How to lay a patio
# How to lay a patio

In this guide we show you how to plan your patio, prepare the ground and lay the paving. This is a fairly simple DIY task but paving can be heavy, so you may need some help. Depending on the patio size, the project could take you 2 to 3 days.

## Top tip

Paving slabs should always be bought at the same time to avoid variations in colour and texture.

## Tools for the job

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<thead>
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<th>Tool</th>
<th>Description</th>
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<tbody>
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<tr>
<td>Builder’s square</td>
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<tr>
<td>Club hammer</td>
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<tr>
<td>Hosepipe</td>
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<tr>
<td>Pointing trowel</td>
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<td>Rake</td>
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<td>Screeding float</td>
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<td>Semi-stiff brush</td>
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<tr>
<td>Spade</td>
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<tr>
<td>Spirit level</td>
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<td>Sponge</td>
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<td>Wheelbarrow</td>
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## Materials for the job

<table>
<thead>
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<th>Material</th>
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<tr>
<td>Block of wood</td>
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<td>Builder’s sand</td>
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<tr>
<td>Cement</td>
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<tr>
<td>Hardcore</td>
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<td>Soft sand</td>
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<td>String</td>
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<td>Wooden pegs</td>
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1. Plan your patio

Once you’ve decided where you want your patio, draw a detailed plan to scale using graph paper, including the dimensions of the patio area.

Mark on the plan all permanent fixtures e.g. the house, walls, fencing, manhole covers (which must be paved around and can affect the level of the patio), as well as trees or large plants.

To avoid having to cut slabs, a ‘chessboard’ layout or one of the range of stones that features half-slabs are good choices.

Staggering paving (like a brickwork finish), or laying a random pattern of different sized slabs, usually means that you’ll end up having to cut slabs to get a straight border – seek advice before cutting slabs.

The surface of your patio must be at least 150mm below the damp-proof course of the house so that rain doesn’t bounce off and hit the wall above.

Your patio must have a gradual slope away from the house to ensure all water drains off. Allow about 25mm drop in every 1.5m (Fig. 1) or alternatively install a drainage channel.

Allow 10mm – 30mm between slabs for fettled edge, natural stone or heavily riven slabs, and 10mm – 15mm for straight edge slabs.

2. Measure up

Calculate the area of your patio in square metres. Each pack of paving slabs shows the area it covers. If you are using a single size slab, divide the area of your patio by the area covered by one pack to see how many packs you need to buy.

If you are using different size slabs the calculation is more complicated and you should ask for advice.

3. Mark out the patio

Accurately transfer your plan to the ground using wooden pegs, a builder’s square and string.

Mark lines on the wooden pegs to indicate the depth of working i.e. the finished level of your hardcore, bedding mortar and the surface of the patio slabs.

You need to make sure the marks for the top surface are level with any existing paving and manhole covers (Fig. 2).

Remember to allow for a gradual slope away from the house when inserting your wooden pegs (Fig. 1).
4. Prepare the base

Remove any turf, plants or paving and dig down to a depth of about 150mm to allow for the foundations.

To lay a solid base for your paving slabs, you first need a layer of hardcore to a depth of about 50mm to 80mm (Fig. 3) over the area of your patio. Use a rake to distribute the hardcore, evening out any bumps. You could hire a powered wacker plate to compress the hardcore to give a good solid base. Add a layer of bedding mortar over the compacted hardcore (Fig. 3).

Fig. 3 Compacted hardcore flattened with a powered wacker plate forms the solid, flat sub-base necessary for the bedding mortar and paving.

NOTE: The layers on this diagram are not to scale.

5. Prepare the bedding mortar

Mix the bedding mortar on a plastic sheet. A ratio of 3 shovels of building sand to 1 shovel of soft sand to 1 shovel of cement is about the right mix. Add water sparingly to the centre of the mix and turn it over to create a wet mix.

Put down enough mortar (to the required thickness, 25mm – 45mm) so you can lay down one complete line of slabs. Make sure you compact the mortar and level it using a wooden or plastic screeding float trowel. Make sure the thickness is even over the ground.

6. Lay down the paving slabs

Before you lay down any slabs, check with a builder’s square that the string guidelines are square to the house (Fig. 4), if not adjust the guidelines until they are.

Lay down the first slab against the house at the corner, checking its alignment with the string guideline. It’s important that the first slab is positioned accurately.

Gently tap the slab to the correct level (Fig. 5), using a club hammer and block of wood to protect the slab.

Lastly, check the alignment of the slab with the spirit level, allowing for the slope away from the house. Continue until all the paving slabs are laid down and do a final check to make sure they are all level.
7. Point (fill the gaps between the slabs)

Once you have laid down all your slabs, leave the mortar to dry for at least 24 hours before filling or ‘pointing’ the gaps between the slabs. This mortar stops your slabs moving and prevents weeds from growing in the gaps.

To make up mortar, use a semi-dry mixture consisting of 4 parts building sand to 1 part cement.

Make sure the mortar is only just wet to prevent shrinkage.

Test the mortar by taking a handful and squeezing it. It should stay as a firm wet ball when you open your fingers and not crumble (too dry) or ooze water (too wet). To adjust the consistency, add water if it’s too dry or more sand and cement (pre-mixed to the correct ratio) if too wet.

Press the mortar into the gaps with the edge of a trowel.

Brush off any surplus mortar before it’s completely dry using a semi-stiff brush. Finally, wash the slabs with a damp sponge and clean water to remove all traces of cement.

8. Let the mortar dry out

If you are laying your patio in the summer, make sure the mortar doesn’t dry out too quickly as it could crumble. Equally, in colder weather, protect the drying mortar from rain or frost with polythene sheeting.

It will be 24 hours or longer before your patio can be used, to allow it to dry properly.

9. Maintaining your patio

If you want to seal the patio to prevent water seepage or fading, check the manufacturers’ recommendations. Applying a sealant to paving may affect the colour.

If the patio freezes, using salt could damage the surface. Use a plastic shovel or stiff brush to remove snow and ice.

Every three months it’s worth checking for loose or damaged slabs and making sure that all the pointing is intact.

Look for any stains such as alcohol, barbeque fat, chewing gum or bird droppings and give these an intensive cleaning treatment, always following the manufacturer’s instructions.

Top tip: Have you got a pressure washer? Use it on a low setting for cleaning your patio, making sure you point it at an angle facing away from the slabs. Be careful not to use it too hard or too close to the slabs or you’ll damage the surface of your paving.
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