

Getting your site ready

What you will learn

When you have finished this section, you should be able to:

- Prepare the ground
- Make the formwork to hold the concrete



Things you need before you start

Materials

Plans for your concrete

Timber for framing

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Tools

Tape measure, string line for marking

Pick, shovel or spade for digging

Spirit level, hammer and nails to build the framing

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Introduction

Before you can pour your concrete, you need to

- mark out where the concrete will go
- dig out the ground and make it solid
- make a frame, like a mould, for the wet concrete.

Preparing the site

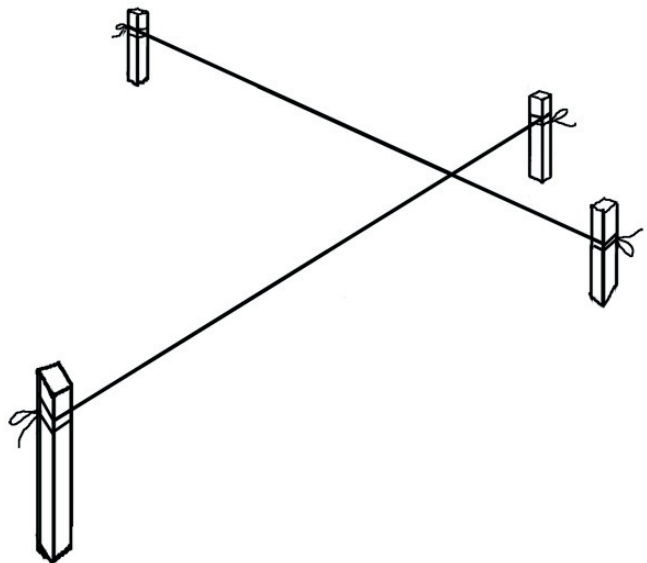
Measure and mark out the area for the concrete

Work from your plan or drawing.

- **Mark the area**

Measure the edges for your concrete and mark the ground.

You can make marks in the ground — but strings between pegs or pieces of timber are better, and they can show the level you need as well.



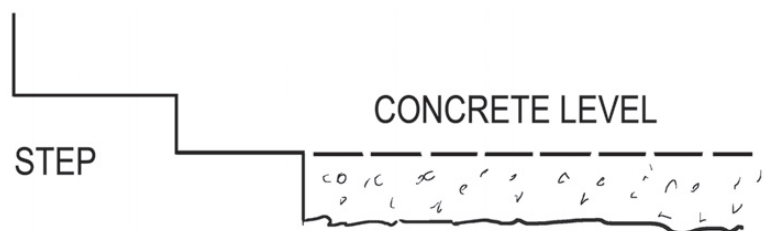
- **Decide where the surface level of your concrete needs to be**

Maybe:

level with a step?

or

a wall?



When you have worked out the surface level, you will see how much digging out or filling you need to be able to lay the right thickness of concrete.

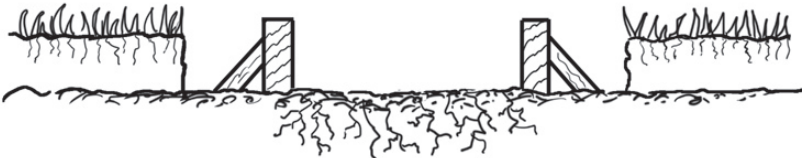
- **Dig away the ground**
 - to the right depth
 - make room for the formwork
 - remove any roots, grass or plants.



You must have firm ground or soil under the concrete.

If the soil is soft or sandy, dig deeper and fill with crushed rock to the level you need.

