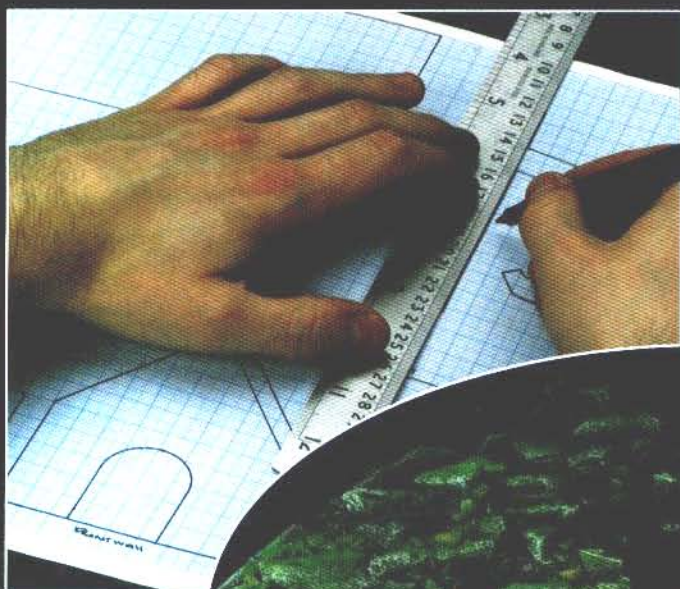


GAMES WORKSHOP

HOW TO MAKE WARGAMES TERRAIN





Forested Hill



Barrow



Imperial Temple



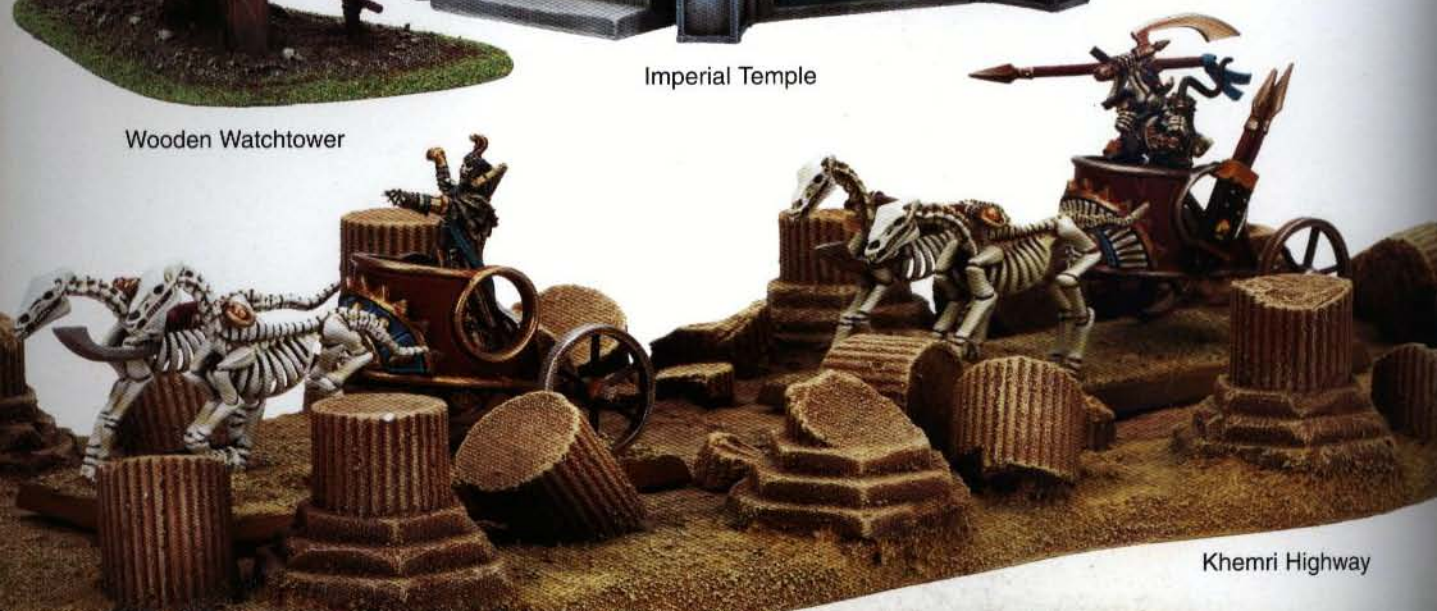
Spiky Obstacle



Ornamental Pond



Wooden Watchtower



Khemri Highway

HOW TO MAKE WARGAMES TERRAIN



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Making Trees; Exotic Trees; Alien Trees; Woods.				TOOLS

Throughout this book you'll find a number of boxes in which we highlight a specific tip on construction, painting, planning, etc. Each type of tip box is identified by a different accompanying character, each of which are pictured below for reference.



Construction Tip



Planning Tip



Painting Tip



Health & Safety Tip

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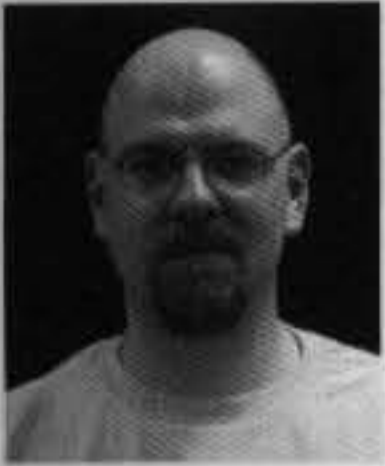


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INTRODUCTION



How to Make Wargames Terrain is a guide to building and painting wargames terrain. The chosen examples concentrate on the needs of Warhammer, Warhammer 40,000 and The Lord of The Rings players. But the methods we'll be describing apply just as well to any other kind of wargame.

This book is for everyone who wants to learn more about building wargames terrain. If this is your first foray into the world of terrain making you should find this book to be an accessible entry point. If your home is already filled with strangely shaped bits of hoarded polystyrene and mysterious bags of lichen, you should still find plenty of alternative techniques to explore here. While we've placed a strong focus on practical gaming terrain, the key to describing what we've tried to achieve with this book is choice.

Instead of focusing on a series of complete projects, we'll show you how to go about making variations of the basic elements of terrain, which you can assemble in whatever combination best suits your needs.

All of the techniques used in building wargames terrain are looked at in detail in their own sections and are illustrated with numerous stage by stage examples. The book also contains a number of fully realised gaming tables in a variety of styles, as well as a selection of images from our three major games to provide you with examples and inspiration.

The techniques and terrain throughout this book represent the accumulated experience of many of wargaming's most talented and experienced terrain makers, without whom this book would not have been possible. I'd like to take this opportunity to thank them all for their contribution, and to wish all of you a long and interesting future creating fantastical worlds for your gaming.

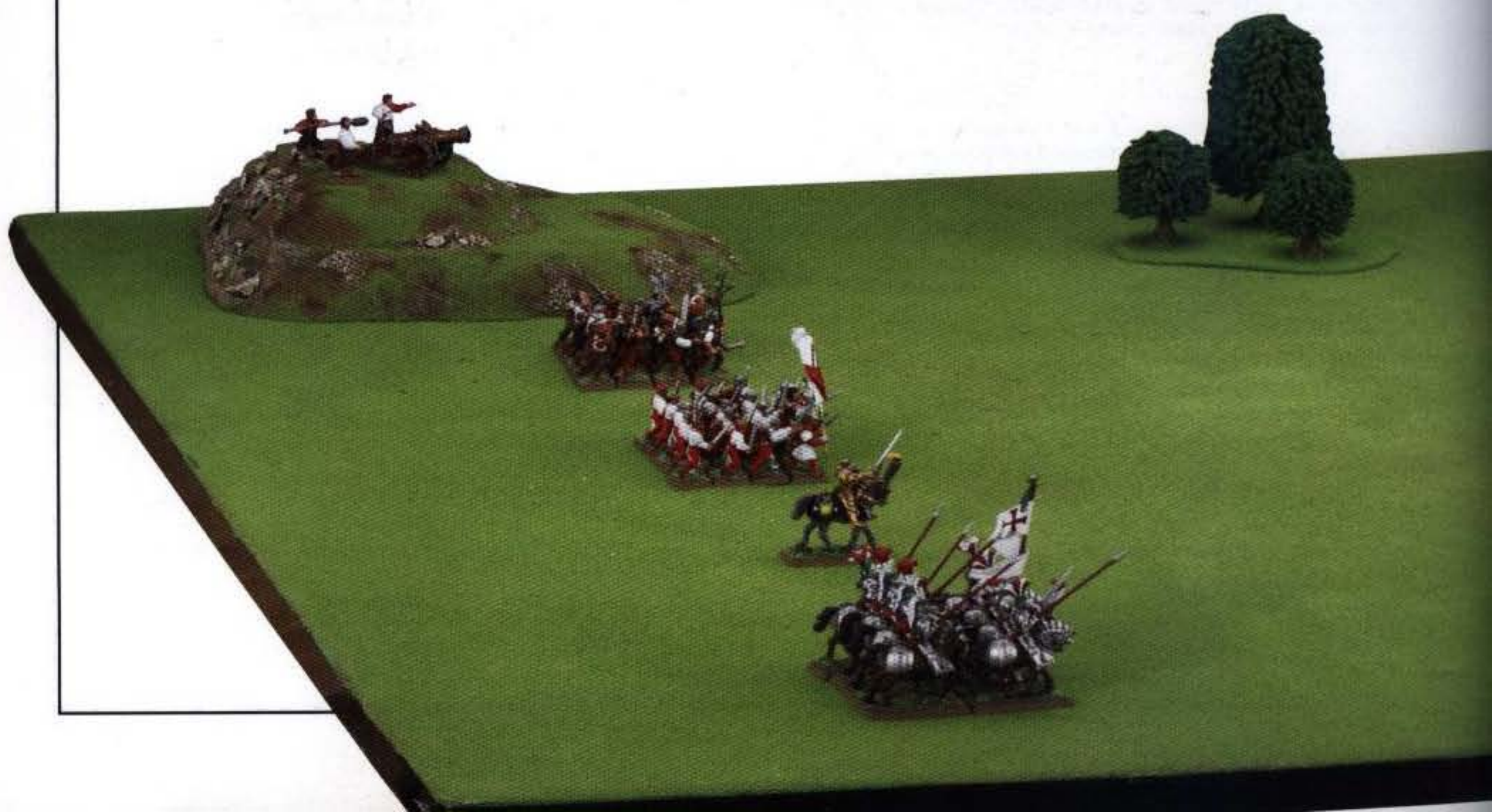
A stylized, handwritten signature in black ink that reads "DAVID ANDREW". The letters are slanted and connected in a cursive-like fashion.

GETTING STARTED

Rather than launch off into making something large and complex, we recommend you start off small. You only really need two or three pieces of terrain to make a battlefield interesting. You can pick any pieces you like from the many examples in this book but a good place to start is to make a wood, an obstacle of some kind and a hill. Then you can quickly see how useful terrain is.

Wood

Start by buying some ready-made trees. Cut out a base large enough for two or three models and paint it green. Once the base is dry glue on the trees. Finish off the wood by gluing flock to the top of the base.



Pan Scourer Hedge

You'll probably have all the tools and materials you need to make a hedge from a pan scourer. For instructions see pages 54-55 and to learn more about the tools you need see page 125.



Stepped Hill

You'll need to get your hands on a sheet of polystyrene to make the hill on page 18. If you can't find any, the Materials section on page 118 lists what else you can use.



Gaming Table

After you've played a few games with your new terrain, you can think about creating a specific surface to put it on. The easiest solution is to use a green cloth or battle mat. However, it's worthwhile looking at getting a terrain board to fight on. Find out about boards on page 10.



Selecting a Project

Normally, you will have a good idea of what terrain you want to make but if you don't, we have included a section on Inspiration (see page 110) to help you.

Below are just two of the thousands of terrain projects you can undertake using the methods shown in this book. They each follow the same format: you pick a theme based on your idea, then consult the different sections of the book to determine which methods to use to create the terrain piece.

Sample Project: A Terrain Set

The Temple of Constellations

Buildings p. 62 – This section will help you choose the components of your three buildings and the finishes that fit the theme:

- Size and number of storeys
Pyramid – 12" square, 5 storeys
Watchtower – 3" wide, 9" tall
Spawning Pool – 6"x4"
- Building Shapes
Pyramid – rectangular with flat roof
Watchtower – tower
Spawning Pool – rectangle with flat roof and bevelled detail
- Wall – Stone work
- Details – Pillars, paving, steps, debris

Basing and Painting
p. 86

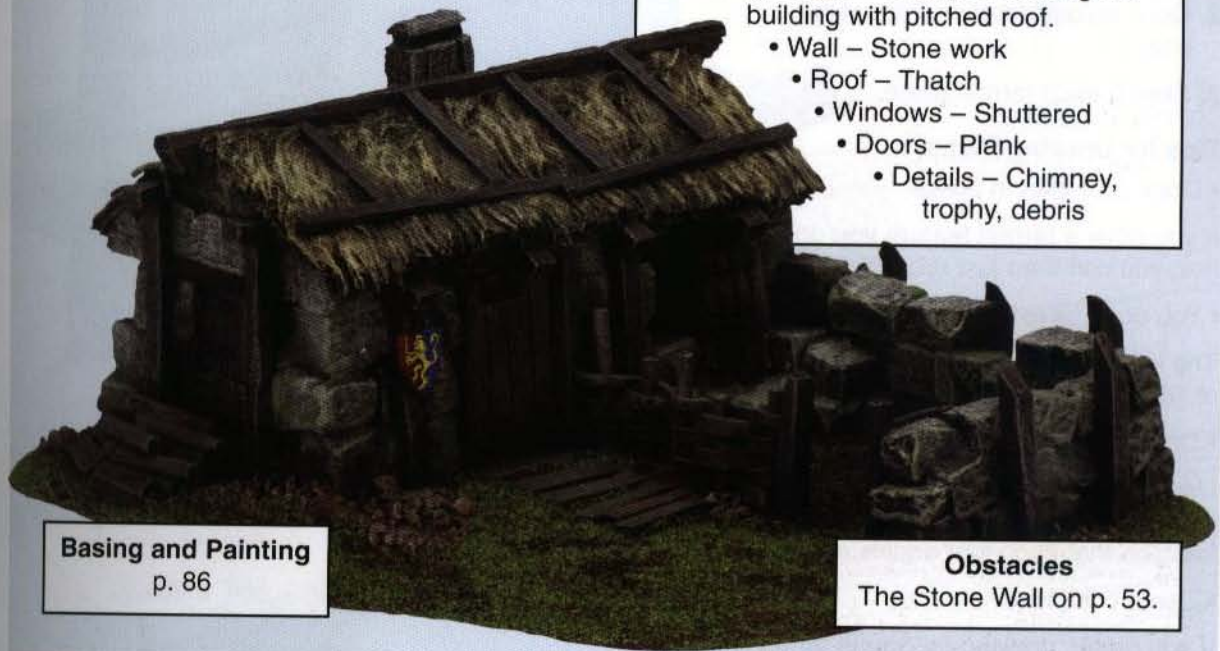


Sample Project: A Building

A Bretonnian Peasant Homestead

Buildings p. 62 – This section will help you choose the components of your three buildings and the finishes that fit the theme:

- Size and number of storeys – approx 6"x4", single storey.
- Building Shape – Standard rectangular building with pitched roof.
 - Wall – Stone work
 - Roof – Thatch
 - Windows – Shuttered
 - Doors – Plank
 - Details – Chimney, trophy, debris



Basing and Painting
p. 86

Obstacles
The Stone Wall on p. 53.

Water

The water in the spawning pools and the swamp is made from resin – more on page 36.

Baseboard

Find out how to make a multi-section, sculpted grassland terrain board on page 10.

Trees

The jungle trees are made from bamboo. See page 32.



Planning

Although you need to think carefully about all the terrain you make, if you want to build more complex pieces or a complete terrain set, you really need to draw a clear plan. Don't worry, if it doesn't look like a work of art, it's only meant to be a guide. Here's one way to draw the plan of your terrain board:

1. Decide the size and shape of your board.
2. Draw an outline of your gaming board.
3. Sketch each terrain piece.

Tips for Drawing Plans

- Draw your plan in pencil.

If you draw a terrain feature you don't like, you can then just rub it out.

- You don't have to be very neat.

The idea is just to get a good impression of what the table will look like.

- Draw the map to scale.

Use graph paper to draw a smaller version of the table but in the same proportions. Imagine that each foot equals an inch.

- Use a computer.

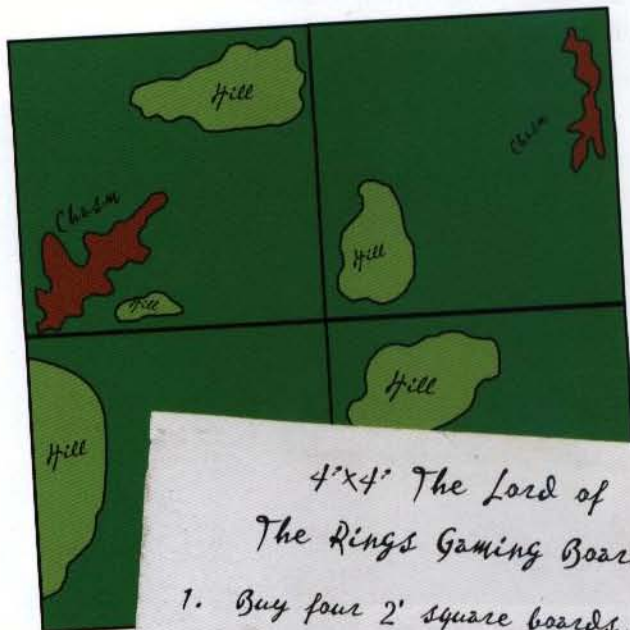
If you prefer, drawing programs on computers are great for making terrain plans, as with the example on this page.

Plan of Action

Making a terrain board can be very much like building an army. It can take quite some time, but if you work out a list of action points for how you're going to do it, things suddenly become a lot simpler.

