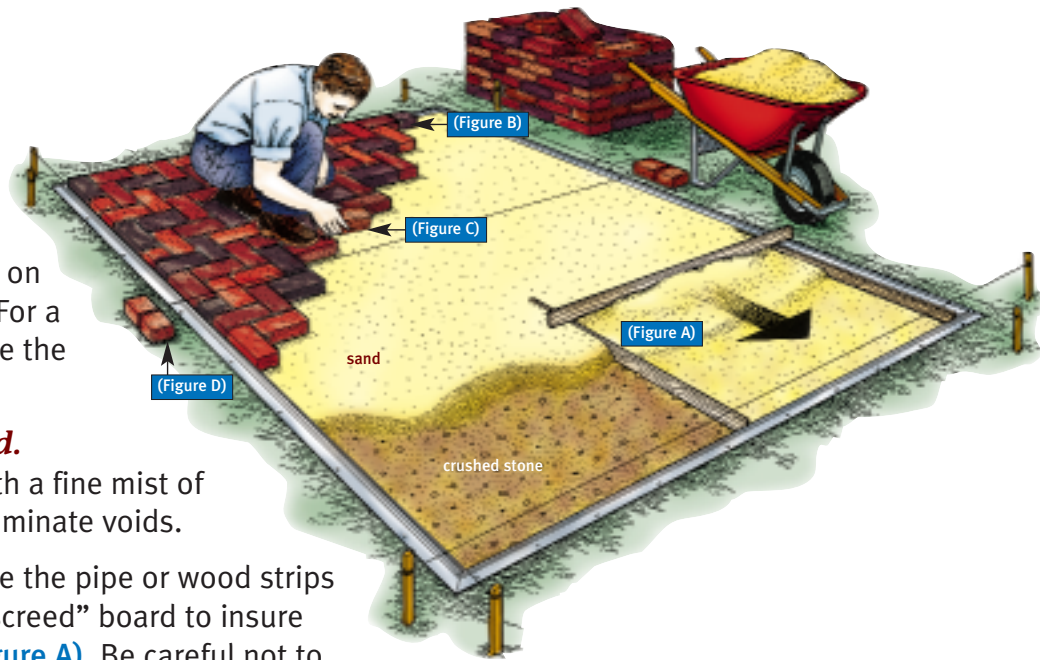
1. For a walkway or other fairly narrow project, use 1" outside diameter pipe or cut two wood strips to the desired height of sand (1"). Place them on either side of the paving area. For a wider project, like a patio, place the strips about 3 feet apart.

2. Now, fill the area with sand.

The sand can be dampened with a fine mist of water prior to installation to eliminate voids.

3. After you pour the sand, use the pipe or wood strips as rails on which to run your "screed" board to insure a uniform sand depth of 1" (**Figure A**). Be careful not to walk in or disturb the leveled sand.

4. Remove the screed rails and fill the indentations with loose sand. Level with a broom or trowel.



Step 6

Laying the Brick Pavers

1. Start at a corner—if possible, one that includes an edge such as a house, curb, sidewalk or other fixed edge. Lay one run of brick from the corner along the two adjacent borders (**Figure B**). Set the brick on the sand. Don't press or hammer them into place. They should fit snugly, with about 1/16"-1/8" gap between each brick. As you work, be sure to work from the laid brick, not the sand. If you disturb the virgin sand, re-level it with a broom or trowel before laying more brick.

2. Continue to lay the brick in your pattern, working from your starting corner to the unanchored edge (**Figure C**). With the original perimeter brick as a reference, put a string line across the front of your laying edge (every 2 to 3 feet) to maintain alignment (**Figure D**). If the pattern wanders somewhat, a trowel, screwdriver, or wide-blade putty knife can be used to make small adjustments. Don't be concerned with small gaps between the paving brick—you'll fill them with sand.

3. Be sure to check the level and alignment of the brickwork frequently during installation.

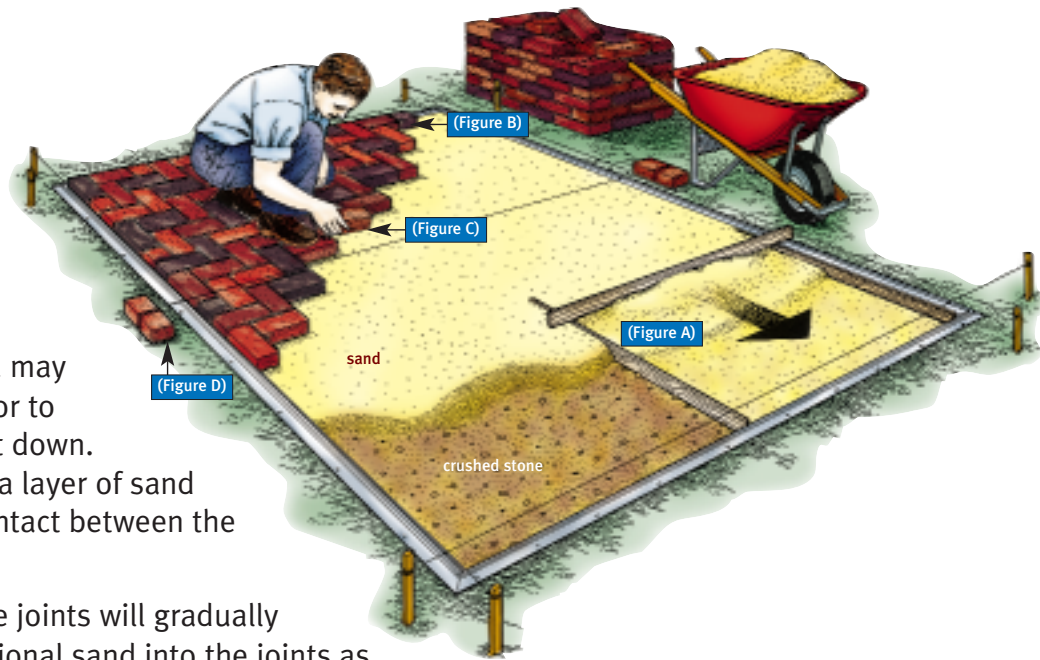
4. Once all the full brick have been installed up to the final, unanchored edge, cut or saw the remaining brick to complete the bond pattern—but insure that the final edge brick are no smaller than two inches in width.

5. Anchor the final border.

Step 7

Finishing Up

- 1. Inspect your work**, making final adjustments in brick height and joint alignment. Then sweep dry sand into all the joints to lock the brick into place.
- 2. To further set the brick**, you may want to use the plate compactor to set the brick and gently tamp it down. If a compactor is used, spread a layer of sand over your pavers to prevent contact between the brick and the compactor.
- 3. The sand you swept into** the joints will gradually settle. You should sweep additional sand into the joints as necessary over the next few rainstorms until the bricks are fully stabilized.



Relax and Enjoy

(Very unofficially, Step 8)

This is the best part. Take a well deserved rest and feast your eyes on your own creation. You've completed a paving project that will enhance the value of your home and, since brick only looks better with age, you can enjoy for years to come.

For the bricks for your next paving project, and for expert advice and answers to all your questions regarding brick paving, visit your local brick distributor. You'll find them in the Yellow Pages under "Brick."



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