

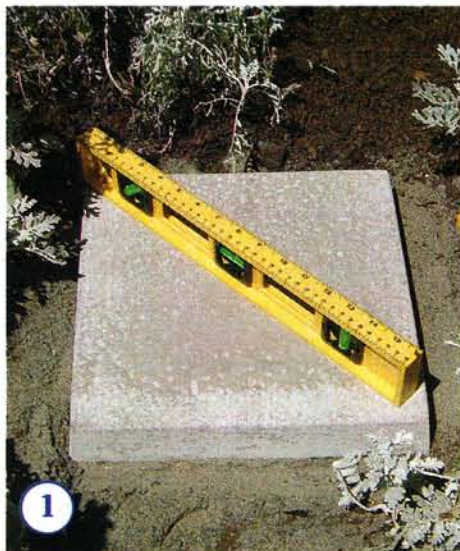
# Time Out

MARK RAYNER keeps time with a traditional-looking sundial.

## You will need:

- Two 300mm x 300mm concrete pavers
- Two 250mm x 250mm concrete pavers
- Terracotta pipe
- Stones to fill the pipe
- Sand for levelling
- 22mm marine ply (approx 300mm x 300mm)
- A few offcuts of flat Zinalume sheeting
- A few offcuts of vinyl flooring
- Two small panel pins
- Four small clamps
- 25kg bag of builder's mortar mix
- Resene Galvo One Primer
- Resene Quickdry Acrylic Primer/Undercoat
- 1 testpot Resene Sandtex 'Stack'
- 1 testpot Resene Lumbersider 'Fountain Blue'
- 1 testpot Resene Lumbersider 'Shuttle Grey'
- 1 testpot Resene 'Nero'
- 1 testpot Resene Paint Effects Medium
- Resene Multishield Flat Acrylic Glaze
- Exterior construction glue
- Exterior PVA glue
- Spirit level
- Tin snips
- Jigsaw
- Pair of compasses
- Protractor
- Pencil
- Craft knife
- Paint brushes

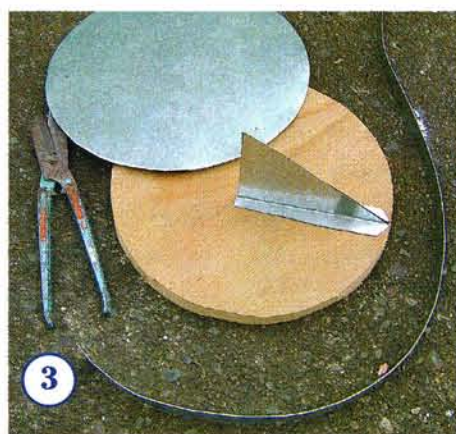
**Note:** The angle of the gnomon (40 degrees) corresponds to the line of latitude for Wellington. For the correct latitude in your area, consult the website [www.lmsal.com/YPOP/Classroom/Lessons/Sundials/sundials\\_S.html](http://www.lmsal.com/YPOP/Classroom/Lessons/Sundials/sundials_S.html)



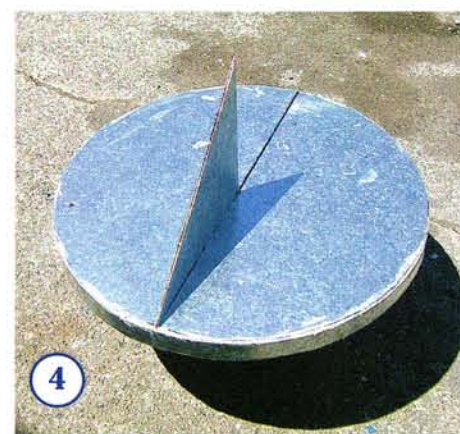
**1** In the position where you want the sundial, place one of the 300mm x 300mm concrete slabs on a flat bed of sand, ensuring that it's level.



**2** Spread a thin layer of moist mortar on the slab then centrally position the 250mm x 250mm slab on top. Position the terracotta pipe, then fix the base with mortar. Fill the pipe with stones and apply another layer of mortar to fix the 250mm x 250mm slab on top. Repeat with the 300mm x 300mm slab to complete the pedestal. Allow to dry overnight.



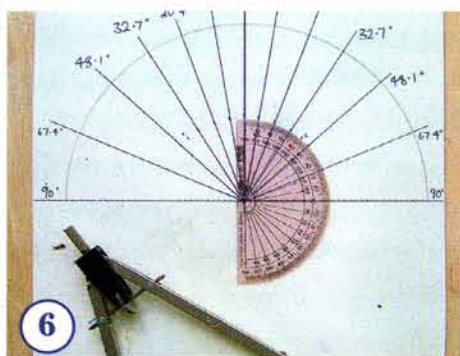
**3** Using the jigsaw, cut a 290mm diameter circle from the marine ply. With the tin snips, cut a circle to match from the Zinalume sheeting and a band 24mm wide (to cover edge of plywood circle.) Create the gnomon from Zinalume by cutting two 40° triangles (with base measuring 145mm). Leave a 10mm overlap along the base and bend to 90° so the gnomon will stand upright.



**4** Glue the gnomon triangles together with construction adhesive, then cut a thin slot into the Zinalume circle (from the outer edge to centre). Glue the gnomon to the plywood circle, then glue the Zinalume circle into position, sliding the gnomon into the thin slot. Clamp until it dries. Glue the Zinalume band around the outer edge of the circle, and bend to 90° so the gnomon will stand upright.



**5** Prime the sundial face with Galvo One and allow to dry. With the craft knife, cut a circular band from the vinyl flooring (285mm in diameter) and glue to the sundial face to form a raised area for the numbers. Allow to dry, then paint the face with two coats of 'Shuttle Grey', stippling the second coat for texture. Mix a little 'Fountain Blue' with the Paint Effects Medium and apply thinly with a rag to create a verdigris finish.



**6** With a felt pen, draw a line on a piece of vinyl flooring and mark a line 90° to this (this will be your "noon" line). Using a protractor, mark the angles from this noon line as shown above (9.8°, 20.4°, 32.7°, 48.1°, 67.4° and 90°). Cut a 2mm line around this fan shape with a craft knife and paint with 'Nero'.



**7** Using the craft knife, cut Roman numerals, to denote the time, from the vinyl and paint with 'Nero'. Once dry, glue the fan and the numerals to the sundial face, as shown above, with PVA. Allow to dry, and apply two coats of Multishield Flat Glaze, stippling the second coat for added texture.



**8** Paint the pedestal with a coat of Quickdry Primer and two coats of Sandtex 'Stack', stippling the second coat for added texture. Position the sundial face on top of the pedestal so that at noon the shadow from the gnomon falls across the XII line (remember to add an hour during daylight saving). Glue the face into position with construction glue.