Both the example plan above and the list of action points for how to make it are remarkably straightforward. However, there was enough information for the terrain builders to go ahead and build a sculpted multi-section board. This resulted in the great-looking table you can see in the photo opposite.

Simple as this example may be, you may prefer to go into a lot more detail for your plan. Overall, it's best to include as much information as possible. Then you can proceed with building your table with confidence.



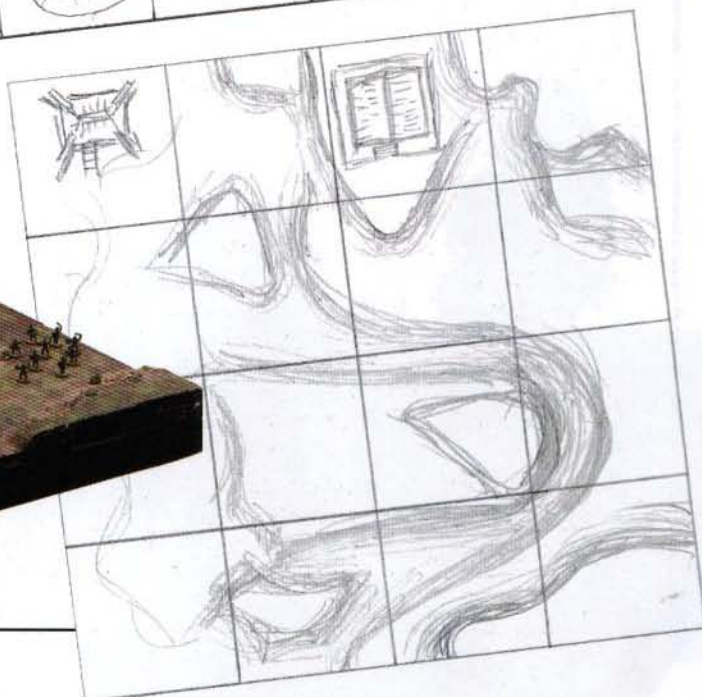
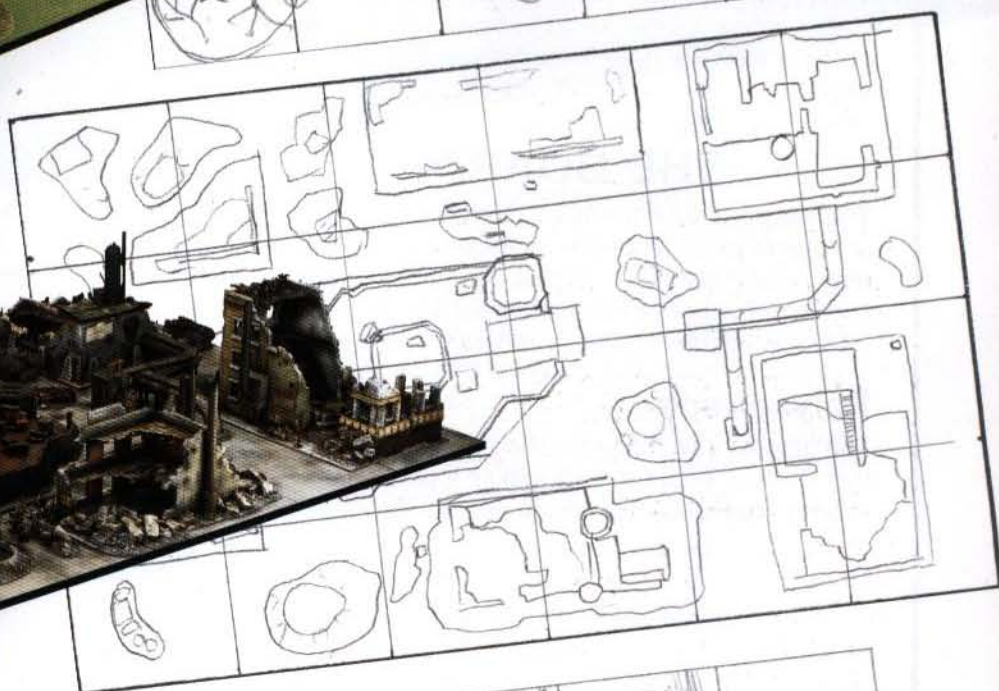
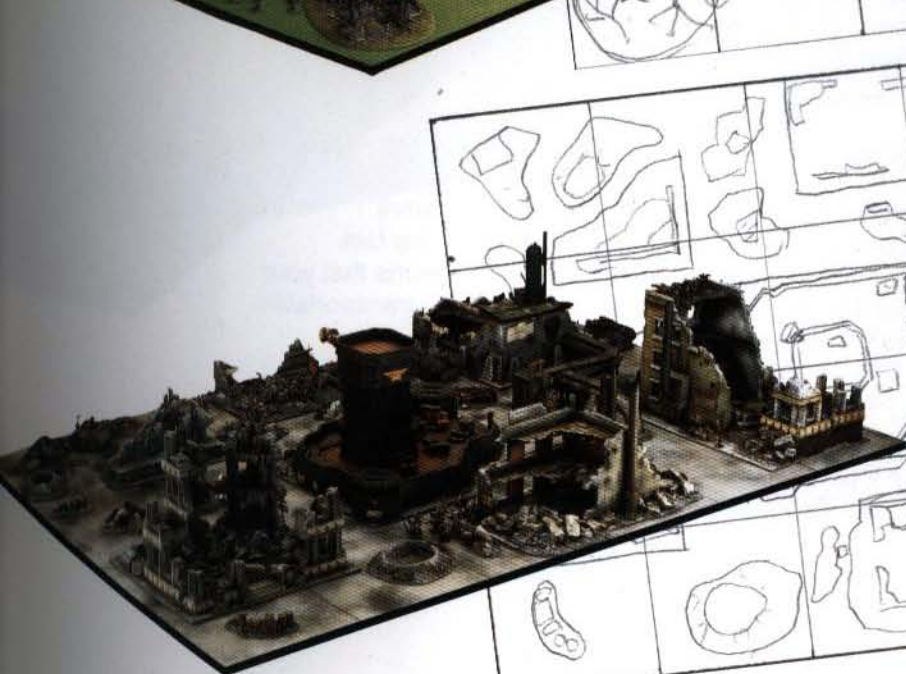
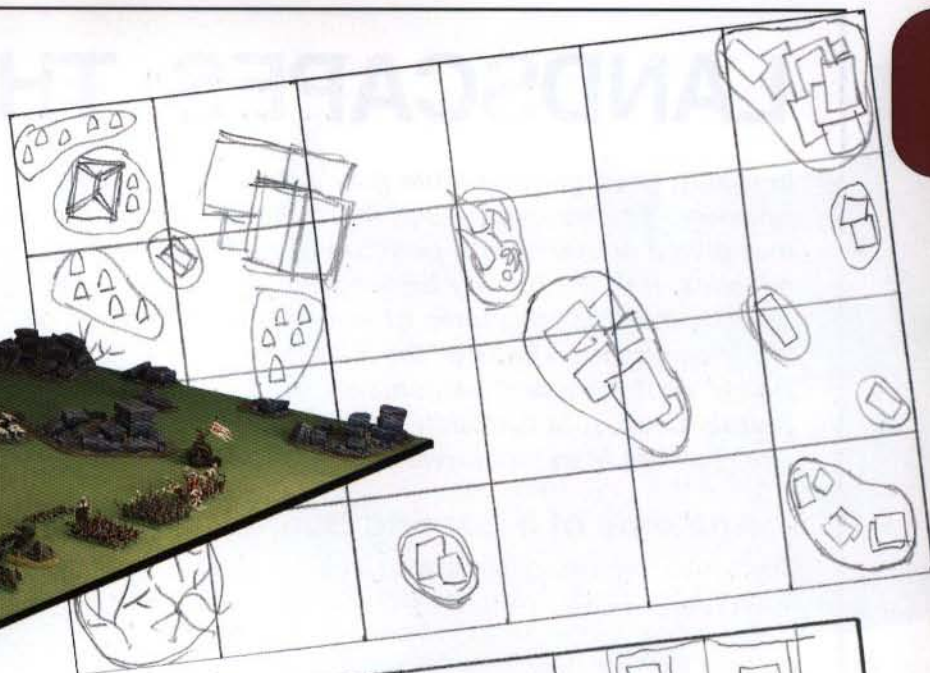
4'x4' The Lord of The Rings Gaming Board

1. Buy four 2' square boards, polystyrene and a battle mat
2. Glue on the polystyrene blocks
3. Model some hills onto the board
4. Cut crevasses into the board
5. Texture the hills and crevasses
6. Cover the board with battle mat



The Finished Plan

Once you have a finished plan, you'll have a good idea of what your completed gaming table will look like, and what you need to do to get started. Compare these example plans with the finished boards.



LANDSCAPES: THE BOARD

In reality, your gaming table may only be a flat surface to fight your battles on, however, it represents much more than that. It is the wide rolling hills of the Empire that give a commanding position from which your troops can pepper the enemy with missiles. It is the muddy trenches of Cadia, armoured bunkers bristling with guns buried amongst long lines of war-torn razor wire. It is the long, wooden halls of the Riders of Rohan or the ancient battlements of Helm's Deep. It is the alien landscape of a world where Man has never trod.

Anatomy of a Gaming Board

The terrain elements that make up a board include hills, woods, water, roads, buildings and obstacles, as well as the board itself. How many of these elements you make for your board is up to you.

THE BOARD

This supports your terrain. It needs to be strong enough to take the knocks and spills of enthusiastic gaming – and look good too! Your choice of material for this is crucial and different materials will be chosen for different reasons.

Polystyrene

The biggest advantage to using polystyrene is that you can sculpt it. This makes it perfect for making natural looking tables as you can create

an undulating surface. It is quite fragile though, so storage is an important thing to consider. The fact that it is so light means that your board will be easily transportable.

Wood

This material is tough and hardwearing, so much so that you can happily lean it against a wall with little fear of it being damaged. However, it can't be easily sculpted like polystyrene and so best suits being kept as a plain flat surface on which to put terrain pieces.





Sandwich Construction

The third option for constructing a board is a combination of the previous two: a wooden base with polystyrene sheet glued onto it. This takes advantage of both wood's strength and polystyrene's sculptability. The board is as heavy as wood and so is not as portable as polystyrene on its own. However, you can now sculpt the board any way you choose, confident that the board will still be quite strong.



Picking the theme for the gaming board affects the finish of not only the board itself, but also the terrain pieces on it. For example, regardless of whether the board is modelled or modular, the bases of any terrain features should ideally be covered in the same finish. Even the bases of your wargaming miniatures can be finished in the same way, so that they blend in.

We've chosen to talk about four basic themes for a terrain board: grassland, desert, urban and snow – of course, there are hundreds of variations of these four, but for simplicity's sake we'll concentrate on these. The colour, texture and overall style of finish are the contributing factors. For example, a jungle terrain board is a green board covered with jungle trees. If a desert board is painted an ash grey colour it becomes a wasteland. Taking one board at a time, we'll show how to apply the appropriate finish to your chosen board.

Grassland



1. Prepare the board by painting it a colour that matches your chosen flock.



2. Once the paint is dry, apply a layer of watered-down glue to the surface.



3. Liberally pour the flock onto the glue.

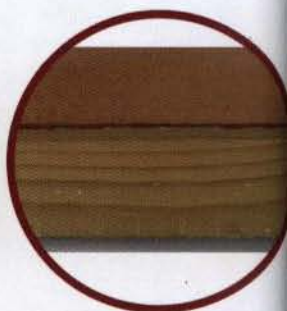


4. Once you've covered the entire board, lay a large amount of newspaper down and knock the excess flock onto it. Any small bare patches can be tidied up afterwards.

Edging Terrain Boards

One thing you need to be careful of with all terrain boards is the edges. Regardless of the material you choose to make your board, they can get easily damaged.

There are two ways you can protect them: the first is to apply a couple of layers of duct tape. The second is to attach wooden battens to the edge of the boards.



Desert



1. Apply a layer of glue to the board. You may find it useful to water down the glue to help cover the large area.



2. Pour on the sand. Once the surface is dry, knock off the excess sand onto a sheet of newspaper.



3. Paint the surface with a mix of your chosen base colour, PVA glue and water.



Construction Tip

The trick to applying scatter material, either flock or sand, is to work on the board a section at a time, preferably with two people sharing the work. Begin at one end and paint glue onto a section of the board. Then pour an even coat of scatter material onto the glue, but not entirely up to the edge of the glued area. You can then apply more glue, and then more material, creating a fairly seamless surface.

A large tub of watered down PVA glue and an equally large tub of scatter material is best for this.



Desert Board Finishes

Sand boards can be painted and drybrushed different colours to create specific styles of gaming board.



Ash Waste

Codex Grey

Bubonic Brown

Rotting Flesh



Sulphur Desert

Desert Yellow

Bubonic Brown

Bleached Bone



Red/Martian

Terracotta & Scab Red

Blood Red

Vomit Brown



Alien/Death World

Codex Grey

Grassland

Construction Tip

When gluing battle mat or towel to a board, use watered down PVA. Start from one edge of the board, lay down the mat and smooth out any wrinkles as you go.



1. Trim the battle mat to fit the board with enough excess to fold over its edges.



2. Apply watered down glue to the back of the battle mat and carefully lay it down on the board.



3. Once the battle mat has dried, either tape down the edges and/or fix staples to finish off.



Towelling Grassland



Buy white towelling material and dye it your preferred shade of green ready to make the table.



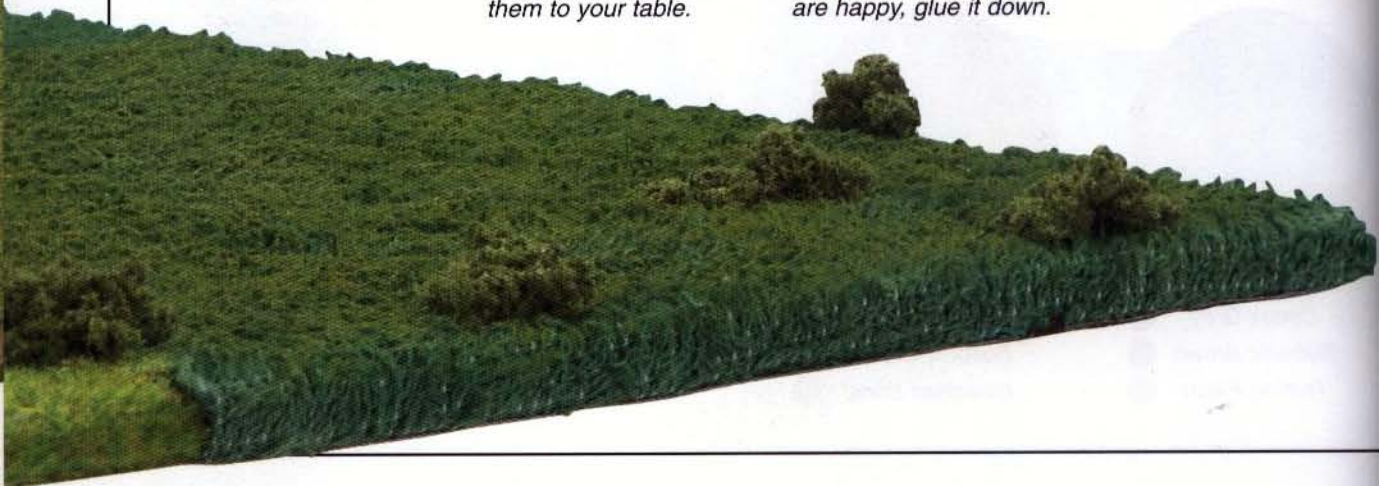
1. To get a rough grassland or moorland effect you need several types of grass. Start by cutting out rough rounded shapes of battle mat and stick them to your table.



2. Cover the table with your towelling, leaving patches of battle mat showing through. It's a good idea to lay the towelling down first to test it and then when you are happy, glue it down.



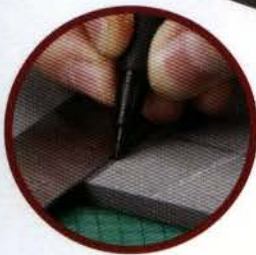
3. The addition of moss, clump foliage and sand/gravel finishes off the effect. This has the added advantage of covering up any unsightly joins.



Urban



1. Paint your board all over with a layer of grey textured paint.



2. Once dry, mark on the paving stones using a fine marker pen and a ruler to draw on the square slabs.



3. Afterwards, lightly drybrush patches of Bestial Brown and Chaos Black along the paving lines. This will give the effect of weathered individual stones, making it look as natural as possible.



Snow



1. Start by roughly applying a layer of grey textured paint.



2. Drybrush the textured paint with Shadow Grey to create patches of colour.



3. Apply Fortress Grey in the same way.



4. To finish off, drybrush Skull White onto the board, or apply a light dusting of Skull White spray.



LANDSCAPES: HILLS

Throughout history, great generals have pored over maps and picked their battlegrounds with care. When formulating their battle plans they would consider carefully the lie of the land, as this dictated how they deployed their troops. In particular, hills were a critical factor – they offered commanding positions on which to set up cannons and gave cover to reserve formations of troops.

For practical gaming purposes, hills are traditionally made approximately 12" x 8", but of course you can make them whatever size you want. When it comes to shape, you can't go wrong with the versatile round or kidney shaped hills shown in the diagrams opposite.

STEPPED HILLS

The most convenient hill for ease of gaming is a stepped hill. This stylised approach imitates the slope of a hill whilst still giving flat, open areas to put models on. The idea was developed from the contour lines used to represent hills on maps. From these examples, you can imagine each contour representing a level or tier of the hill.

You can vary a stepped hill's appearance by how you position the tiers and the angle you cut the outline. As a guide, we suggest you make each tier the same height as the miniatures in your collection, and that the angle you cut your edges to is somewhere between 45° and 60°.