If there are just patches of soft soil



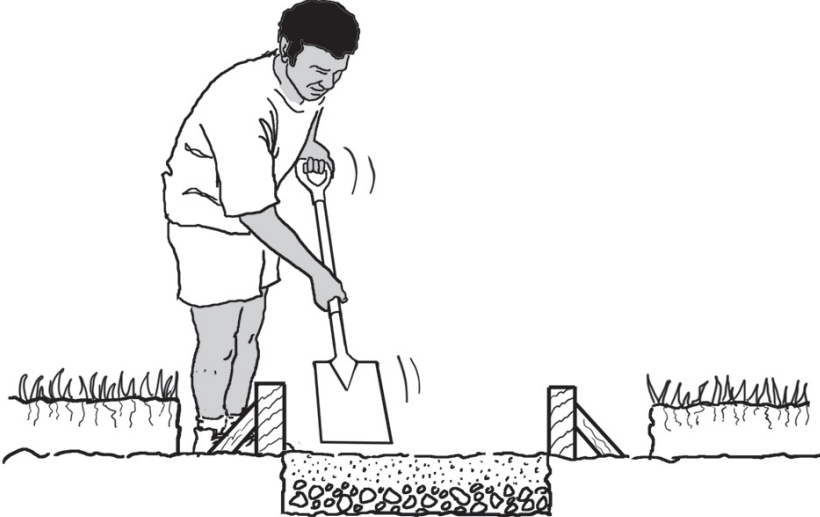
dig them out and



fill with harder stuff.



If you have to fill-in deep areas, fill with rock — or old blocks or pieces of concrete. Cover with sand and compact it all down to make it hard and level.



Underlay

Concrete slabs under houses can have an underlay on the ground under the concrete to stop water rising through the slab and making the building damp.

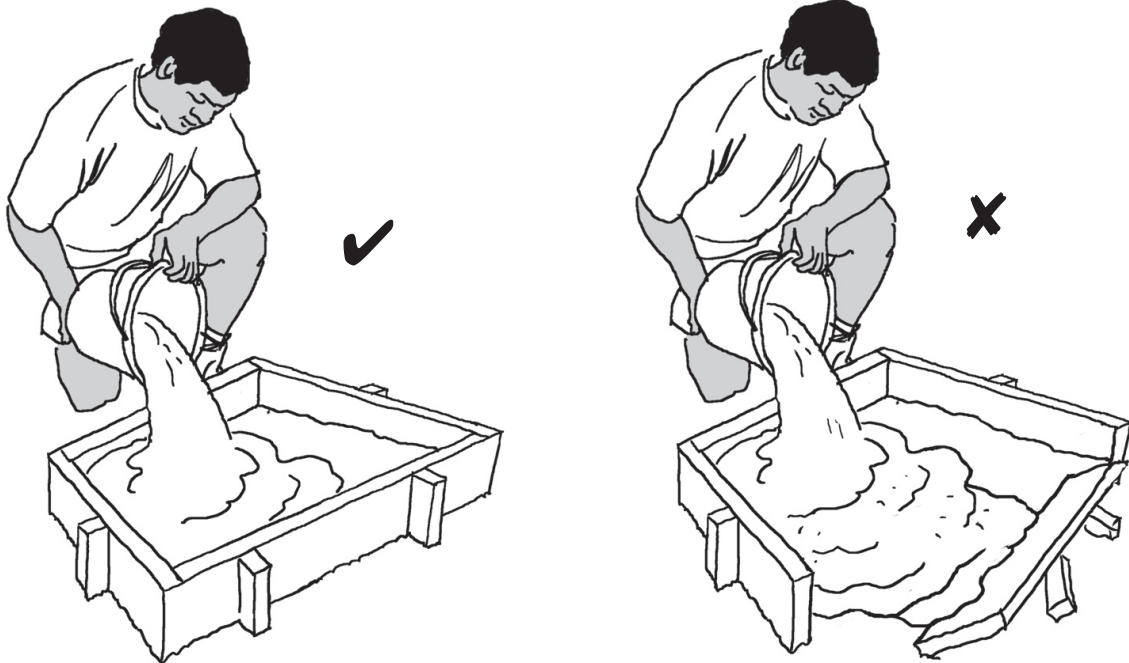
This underlay is usually a heavy plastic sheet put on the ground just before the concrete is poured.