Round Hill



Kidney-shaped Hill



Three-tier Hill

Half Hill



Making a Stepped Hill

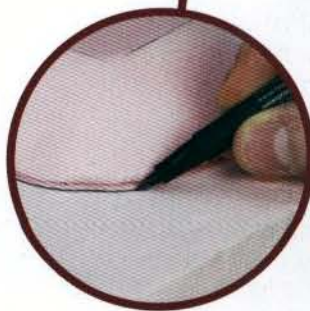
When planning this hill we decided that we would construct it with games of Warhammer in mind. The very top of the hill is the size of a movement tray to allow the deployment of regiments and war machines. The bottom tier has enough space to deploy on it a line of ten archers.



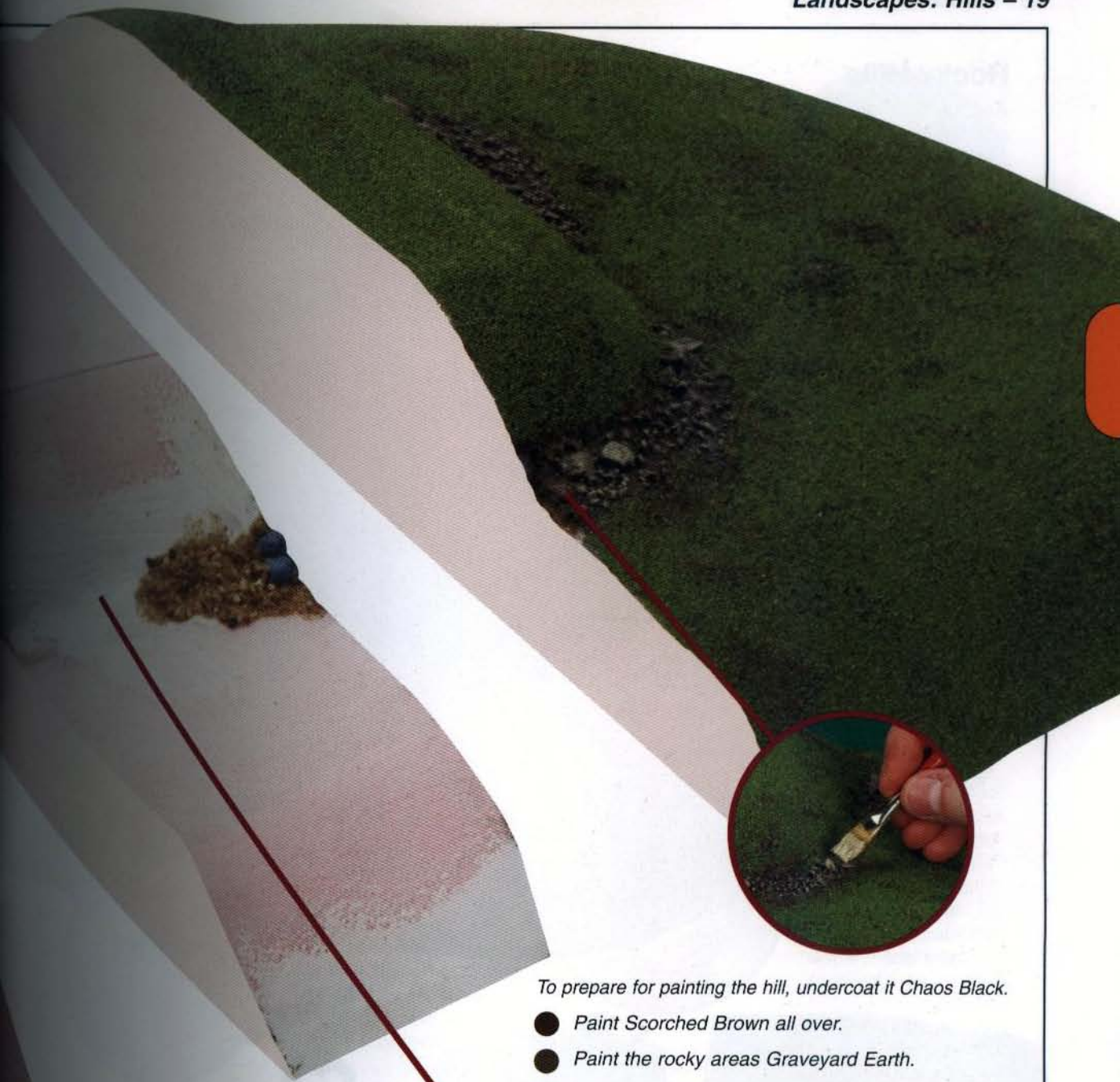
1. Trace the outline of the Warhammer movement tray onto the polystyrene sheet, then draw an oval guideline 1.5" around this. This defines the outer edge of the top tier.



2. Once you've cut out the top tier, shape the sloped sides by slicing away thin slivers of polystyrene. Aim to make a rounded 45° angle without cutting into the movement tray outline.



3. To make the bottom tier, trace the outline of the top tier onto your polystyrene sheet. Next, draw the outline of the bottom tier, using the dimensions of a line of archers as a guide. Cut the bottom tier out and round off the edges in the same way as for the top tier.



To prepare for painting the hill, undercoat it Chaos Black.

- Paint Scorched Brown all over.
- Paint the rocky areas Graveyard Earth.
- Drybrush the rocky areas with Kommando Khaki and Bleached Bone.

Finally, apply a coat of PVA glue and flock the hill, leaving the areas of stone bare.



4. Draw around the bottom tier onto your basing material. Cut out the base with a bevelled edge: aim to make the angle fit with the curve of the bottom tier. Glue together the three pieces and leave the hill to dry.



5. Apply filler to smooth over the gaps between the steps. Glue patches of gravel and sand onto the hill to give the effect of patches of stony ground. Give the whole model a coat of textured paint.

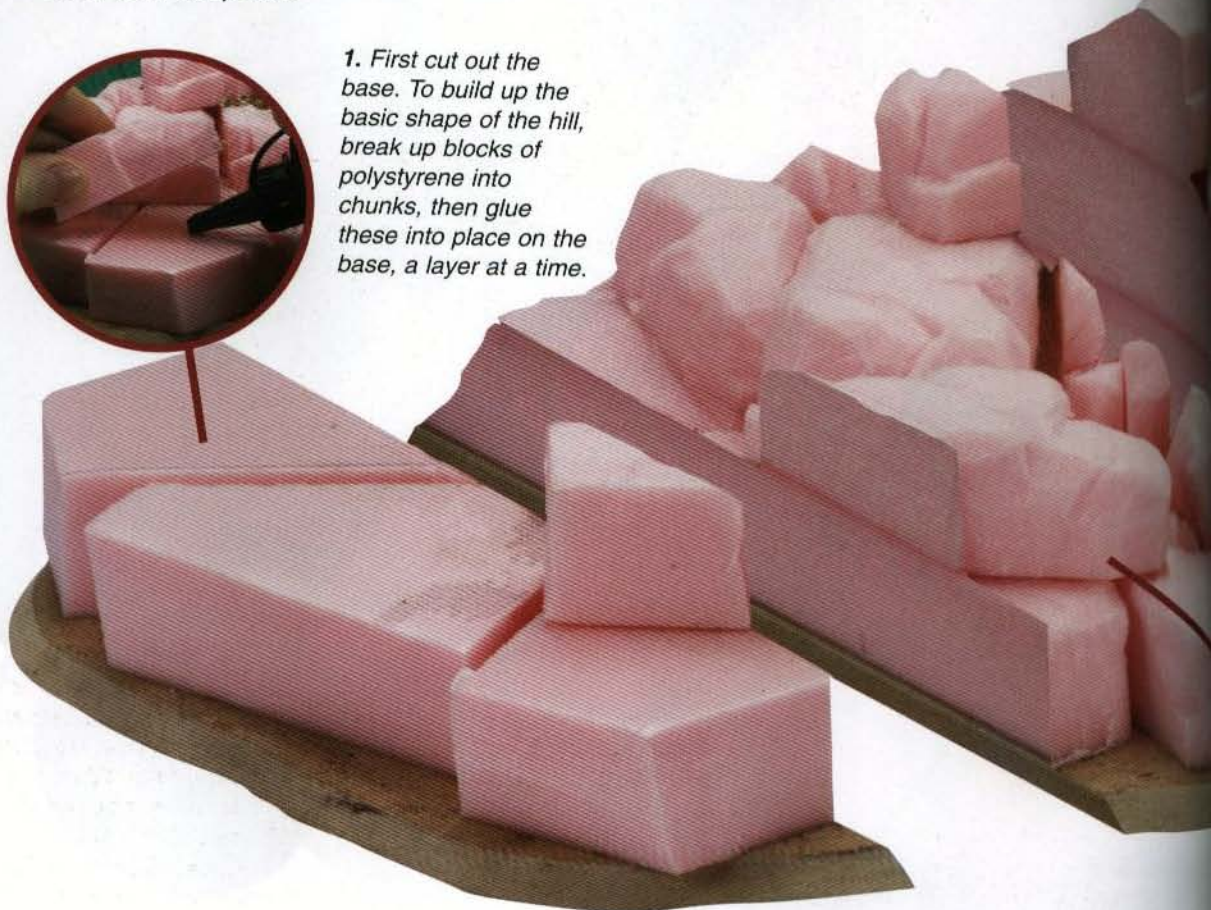
Rocky Hills

Another style of hill you can make is a rocky hill. Rather than being based on an even contour like the stepped hill, the impression you are giving here is of a hill made of boulders.

Built with skirmishing troops in mind, this hill was made with a lot less planning involved. The only considerations were that it should look natural, with enough flat spaces on the hill to stand your troops on.



1. First cut out the base. To build up the basic shape of the hill, break up blocks of polystyrene into chunks, then glue these into place on the base, a layer at a time.





Undercoat the hill
Chaos Black.

Paint a basecoat of
Dark Flesh and
Scab Red all over
the hill.

Drybrush the stone
with Vomit Brown.

Give the stone a
second drybrush
with Bleached Bone.



2. Shape the polystyrene
blocks with your modelling
knife. To make spaces for
miniatures, carve flat areas
into the polystyrene.



3. Apply filler to blend
the polystyrene blocks
into the base and into
each other. Glue
gravel and sand in
patches on to the
model. Then paint the
whole model with
textured paint.



VARIATIONS AND COMBINATIONS

Cliff Face

A cliff is basically a hill with a sheer rock face modelled onto one side. From a gaming point of view, a cliff is particularly effective as you can place an artillery piece right up against the edge of it, and enemy troops can't attack it over the impassable terrain!

A simple way to make a cliff is to begin by constructing a stepped hill in the normal way and then break it in half! As surprising an idea as this may sound, you'll end up with a natural break that you can apply a finish to, sculpting and texturing the break to look like a rock face.



"Break, damn you!"

Caves, Barrows and Mines

An interesting addition to a hill is a cave opening. To make the cave entrance, you can simply cut a hollow into a side of a hill, sculpting and texturing the sides to make the rock look as natural as possible.

To give the cave character, you could add skulls and bones scattered around the entrance.

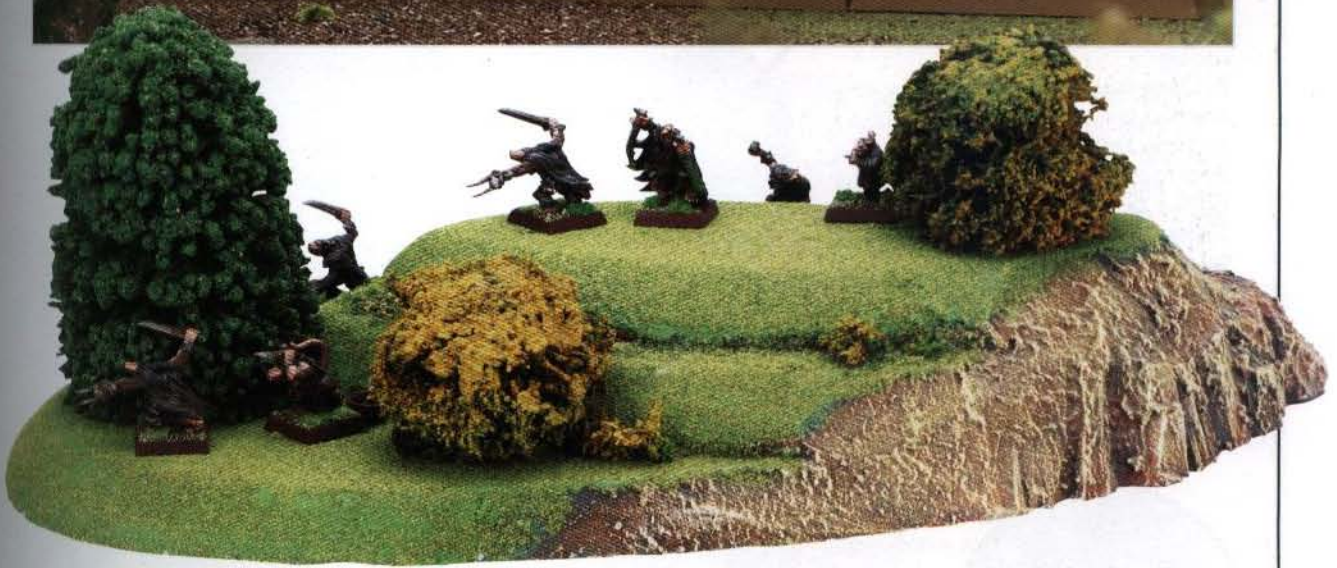
To turn your cave into a barrow or mine, you can add a man-made lintel and side to the entrance. A good way of constructing this is to use pieces of slate. By adding decorations, such as runes or totems, you can theme it around a certain race.

Mounting Trees on Hills

When setting up your battlefield for a game, why not place small bases of trees on top of your hills? This combination looks very effective and natural on the tabletop on both stepped and sculpted hills.

If you really like this approach, you can go a stage further. Why not attach trees to a hill permanently! All you need to do is model on the trees in the same way as you would to a normal base (see the next chapter), except that you have different levels to attach the trees to.





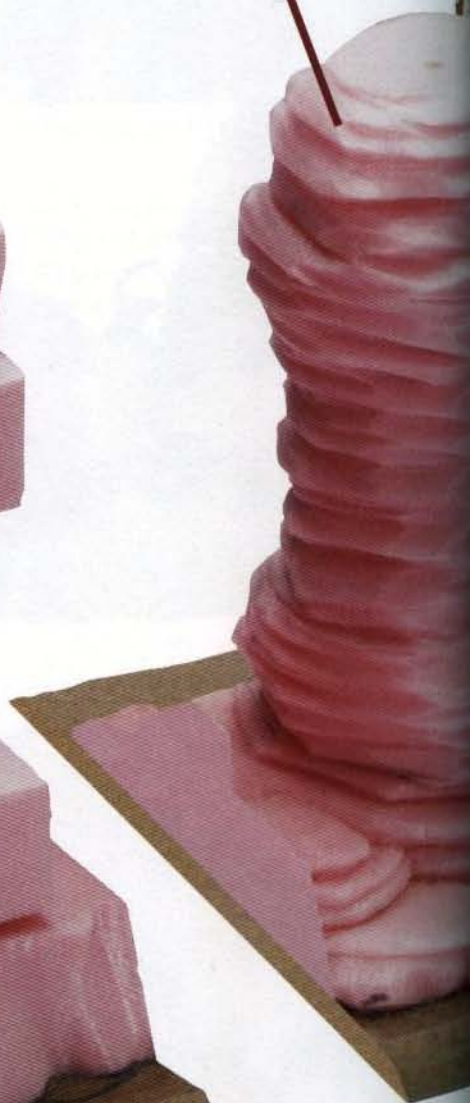
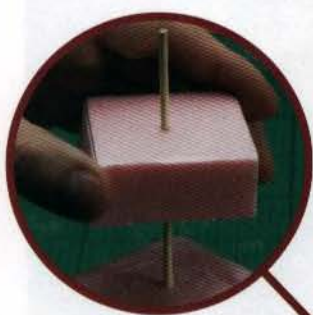
Rock Spires

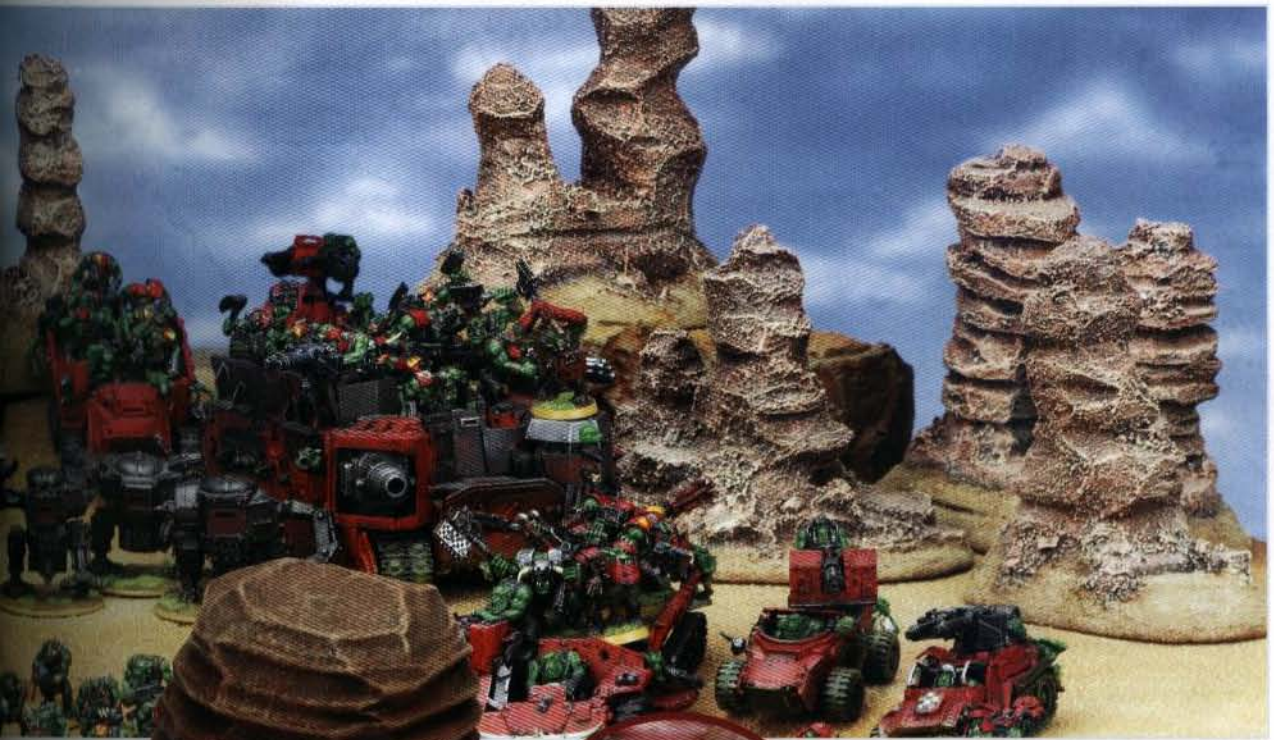
As an alternative to the rocky hills we showed you earlier, you can build rock spires. Polystyrene blocks glued together like kebabs are the starting point for the spire on this model.

3. Using a hot wire cutter, begin to shape each spire. Start by rounding off the square blocks, and then slice off small slivers of polystyrene to look like thin layers of rock laid on top of each other.

1. To make the spires, begin by creating different-sized polystyrene blocks. Thread each one onto a length of dowel, making a 'kebab'. Once you are happy with the shape of the spire, apply PVA glue in between the blocks. Leave a short length of dowel on the bottom as a guide to its position on the bottom tier of the hill.

2. Once you have finished two or three of these kebabs, it's time to make the bottom tier of the hill. Press the dowel of each spire into your polystyrene sheet and, using the spires as a guide, draw the outline of the hill shape. Cut out the hill and mount it on a base.





4. Put the completed spires back onto the bottom tier of the hill, and arrange them how you want them to look when glued in place. Draw around the base of each spire so you can glue them in the same position later.

5. Remove the spires and start to shape the bottom tier in the same style. Make sure that there are flat spaces large enough for models to stand in around the hill.

6. Once you've finished sculpting the bottom tier, glue the spires in place. Then glue sand and gravel to the base and parts of the lower portions of the spires. Next, paint the whole model with textured paint.

- Paint the base Scorched Brown.
- Finally, drybrush the model successive shades of Bestial Brown, Snakebite Leather and Bleached Bone.

LANDSCAPES: WOODS

A very common and useful terrain piece you'll see on gamers' tables is a wood. It's not hard to see why – trees not only look good on the tabletop but they also have an important effect on the game too. Trees block line of sight and hinder movement, and can also provide cover for units to ambush from. A few strategically placed woods will provide plenty of interesting tactical challenges.

Woods give your board a sense of place. What exactly that place is depends on the types of trees you use, for example, dense, alien jungles of a far away death world, or perhaps the enchanted forest of Athel Loren.

TYPES OF TREES

Before we talk about woods, let's begin by talking specifically about trees. They come in many varieties and all have specific looks. We've provided plenty of examples over the next few pages to get you started. For our purposes, we've decided to group trees together into three categories: common, exotic and alien.

Common Trees

You find these in most temperate climes, they are easy to make and won't look out of place on most tables.

Exotic Trees

Another idea for themed terrain is to create more exotic types of trees: desert scrub to lush jungle, mangrove swamp or rainforest.

Alien Trees

You could create trees from alien worlds, and here you can let your imagination run riot. It's usually a good idea to start with a 'real world' example and give it a twist. Similarly, trees mutated by Chaos can create a powerfully themed table.



Ready-made Trees

There are plenty of ready made trees available, most of which are ideal for wargaming. These can be used as they are or based up into woods (see page 34).



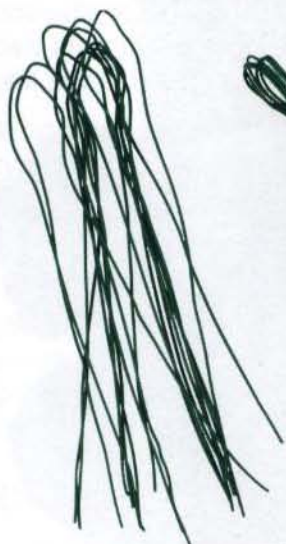
Bought Trees



MAKING TREES

When making trees, you start by constructing the trunk and branches. You can then either leave them then as old dead trees or finish them off with a wide variety of different foliage effects.

Wire Trees



1. Begin by cutting your bundle of wire to size. You want the length to be twice that of the finished tree.

Start shaping the tree by bending the length of wire in half and making a loop at the folded end.

Use the loop to twist the wires together to form the tree trunk. Once you've finished, cut the loop and form the branches at one end and the roots at the other.



2. Bend the trunk into the shape you want. Shape the branches so that they curve upwards ready for the foliage. Apply a coat of filler to the model.

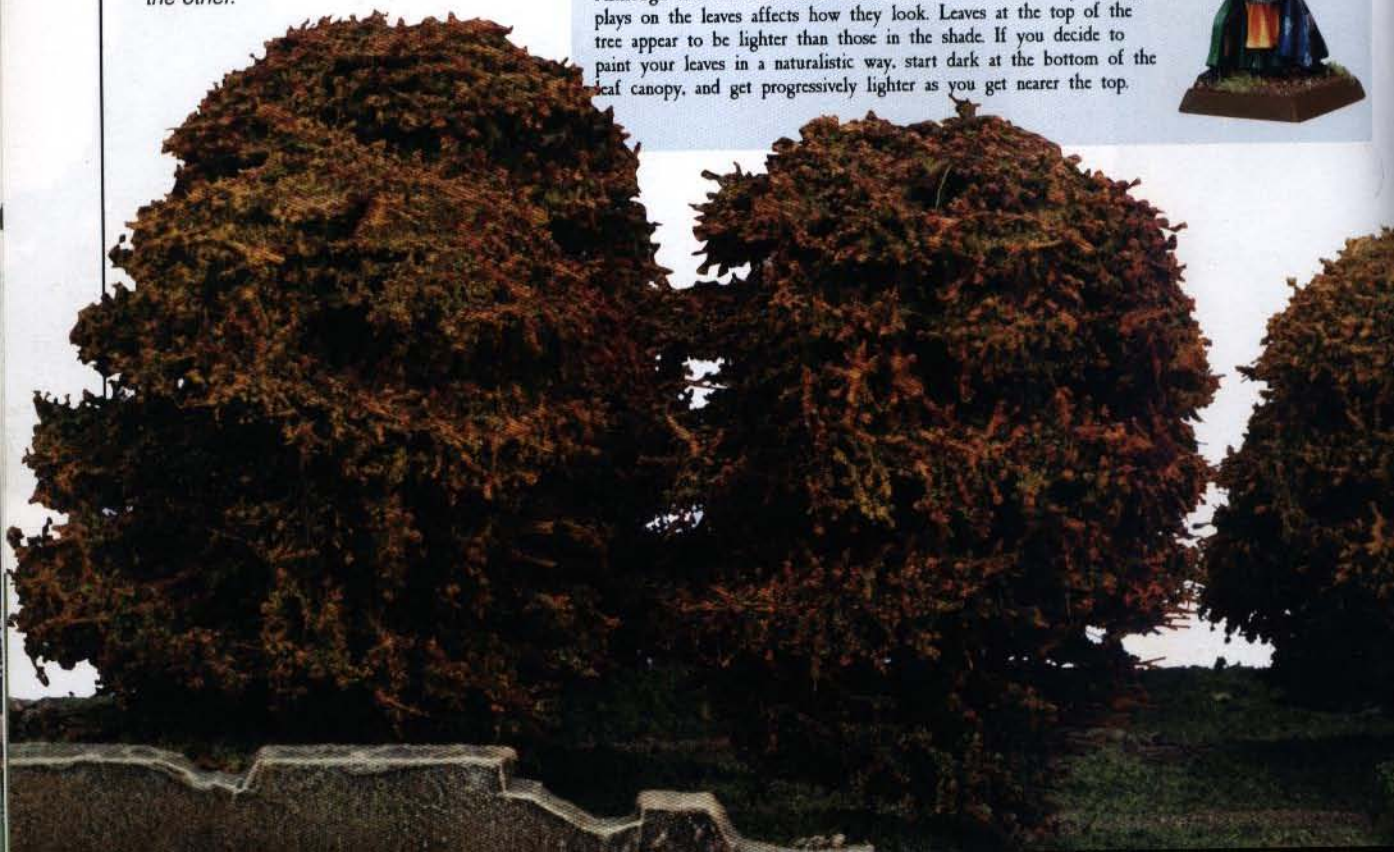


3. Once the filler is dry, undercoat the finished tree. Then start to paint the trunk and branches before adding the foliage.

Painting Tip

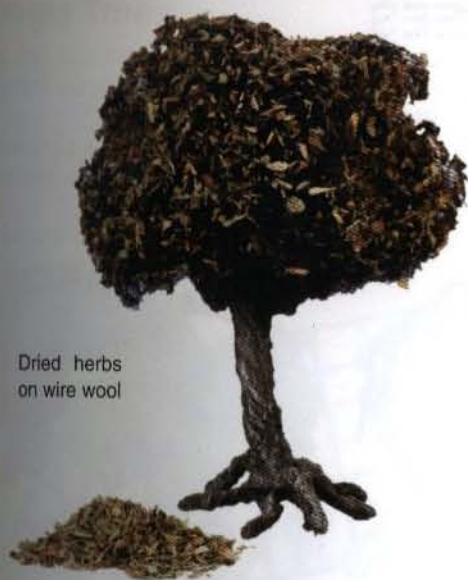
There are a number of misconceptions about the colour of trees. First is that trunks are brown. This is often the case, but they also look effective in shades of grey and green. You can even use a mixture of all three colours.

Although trees have the same colour leaves all over, the way the light plays on the leaves affects how they look. Leaves at the top of the tree appear to be lighter than those in the shade. If you decide to paint your leaves in a naturalistic way, start dark at the bottom of the leaf canopy, and get progressively lighter as you get nearer the top.



Foliage

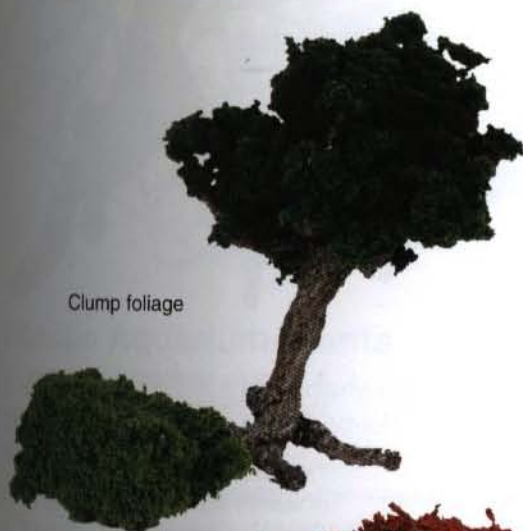
Dried herbs
on wire wool



Rubberised
horse hair
with flock



Clump foliage



Moss



EXOTIC TREES

Swamp Tree

This tree is loosely based on the kind of tree you'd find in a mangrove swamp.



1. Start making your exotic tree in the same way as you would for a standard wire tree.

2. Once you have your twisted wire strand, you need to make a tree shape. For this tree, you need to allow for larger roots which make the tree stand above the ground. The branches, although similar to those of the standard wire tree, need to droop downwards.

3. Texture, undercoat and paint the tree before adding your foliage.

This tree doesn't have a canopy of leaves like a common tree. Glue your foliage to the ends of the individual branches, following its natural curve.



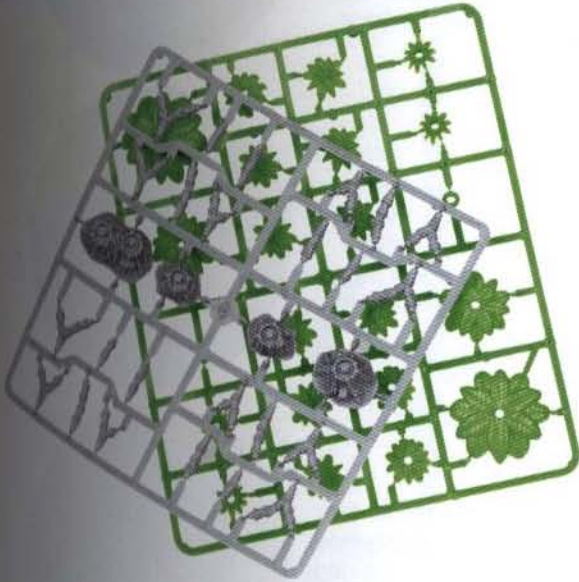
Jungle Trees

You can buy these jungle trees from Games Workshop stores. They can be assembled in a variety of different ways but here are the basics you need to know.

1. Using a pair of clippers, carefully remove all of the parts from the sprues.
2. Select a tree base and begin to test build your tree using branch and leaf sections.

3. When you are happy with the size and shape of your tree, reassemble it and glue it together with polystyrene cement.

Your trees are now ready to base and paint.



Plastic Aquarium Plants

If you want to create a particularly thick jungle effect, why not choose plastic aquarium plants? They come pre-coloured and attached to plastic bases. Although not bases in the strictest sense, if you set up the plants densely enough you

won't see them. You can cut the bases into smaller sections and even cut away individual plants to add to other terrain pieces.

You can combine aquarium plants with existing woods models to create impenetrable forests.



This example of an exotic tree is based on bamboo.

1. Start by undercoating the wooden skewer Chaos Black. The skewer will be painted first then cut to size later.



2. Paint the skewer Dark Angels Green. Then drybrush bands of Camo Green, leaving a band of Dark Angels Green to create the bamboo effect.



3. Finish the effect by painting narrow rings of Goblin Green onto the dark areas.



4. Once you've finished painting the skewers, cut them to the length you want. Try to vary the length of the trunks to get a more natural look when glued to a base.



5. Stick clumps of foliage to your tree trunks, varying the amount to give a more irregular appearance.

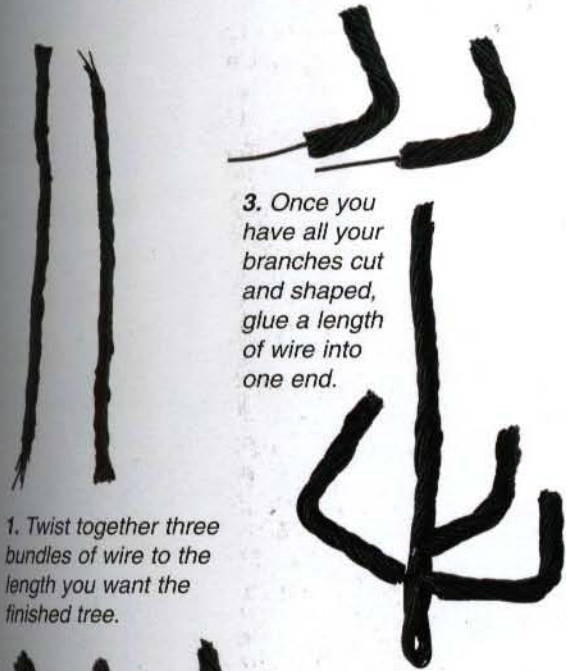


6. Make a base for the trees out of polystyrene. Paint and finish it before gluing the trees in place.



ALIEN TREES

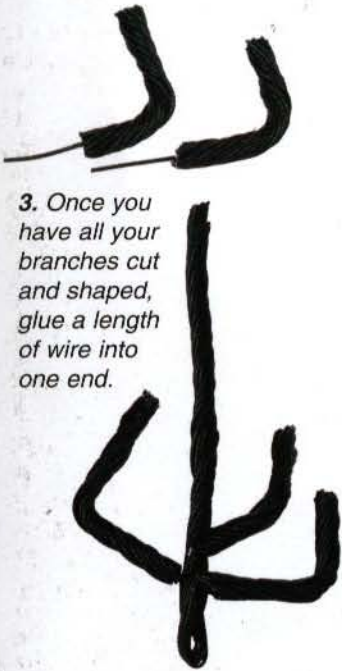
Alien trees, as we have already mentioned, are best when based on reality. Here we used a cactus as our inspiration but added bristles to the end of the branches and painted it purple.



1. Twist together three bundles of wire to the length you want the finished tree.



2. Take two of the bundles and cut them to make the branches. Vary the lengths to make small, medium and large branches. Bend them at rough right angles.



3. Once you have all your branches cut and shaped, glue a length of wire into one end.

4. Attach the branches by pushing the wire strand through the twisted trunk. Attach the largest branches at the bottom, working up the trunk to the smallest.



5. Once you are happy with their final positions, glue the branches in place. Then build up the trunk of the tree with filler, blending the branches into the trunk.



6. To make the foliage for this tree, use brush bristles. Cut them roughly to size, then glue to the branch. Once dry, trim the bristles to the length you want. Use filler to blend in the join.

7. To finish off the tree, paint it in an unusual colour scheme.



WOODS

So far we've shown you a whole variety of different model trees: some you can buy, as well as examples of models you can make yourself. Here we show how you build up a suitable base for them.