Some places with very sandy soils use plastic sheeting under most new concrete work.

Formwork

This is sometimes called **boxing** or **shuttering**.

Formwork is a mould that holds the wet concrete in place while it hardens



Formwork needs to be:

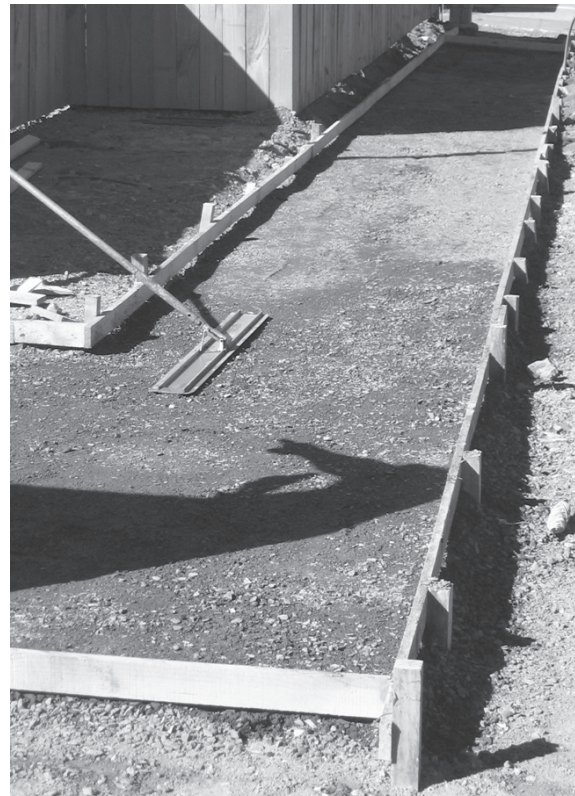
- strong enough to support the wet concrete

and

- well made

so you get the shape you want

- made in a way that you can take it off easily when the concrete has set.



Formwork is usually made of timber

Old, scrap or used timber is fine — but it needs to be:

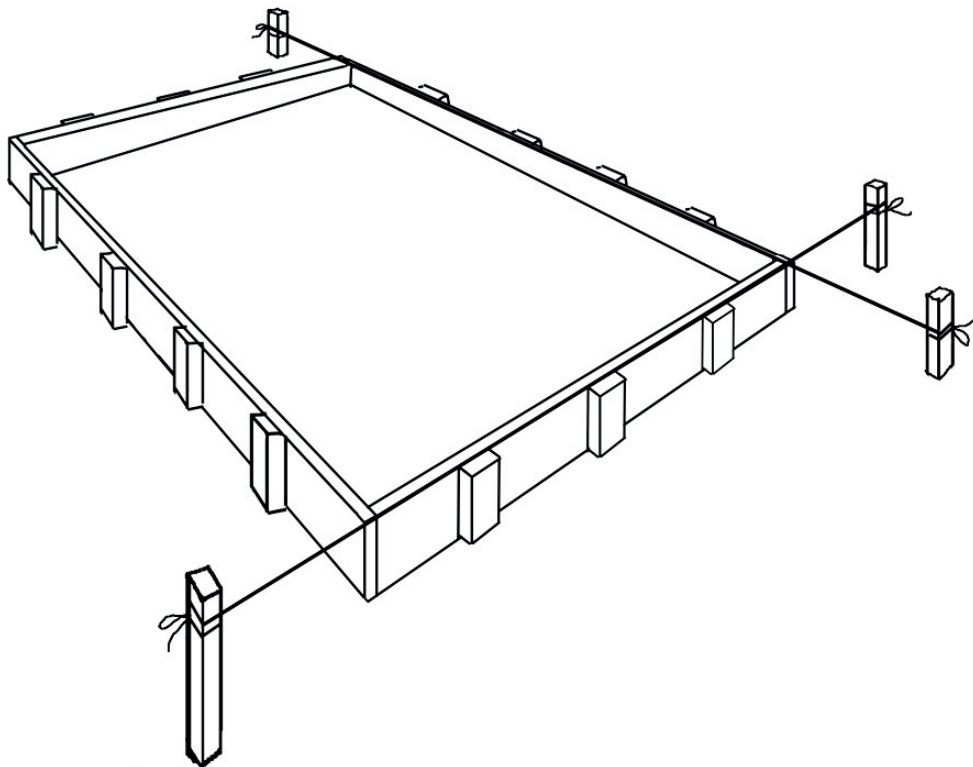
- straight
- strong and
- clean

Note: any marks on the formwork timber will show on the finished concrete.

Use strong pieces of timber for the formwork — up to 100 x 50mm to support the top of the sides for deep concrete.

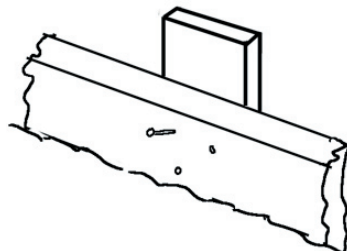
Use pieces of bent ply-wood to make curves.

Place the formwork so that the timber is in line with your marks — or string lines.

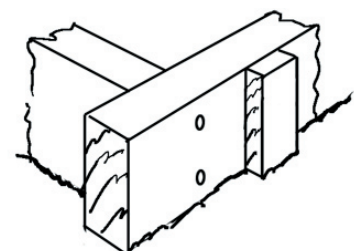


Hammer stakes of scrap timber into the ground about every 500mm to support the outside of the frame.

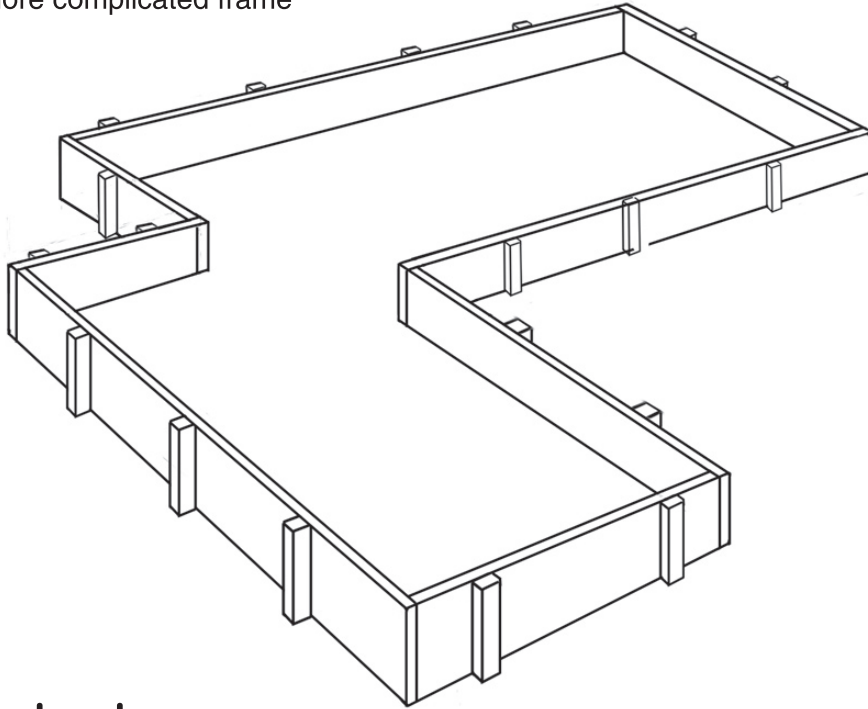
Nail the stakes to the frame and



Saw them level with the top.