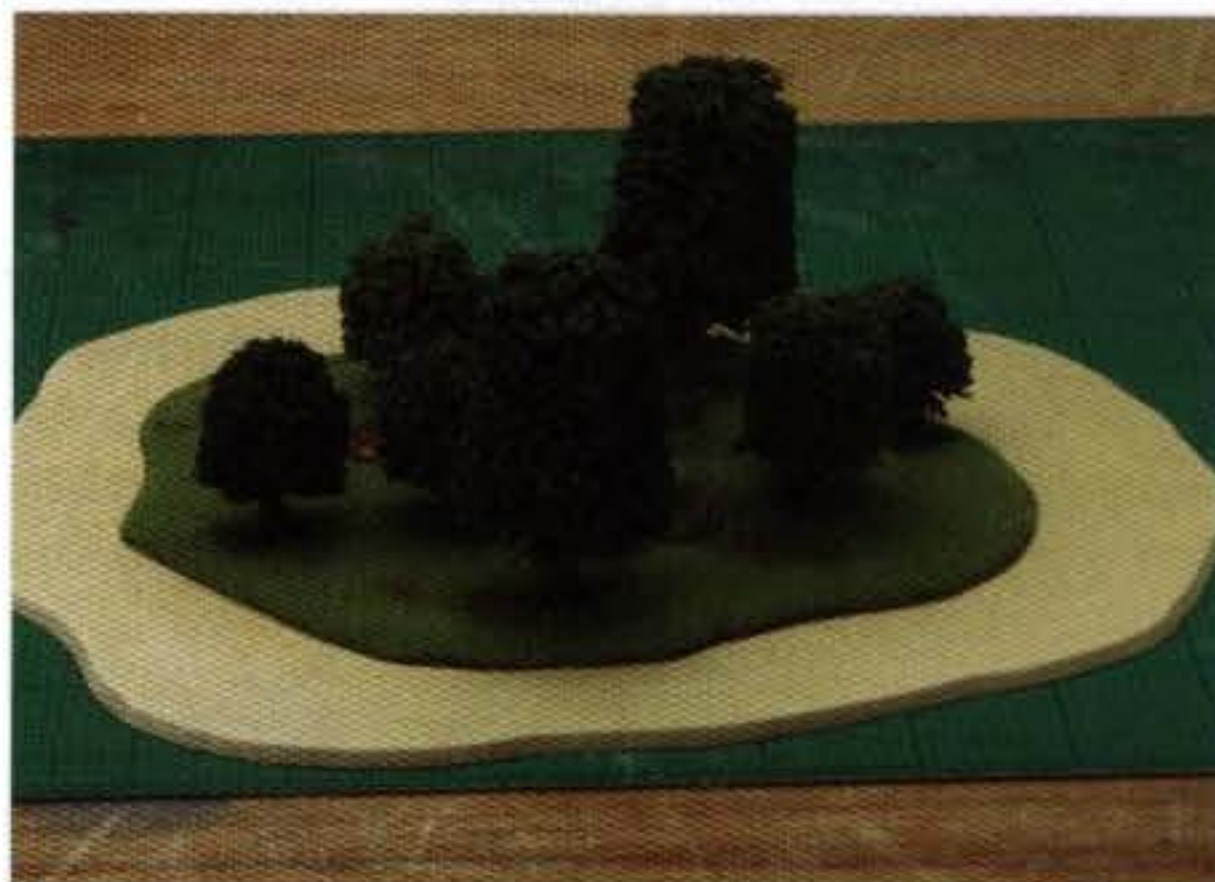
1. Cut the base to size. Build up the middle of the base using foam card. This varies the ground level.

2. Glue the trees to the base. You might want to use a miniature to ensure that you leave space for troops to move through the wood.



BUILDING A DOUGHNUT WOOD

- Build a wood.
- Place your finished wood on your baseboard. Draw an outline approximately 2" out from the edge of the wood. Remove the wood and cut out the base.



- Using foamcard or thin polystyrene, build up a slight bank within the 2" external ring of the base. This acts as a locator for your wood.
- Strategically place a number of trees around the edge so that when the inner wood is removed, you still get the outline of trees.
- Fill in any gaps and add sand and gravel, then paint to match the base of your wood.



3. Apply filler to smooth out the ground. Glue on sand/gravel, then paint and flock the base.



WATER FEATURES

Water features on the gaming table vary from rambling rivers to lakes, stagnant swamps to waterfalls. In gaming terms, water represents a natural barrier that must be crossed or avoided. Lakes become large obstacles, bridges are strategically important locations and, in the case of the Lizardmen, spawning pools become objectives which an army is willing to die to protect.

River

The basic river contains all of the elements needed to build a water feature. In this case, the

river is made in sections to be placed onto a flat table, but the same techniques for painting, surfacing and building banks could apply to a river or lake.

1. Cut out a 12" by 4" rectangle from your chosen basing material. Mark out the position of the banks, 1" in from each long edge. Bevel the long edges of the section, allowing the line of the edge to become more naturally curved. The short edges must remain straight and the same width.



2. Cut two strips of polystyrene to fit along the line of the banks and glue them in position.

Planning Tip

By making your river in a number of sections, you can ensure the greatest level of versatility.



3. Shape the bank to match the bevelled edge and round off the shape. To finish off, blend the bank to the base with ready-mix filler, then use the filler to create the contours of flowing water.



5. Paint the bank to suit the surrounding terrain. In this case, the surrounding terrain was grassland.

The water is painted Dark Angels Green.

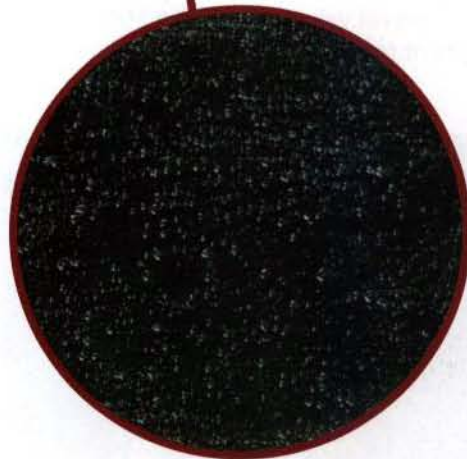
This is followed by a drybrush of Scaly Green and a light coat of Catachan Green.

Streaks of Skull White were painted on to imitate light catching on flowing water.

6. The banks should then be flocked, and, to finish off the water, a coat of varnish needs to be applied.



4. Glue gravel and sand onto the bank in patches. Once dry, apply a coat of textured paint and undercoat the river section grey.



Painting Tip

Ask most people what colour a river is and they'll say 'blue'. In fact, the only body of water that's ever likely to be blue is the sea (which itself may not be blue at all). Rivers are generally a murky brown, grey or green. They can even be a reddish colour when rainwater washes soil down from high ground.



Canals

Being man-made, canals will have a more regular course and level than a natural river. If they go up or down in height, it's only through a lock gate. The banks will most likely be submerged walls.



The edges of the canal are man-made and so should not be bevelled. The bank should also remain square.



Any debris added to a canal should not have any froth around it.



Apply the texture on the surface of the canal by stippling with a brush so the water appears to lack any current.

Rapids

To make a section of rapids, start by building a normal section of river, then simply add rocks in the water along with the froth and disturbance generated by the river running around them. With rapids, you will also need to decide which direction the water is flowing in. The small collections of gravel will generally be sheltered from the current by the larger rocks.



2. Paint the river and finish the banks as normal, adding more white to represent the faster flowing water around the stones.



1. Follow the same first four steps of making a standard river. Add a selection of small stones to the river to represent boulders. Add gravel to one side of the stones.



3. Using a small drybrush, dab blobs of ready-mix filler around the front of the larger stones to represent a build-up of foam. Finally, varnish the river.



Waterfalls

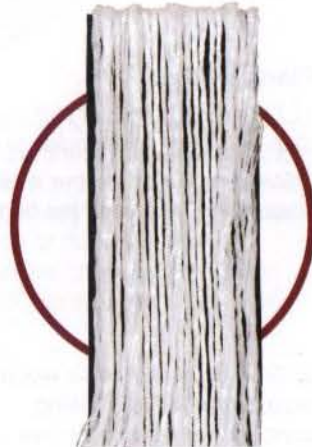
The best position on a tabletop for waterfalls is on one of the edges. As waterfalls are part of a river, they will need a pool or river to feed into. Although waterfalls themselves have no effect on your games, they do add a nice detail to hills or cliffs.

The effect of falling water is easy to create with white nylon cord wrapped around a block. This can then be glued in place to a piece of terrain.

1. Make a block the height and width you want the waterfall to be; it doesn't really matter how thick the block is. Paint or spray the block *Chaos Black*.



2. Wrap lengths of white nylon cord around the block. Tape the cords in place at the back of the block.



3. To simulate the effect of the streams of water breaking up as they hit the bottom of the fall, leave some of the ends of the cords hanging free at the bottom and fray their ends.



4. To finish off the waterfall, texture and paint the rocks.



Construction Tip

To give the waterfall a more realistic appearance, glue a few pieces of rock to the front of the block and drape some of the cords over them to simulate the disturbed flow of water.



Bridges

If you decide to build a bridge to span one of your terrain features, you need to consider its size. For example, in games of Warhammer 40,000 the width of the bridge will determine what vehicles can use it. The same is true of Warhammer, where a narrow bridge will force units to reform in order to cross. Models from The Lord of The Rings don't face the same difficulties as they move independently, but models with larger bases may have problems (not that that's necessarily a bad thing, remember the bridge at Khazad-dûm...).

Plank Bridge

1. Take a rectangle of stiff card, slightly longer than you want your bridge to be, but just as wide.

Score the card with your craft knife along the lines where you want the bridge to bend.



2. Glue planks of balsa wood across the bridge, making sure not to glue any across the bends.



3. Glue two long balsa wood planks underneath the bridge, projecting about half an inch out from under the bridge. These will be used to attach the vertical supports.



4. Glue vertical balsa wood supports in place, making sure to check that the bridge is supported at the right height.

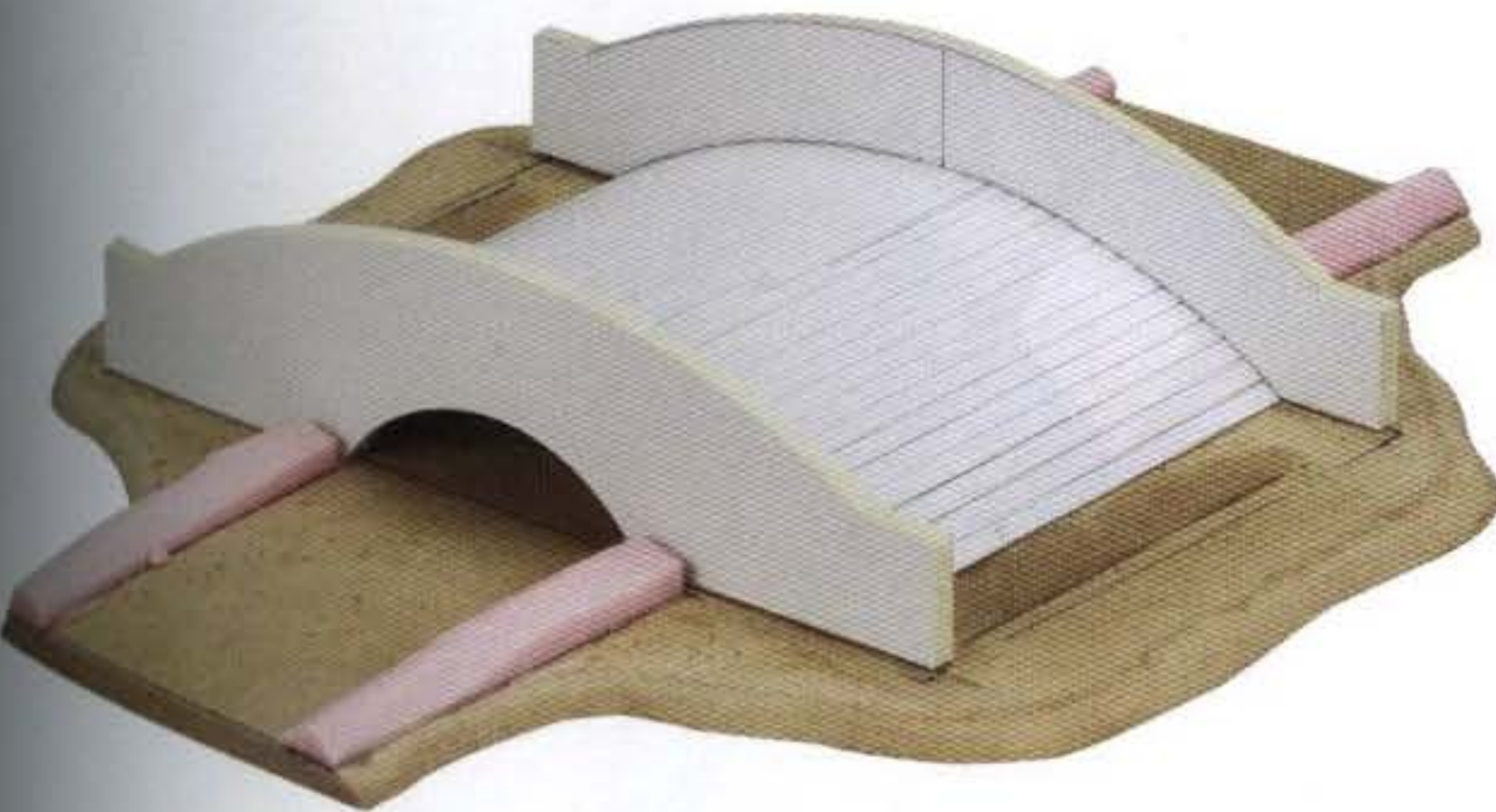


Humpback Bridge

1. First decide how long you want the bridge to be. Draw the shape of the wall onto two pieces of thick card, including the curve of the bridge as well as the curve of the channel under it.



2. Take a piece of foamboard or thick card and score lines straight across it at 5mm intervals. Bend the roadway and glue it into place on one of the walls with superglue, then glue the other wall in place on the other side.



3. Glue the bridge to a base cut to match the other sections of your river – or directly to your board, if you're making a sculpted terrain board. Build up the bank around the bridge to match the rest of your river.



POND OR LAKE

Construction Tip

For areas of enclosed water like this pond, resin can be used instead of varnish to create a wet effect. If you do decide to use it, make sure the base is thoroughly sealed and that you have read, and follow, the manufacturer's instructions for safety and use.

Stiff brush bristles glued to the base make effective reeds.



2. Add texture to the water surface in the same way as you would for a regular river, except that you will need to stipple the filler to avoid creating the impression of a current. Build up the bank with sand and gravel, and add water plants.



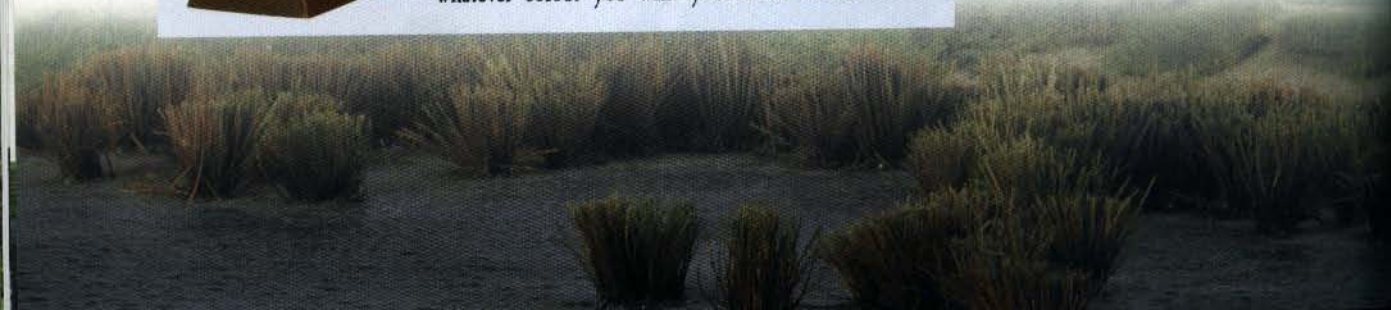
1. Construct the base in much the same way as you would a river section and add a suitable riverbank made from polystyrene sheet. Gouge the bank back so that it has an overhang. You can add small islands in the water at this stage, again using polystyrene.



Construction Tip

Sheets of plastic, textured to resemble rippled water are available from most hobby stores. The sheet is normally transparent and comes with a backing sheet of coloured plastic. Textured plastic is easier to handle than resin and has a smooth, three-dimensional element missing from a purely varnished surface. It's easy

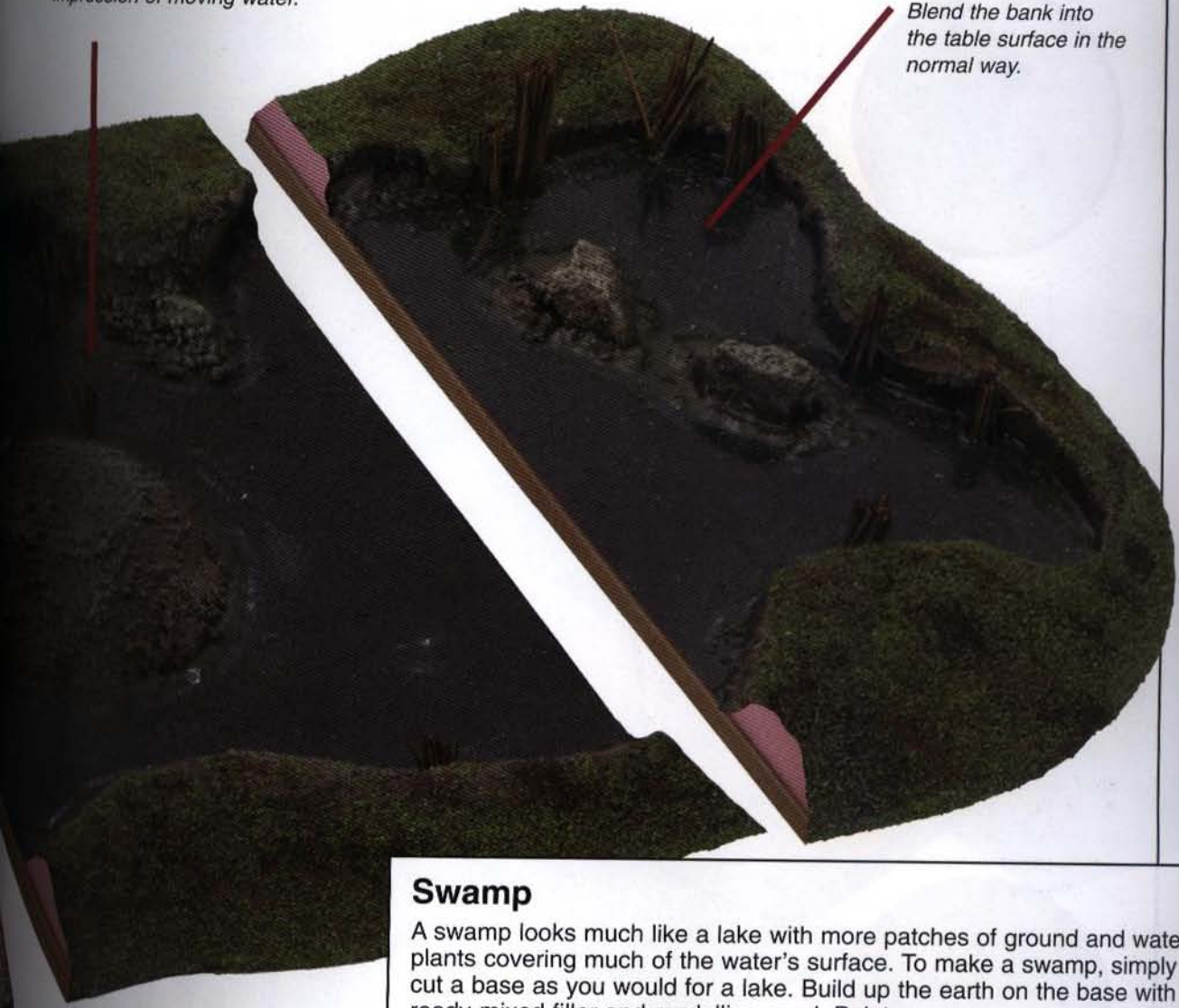
to cut to fit whatever shape you want your water to take, and can easily be laid over a base, painted to whatever colour you want your water to be.



3. Paint the water in the same way as a normal river, making sure to avoid the impression of moving water.

4. Add the wet effect to the water by using varnish or clear resin.

Blend the bank into the table surface in the normal way.



Swamp

A swamp looks much like a lake with more patches of ground and water plants covering much of the water's surface. To make a swamp, simply cut a base as you would for a lake. Build up the earth on the base with ready-mixed filler and modelling sand. Paint the base in suitably murky colours and then add the same wet effect as you would for a lake.



BEACH OR SHORELINE



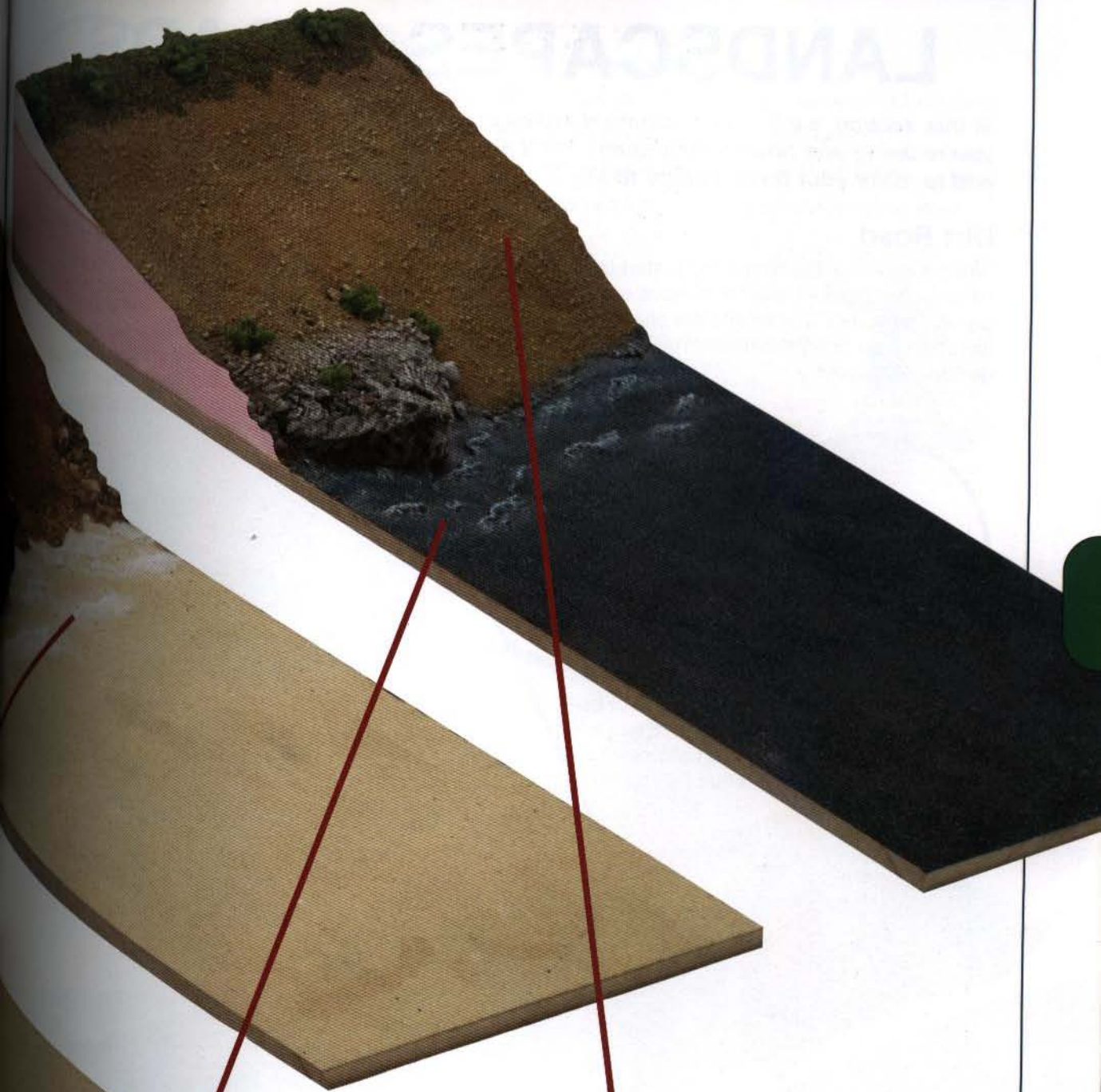
1. Start by building up a slope for the beach, level with the rest of your gaming table. Fill in any gaps with ready-mixed filler.



2. Glue sand and gravel to the beach. You can add any rocky outcrops you may want at this stage. In the example shown, we used a small piece of tree bark.



3. Create some waves close to the shore with ready-mixed filler.



4. Paint and apply the water effect to the sea exactly as you would for rapids. In this example, for the sea water we used a mixture of:



● Ultramarines Blue & Shadow Grey

Add the wet effect to the water by using varnish.

5. Paint the sand and apply texture to the edge of the beach to match the rest of your table. In this example, the sand was painted with successive layers of:

● Bestial Brown

● Vomit Brown

● Bleached Bone

LANDSCAPES: ROADS

In this section, we'll look at different styles of roads to fit whatever game system you're using and how to build them. We'll also be looking at the details that you can add to make your terrain come to life.

Dirt Road

When it comes to building a road, start by considering it as just another surface on the gaming table. Cut a base into the shape you want and then apply the finish. You just need to decide on a layout.



1. Cut out a base for the road. The base should be roughly 1" wider than you intend the road to be. This will give you some room to blend the base to the level and colour of the table.



2. Apply ready-mixed filler to the road base. Whilst the filler was wet, we used a revolving wheel attached to a rod to press furrows into the textured surface.



Planning Tip

For city-themed boards, an alternative to making roads is to cover the entire table in road texture, then attach footpaths to the bases of the buildings themselves. That would produce roads defined by where the buildings are placed.





3. Glue sand to the bevelled edge.



4. Paint the road surface and base.

- Start painting the road with a basecoat of Dark Flesh.
- Drybrush with a coat of Bestial Brown.
- Follow this with a drybrush of Vomit Brown.
- Finish off with a light drybrush of Bleached Bone.

Planning Tip

The base on a road should be as thin as you can make it, to help it blend better with its surroundings. To prevent thin bases from warping, cover the underside with strips of duct tape, running from short edge to short edge. The texture of the tape may also help to keep the road in place during play.



Tiled Road

The tiled road was surfaced with textured plasticard. This particular sheet is normally used to represent brickwork for buildings, but does just as good a job as a tiled road. Again, textured paint should be applied to give it a better surface for drybrushing.



Construction Tip

When attaching road surfaces, such as wallpaper, plasticard and sandpaper, you can simply glue them on. However, a better alternative you may want to consider is to use double-sided sticky tape. This prevents the thin base from warping, unlike when using glue. You can afford to make the surface larger than you want it to be when finished; simply trim it down to size after you've stuck it down.



Patterned Road

The patterned road on this highway is actually a photocopy taken from a book. Photocopying patterns or surfaces can be a quick and inexpensive way to produce a variety of surfaces.

1. Photocopy the pattern and glue it to a base.



2. Cut sections from the road, making sure the cuts fit with the pattern, so it looks as though the tiles that make up the road have been broken.



3. Glue sand and gravel in patches on the surface of the road and in the gaps cut into the surface in the last stage.



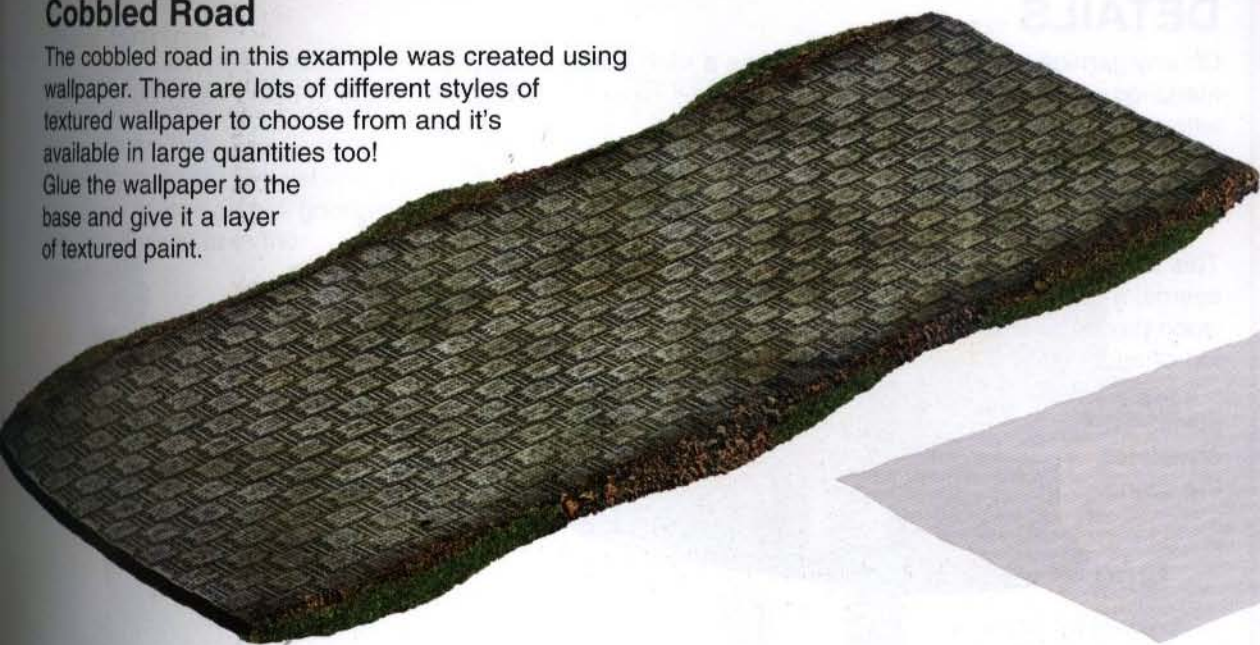
4. Paint the road and add incidental details, like the stones, Static Grass and the Dwarf markers.



Cobbled Road

The cobbled road in this example was created using wallpaper. There are lots of different styles of textured wallpaper to choose from and it's available in large quantities too!

Glue the wallpaper to the base and give it a layer of textured paint.



Tarmac Road

A fine grade sandpaper provides an excellent surface for more modern styles of road. In this case, no textured paint is needed to give the road a good surface for drybrushing. Just cut it to size, glue it in place and paint.



DETAILS

On any gaming board, what really makes a road look good are the extra details, such as road markings and signposts. Most of these pieces have the added advantage of being easily built from leftover components.

Woodpile

This woodpile is exactly what it seems; a stack of scrap wood pieces piled on top of each other – a spare plastic axe completes the scene.



Signpost

Signposts and mile markers help to give the board a sense of place. The signpost in the picture is mainly made from plastic rod, a plastic shield and an old banner top.



Way Shrine

Made from two Mordheim windows glued together, this way shrine would be an ideal addition to battles fought in the Empire. It is decorated with extra pieces, including parts of the same buildings sprue and a row of spikes from an old Ork vehicle. With some minor alteration, a similar piece would look just as good amongst the Bretonnians or in the Imperium.



Gibbet

Various gruesome displays, such as gibbets, help to conjure up the dark atmosphere of Warhammer and Warhammer 40,000. Shields, chariot wheels and, of course, plastic Skeletons make ideal decorations for these warning signs to the witch and the mutant.



Lamp-post

Great for lending atmosphere to street scenes for fantasy and futuristic settings alike, this lamp-post was purchased from a model shop. It's amazing what you can find in a doll's house too!



LANDSCAPES: OBSTACLES

Obstacles are exactly that, pieces of terrain that get in the way of troops on the battlefield, and includes such things as walls, hedges, fences, sandbags, fields and piles of rocks. As well as being barriers to movement on the one hand, they can also be cover for your missile troops.

Planning

Obstacles are great additional terrain pieces for your board, and as such it's always handy to have a number available for use. Depending on the kind of games you want to play, you could

either cover the board with plenty of obstacles, or use them more sparingly.

A handful of strategically positioned obstacles can make all the difference to games where mobility and manoeuvrability are of the utmost importance.

Bases for Linear Obstacles

A linear obstacle is a long, narrow piece of terrain. For ease of play and use, its base should be as small as is practical: just big enough to provide a stable platform.

To make your obstacles more versatile, it is a good idea to narrow the ends of the base, as shown in the photos below. This allows you to form long linear features or square or rectangular ones.



Construction Tip

We recommend making sets of linear obstacles approximately 6" in length and in sets of between four to six.



WALLS

Manufactured Walls

Already painted and flocked, you can add these walls to your game straightaway. However, with the addition of a little flock to match your table and a new coat of paint, you can change their appearance dramatically.



Making Walls

Individual wall sections are made with the same materials and in the same styles as the walls of a building. So, before you start, spend a few moments choosing the style you like (see pages 62-63 for examples).

Then build your wall, following the instructions given for creating wall textures, adding some kind of capping to finish it off. You can use a layer of stones, razor wire, tiles, marble, etc, to cap your walls.



HEDGES

Manufactured Hedges

In the same way as the walls, you can use hedges straight from the pack. These have a strong wire core and can be bent into different shapes. After you've fought a few games using

them you may decide to adapt them. Start by making them look a little more irregular. Cut a few small chunks out of the hedge using clippers. This can be enough to make them look more natural.



For a little variety, why not combine a hedge with a tree. Simply cut through the wire core of the hedge and glue the pieces to a base, then place a tree in the gap.



Construction Tip

Once you've cut off these small pieces of hedge, don't throw them away – save them for adding to other terrain pieces in the future as small bushes.



Pan Scourer Hedge

You may not instantly think 'pan scourer' when it comes to making hedges, but it's a very useful material for making hedges from.



1. Cut the pan scourer into 6" (15cm) long strips, twice as wide as you want the height of the finished hedge to be. It should be low enough to allow the troops in your army to fire missile weapons over the top.





2. Next, apply glue to one side and fold the strip in half. To help it dry flat, weigh down the strip with a book if required.

3. Cut a base to size and glue the scourer to it. Once dry, clip it into an irregular shape.

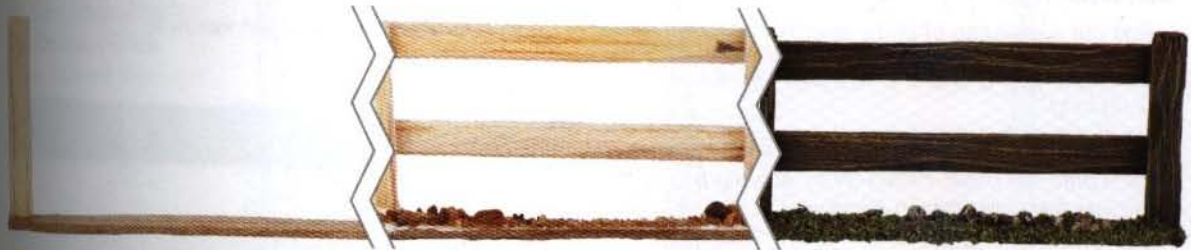
4. Paint the hedge and finish the base.



FENCES & BARRICADES

Over the next few pages we show you a wide variety of different obstacles that we loosely grouped together under the title 'Fences & Barricades'.

Wooden Two-Bar Fence



1. Cut four balsa wood posts about 25mm long then glue them to a base.

2. Glue two strips of balsa across the uprights.

3. Paint the fence and finish the base.

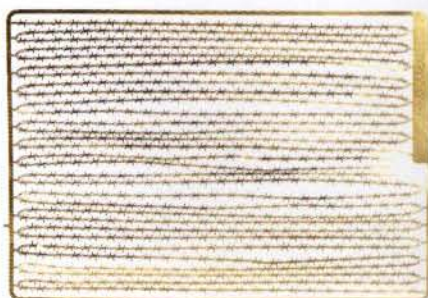


To add character to wooden fences, you can modify them with some simple touches, like breaking one of the bars or combining the fence with a hedge.