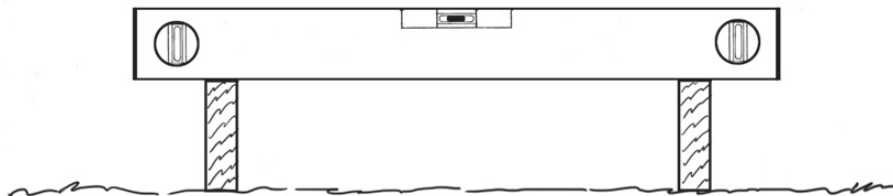
Here is a more complicated frame



Surface level

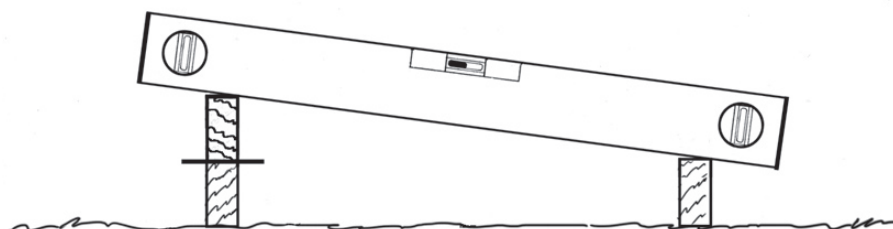
Your formwork also sets out the level for the concrete.

You may want the concrete surface flat and level for inside work



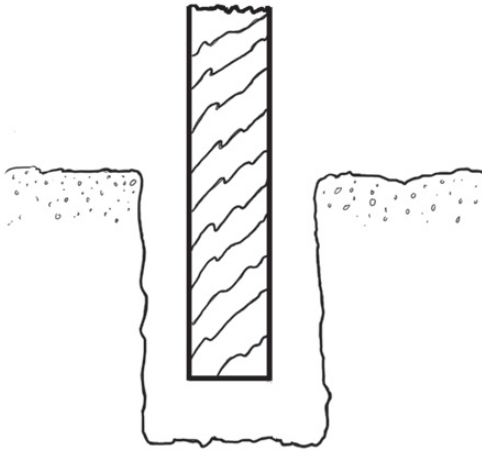
For outside work, slope the surface of the formwork the way you want the rain to run off the concrete.

Make the slope about 25mm for every 1 metre long

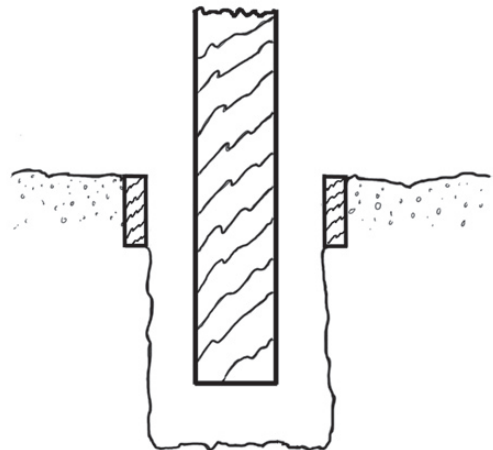


Support for a post in the ground

You could use the hole in the ground as the formwork



or you could make a simple frame around the top of the hole. This would be good in very soft or sandy soil.



When you have finished your formwork, check:

- Is it lined up with your marks or lines?
- Is it strong enough to hold the wet concrete?
- Will you be able to take it off easily when the concrete is cured?
- The depth inside the formwork. Do you need to dig out or fill in the ground to get the right thickness of concrete?

Underlay and reinforcing

If your job needs it:

- Lay plastic sheeting (underlay) on the ground inside the formwork
- Place your steel reinforcing as shown on your plans. Look back to the *Plan for concrete* section on how to do this. Your tutor will show you how to support the steel and wire it together.

Activity

Work with other students on your project.

Complete the *Reinforcing* and *Formwork* parts of your Project planning sheet.

Then:

- 1. Mark out the ground from your plan.
- 2. Decide and mark the finished surface level you want.
- 3. Prepare the ground.
- 4. Dig or fill the ground to get the correct depth for your concrete.
- 5. Build strong formwork from the timber you have available

Place any plastic sheeting and steel reinforcing if this is needed.

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