Barbed Wire

To make a razor wire fence, build up the base with short lengths of brass rod and pieces cut from a plastic Warhammer 40,000 barricade. Remove the barbed wire from the sprue and carefully wind it round a pencil. Uncoil and glue it in place on the posts.



Sandbags

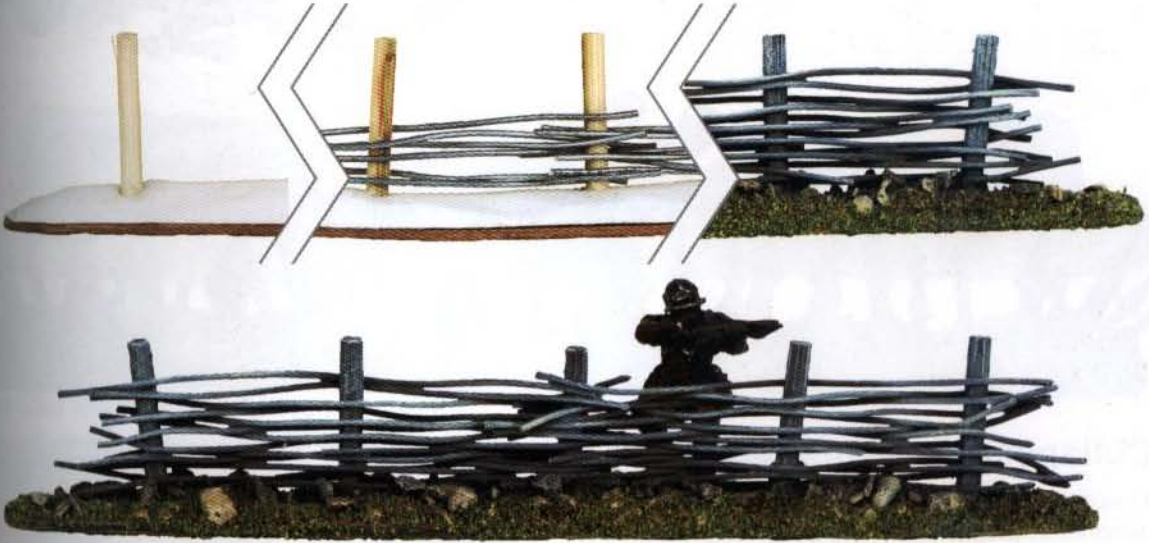
1. Roll out a sausage of putty, approximately a quarter of an inch in diameter, and then flatten it.
2. Cut the putty into separate sections about half an inch long.
3. Next, take each separate sandbag shape and place it onto the base. Finish off by scoring a seam into the side of each sandbag.



Wattle Fence

A piece of 5mm thick foamboard was glued onto a card base and shaped to form a rough earth bank. Five holes were pressed into the foamboard and five posts, cut from a bamboo skewer, were glued in the holes.

Once dry, thin wire was woven between the posts and a coat of watered down PVA glue painted on to fix them in place. The fence was then painted grey to give the impression of old, faded wood.

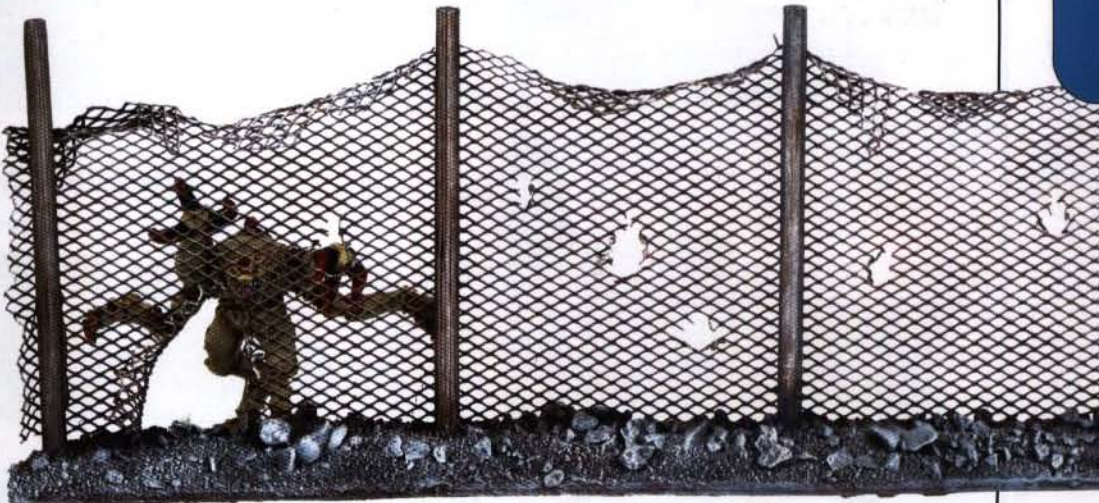


Mesh Fence

Again, foamboard was used to build up an earth bank on a card base. This time 60mm lengths of bamboo skewer were glued into the holes in the base. A piece of aluminium mesh 50mm high was then laid against the posts and fixed in place with PVA glue.

The top edge and ends of the mesh were folded over slightly and then the whole thing was painted black and drybrushed to look like rusty metal with a broken concrete and dirt base.

To add character to the fence, holes were poked through the mesh with a skewer.



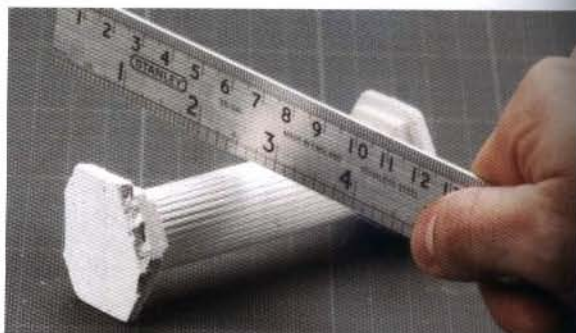
Spiky Barrier

This barrier has been assembled using spikes taken from the Chaos Tank Accessory sprue, with the addition of some chains and skulls.



Collapsed Columns

These started out as plaster of paris cake decoration pillars and were broken into sections using a metal ruler. The pieces were then glued to a base to look like an old collapsed column.



Construction Tip

If tropical undergrowth is added to the base, the collapsed column can easily become part of a jungle terrain set.



Stone Block Barrier

Don't waste offcuts of polystyrene. Here we have cut them into the shape of stone blocks. These were then glued to a base and carved with runic devices before painting.



Urban Barricade

Barricades are best made using offcuts left over from previous projects. We used bits of polystyrene, foam card and corrugated cardboard in the construction of our barricade.



Rough Wooden Palisade

Balsa dowel was cut into short sections and scored to represent rough bark. The ends were sharpened into rough points. These were combined with balsa sheet, a piece of broken ivy root and a model wheel to make the wooden barricade you see below.



Rock Piles

What you see is what you get! This rock pile is made out of stones. Choose stones, pieces of slate or brick and glue them to a base. Texture and paint to finish.



Fields

A nice variation on the obstacle theme is to build a field.

We decided to make a wheat field that's just ready to harvest. We made the wheat out of a doormat, cutting out four sections each the size of a movement tray. The base was made large enough to accommodate these four sections and was edged with a stone wall and a tree in one corner. The field base was textured using strands of the doormat to give the impression of a trampled field. The base was then painted.

The four doormat sections were not glued in place, allowing them to be removed when troops march through them.





BUILDINGS

Buildings bring a real sense of place to the tabletop; their appearance tells you exactly where the battle is happening. As well as functioning as obstacles, buildings also make very satisfying mission objectives.

Here we're going to cover all the techniques you'll need to know to build anything from a humble shack to an armoured barracks. The approach we take to making a building is just one of many. It may seem to have a lot of steps to it but we'll take you through each one so you can assemble a building as easily as possible.

THE BUILDING MENU

To help make using the Buildings section as easy as possible, we've put together opposite a handy menu to help you choose everything, from your building's size to its shape and the textures used to finish it.

Rohan House

To help you get a clear idea of what we mean, we've added an example in the shape of a Rohan house from The Lord of The Rings.



Looking at the photograph of the Rohan building, we used the menu to choose its size and shape as well as the style of its roof, walls, doors, etc.

Size: 8"x6", single storey

Shape: Standard rectangular building with pitched roof

Walls: Timber planking

Roof: Thatch roof



Windows: Shuttered window

Door: Plank door

Details:

Debris,
steps,
pillars,
door handle



We also decided to put the building on a foundation finished as stone. The next stage will be to draw a plan of the building so that we can make a shell for it.

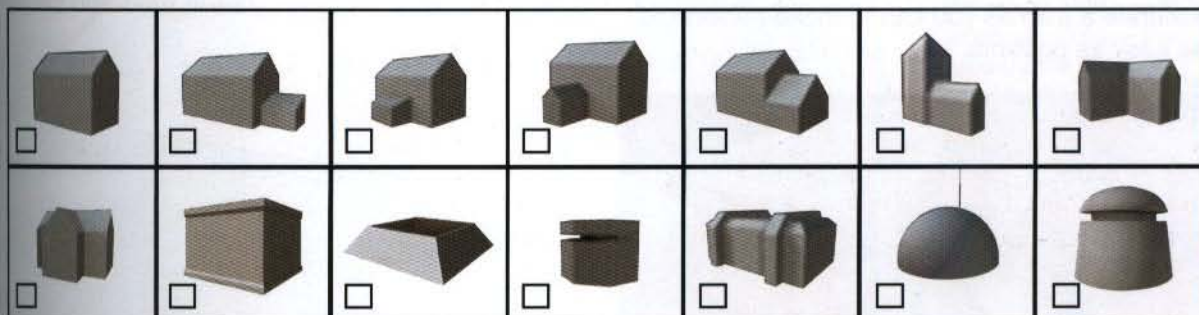
BUILDING MENU

Size

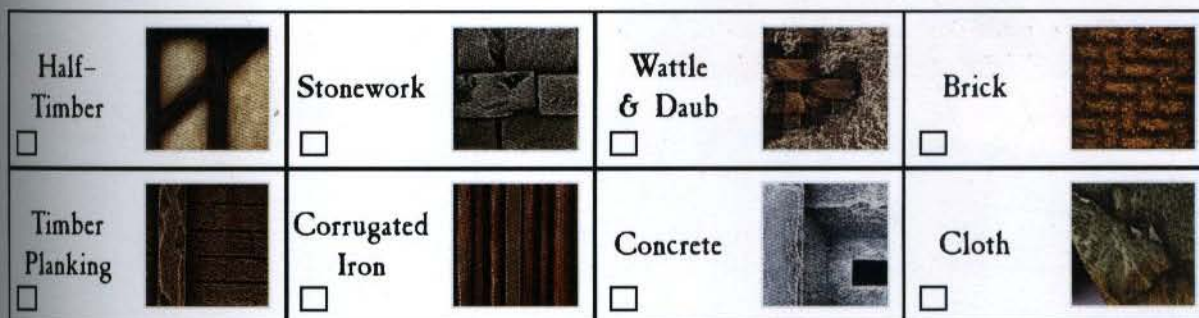
Approximate size _____

Number of Storeys _____

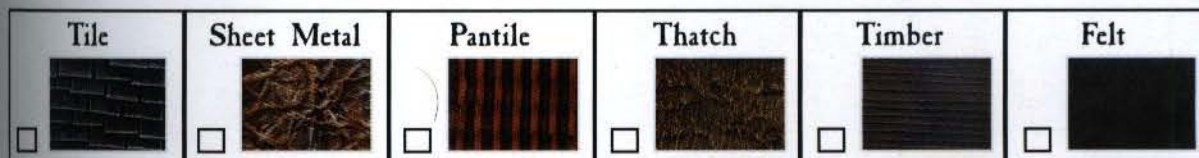
Shape



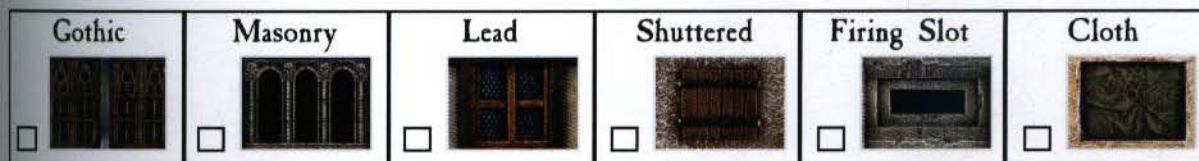
Walls



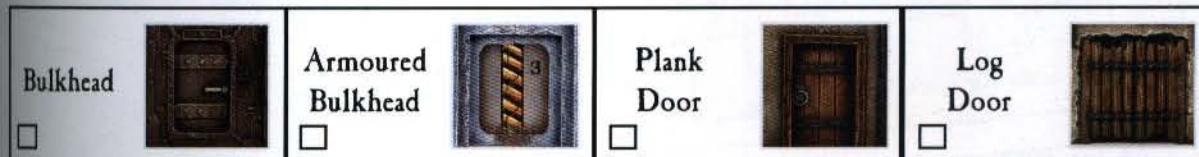
Roof



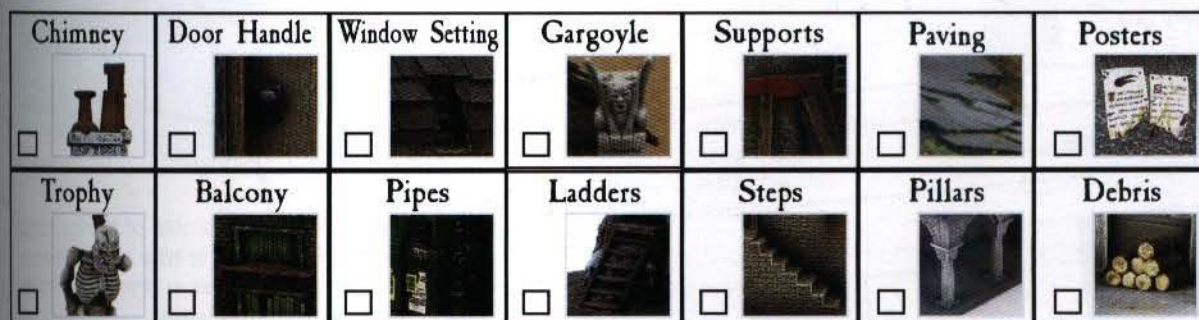
Windows



Door

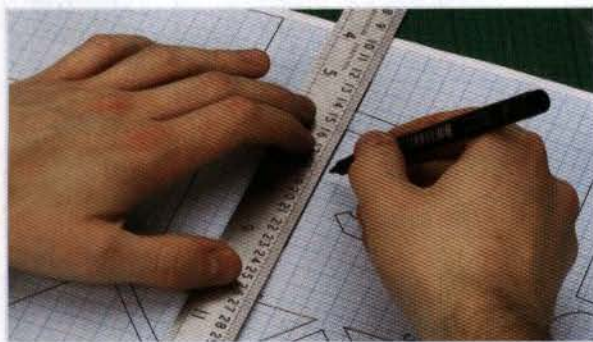


Details



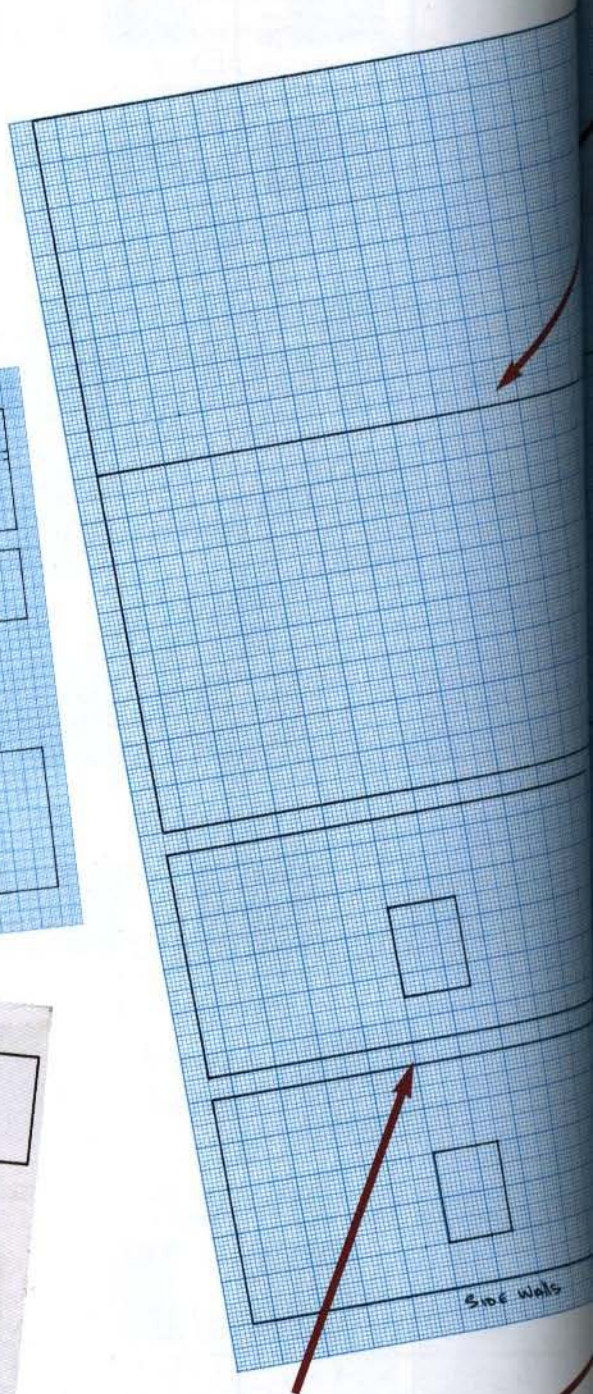
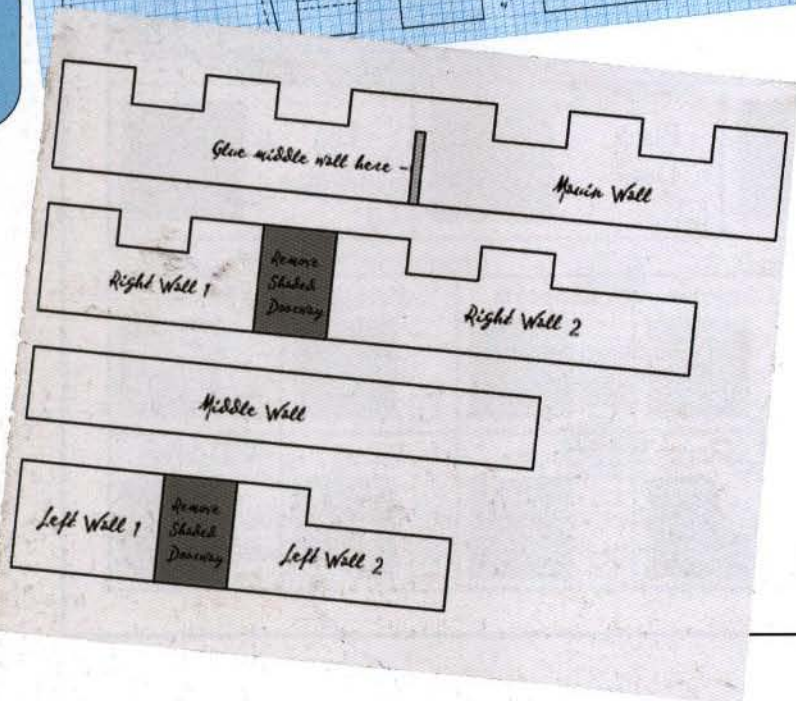
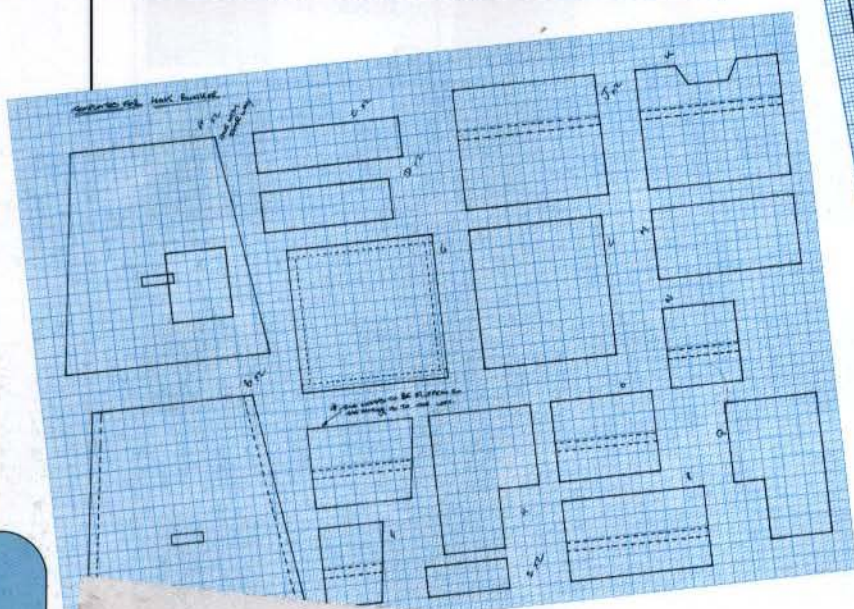
DRAWING THE PLAN

Now we really get down to the nuts and bolts of making a building. Before you grab your foamboard and modelling knife, find some graph paper and a pencil & ruler instead. Draw as accurate a plan as you can to make construction as easy as possible.



The Plan for the Rohan House

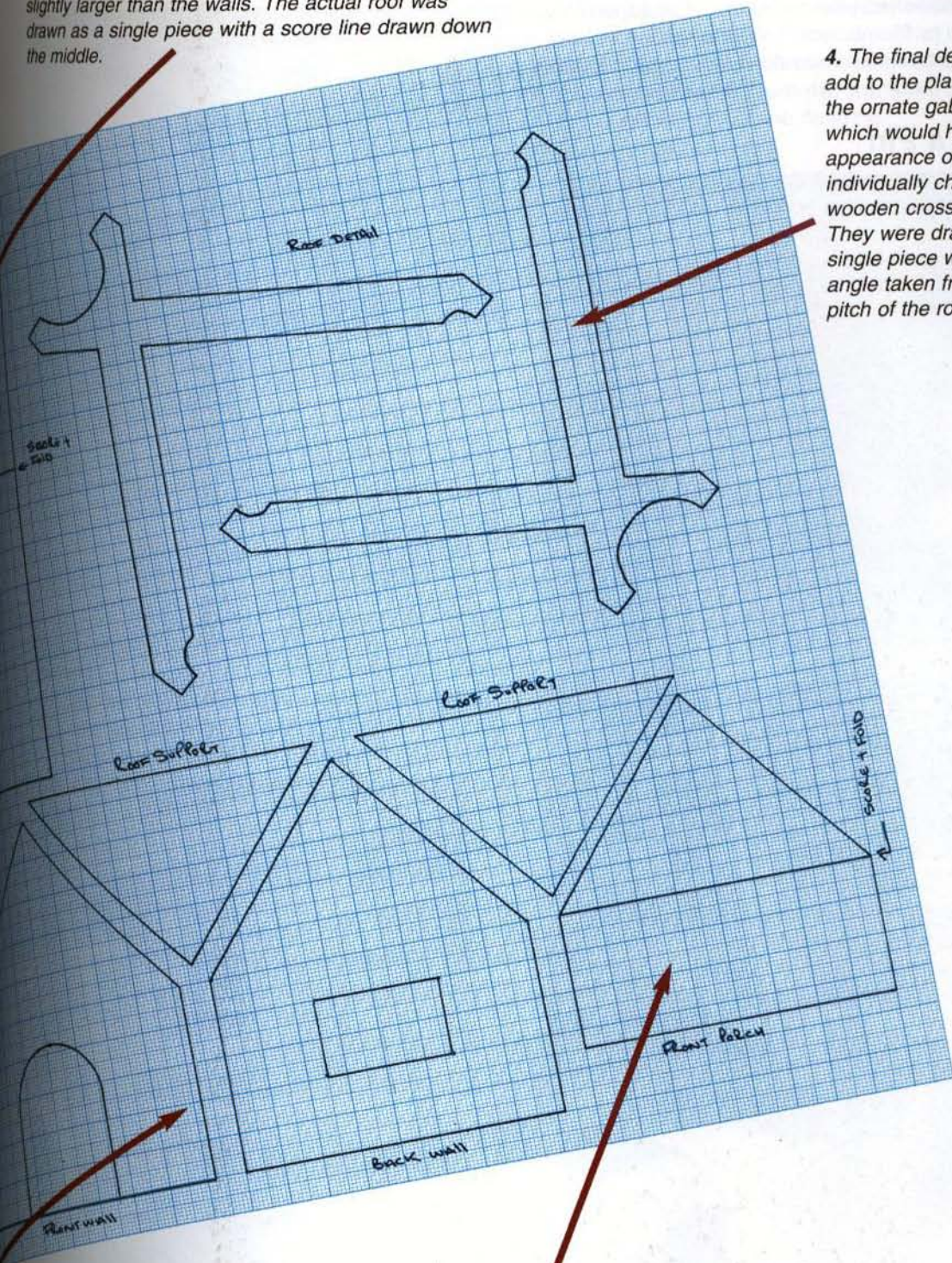
When drawing the plans for the Rohan house, we began with the front and back walls to establish the building's profile. From this it was possible to not only work out the width of the model but also the height of the walls and the pitch of the roof.



1. Having established the profile of the building, the walls were drawn next, a little over 100mm long. Doors and windows were drawn centrally on both the side and front walls.

3. Now that we knew the pitch of the roof and how long the walls and extension were, we drew the roof slightly larger than the walls. The actual roof was drawn as a single piece with a score line drawn down the middle.

4. The final details to add to the plan were the ornate gable ends, which would have the appearance of two individually chiselled wooden cross-beams. They were drawn as a single piece with the angle taken from the pitch of the roof.



2. The building features a porch, or extension, adding to the front, so this was based on the pitch of the roof with a 35mm extension and a fold line marked on. Supports for the roof were also based on the measurements of the front wall.

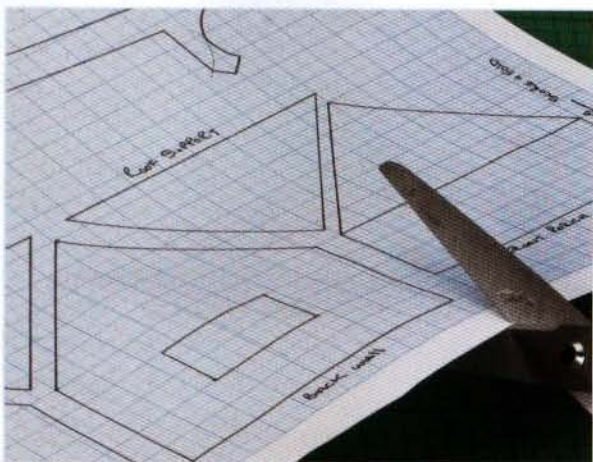
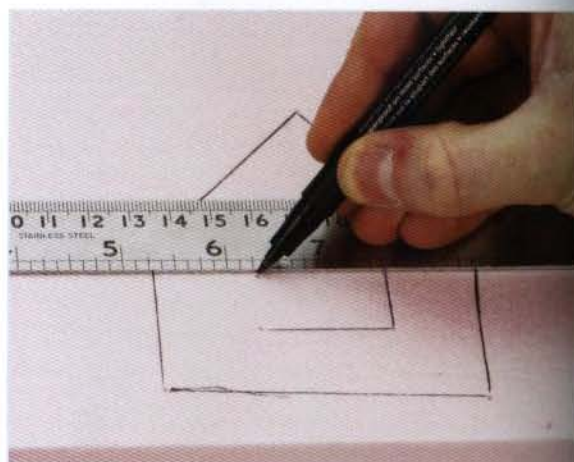
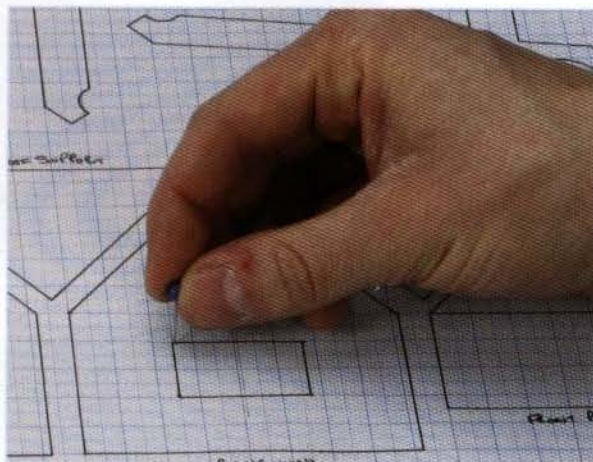
THE SHELL

Use your finished plan to build a shell to which you add your textures. Start by transferring your plan onto card or foamboard. You will then be able to cut out the separate pieces and assemble your model. To do this you could draw the plan straight onto the board, measuring everything with a ruler. However, there are two much easier ways to do this.

Using a Pin

Take a pin and press it through the corners of your drawing onto the board. When you remove

your plan you will have a network of pinpricks. Then all you have to do is join up the dots.



The other way is even simpler: just glue the plans down onto card and cut up the whole thing. The only potential disadvantage is that you destroy your plans, but that's what photocopiers are for!

Both ways have the advantage of being quick and surprisingly accurate methods of transferring plans onto materials. You can be confident that your new drawing is just as accurate as the original. Once you are happy with your drawings, cut out the pieces with a modelling knife. Then start to assemble them into your complete building shell.



Assemble with masking tape.



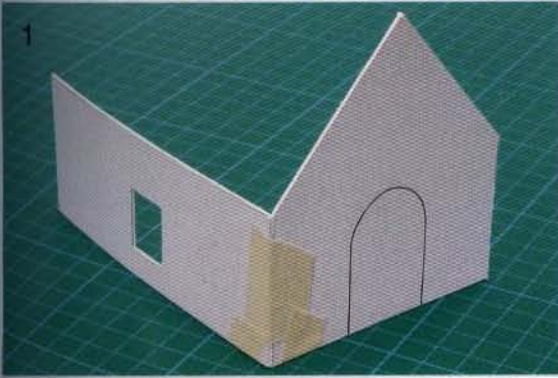
Glue the inside of the joins.

Construction Tip: Sub-assemblies

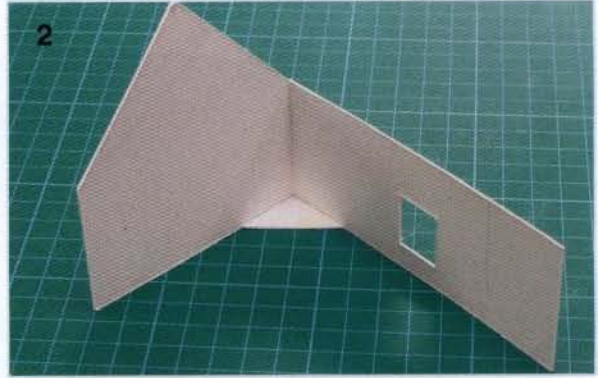
Sub-assemblies are a convenient way of assembling a building. You may prefer to keep the roof separate whilst you apply your finishes. You may want to have even more sub-assemblies if your building can be split down into them.



MAKING THE ROHAN HOUSE

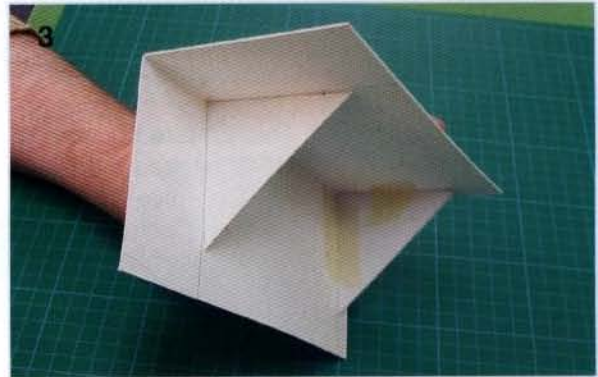


1. The plans for the Rohan house were transferred onto 1mm thick card. They were then cut out ready for assembly. Using masking tape the card wall sections were 'dry fitted' to make the rough square of the building.

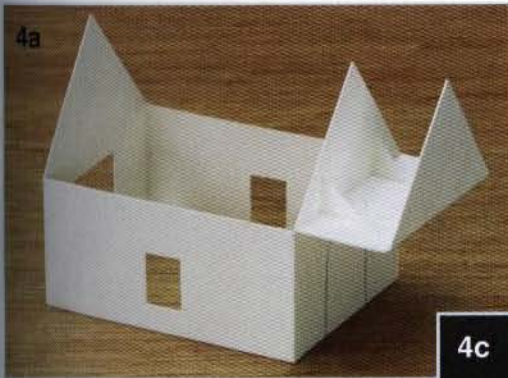


2. Once happy with the look of the walls, glue was applied to the inside of the joins and the model put to one side to dry. At this stage, triangular gussets were glued into the corner sections. These perform two functions: they add structural integrity to the shell, making it much stronger, and, as the triangles are cut at a 90° angle, it helps ensure that the walls are square.

3. The sections of roof were cut out in one piece, which was scored down the middle and folded to create its shape. Two triangular roof supports were taped in place to add strength and maintain its shape.



4. Once the roof had been tested against the walls for fit, the roof supports were glued in place. The roof was left separate so that finishes could easily be applied to the walls and roof.



DIMENSIONS

The first things on the menu are size and the next is number of storeys. There's some more things to think about as well. Most of the time, a building's function on the tabletop is to help set the scene of the battle and provide cover for troops. Scale is an important consideration when

making buildings. Unless you want to recreate a building to exactly match your troops, they can be made a lot smaller than they would be in reality and still look effective. Here are some examples of buildings with a number of different shapes, styles of roof, details, etc.



This Empire house has a steep pitched roof angled at 45° to give it that medieval look.



The angle of the pitched roof on the mausoleum is quite shallow.



The bell tower is much taller than it is wide.



This ruined building has a lean-to with a huge chimney.

Planning Tip

Use a miniature to check how large to make a door. It should look large enough for a miniature to be able to walk through it.





The flat roof on this armoured building acts as a firing platform for troops.



This pill box has a hexagonal shape and narrow firing slits.



The Rohan house has a removable roof which allows troops to move around inside.



The unusual shape of the Tau landing pad is based on a dome with the top removed.

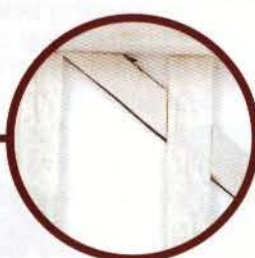


The ruins of Osgiliath are just tall enough to provide cover for troops.

HALF-TIMBERED HOUSE



1. Before you cut out the wall sections, mark where you want your door, windows and timber strips to be.



2. Cut your balsa sheet in strips roughly 5 mm wide. Then cut them to fit the marks on your building and glue them in place.

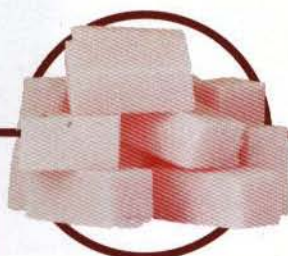


3. When the glue has dried, shave off little pieces of the timber on the edges to resemble weathering. You can also carve small notches into the timber.



4. Finally, texture the walls, taking care not to get any texture on the timber strips.

STONEWORK



1. Cut out strips of polystyrene roughly 10 mm wide and high. Cut these strips in blocks of irregular size.



2. Starting at the bottom of the wall, glue the blocks onto your building shape in rows. Make sure that the vertical edges between the blocks don't line up.



3. Texture the walls.

Painting Tip

When you're making brick work, planking or tiling, it's very important to vary the pattern so the edges aren't situated straight under each other.

Look at brickwork and tiling on real buildings and try to get the same effect.



WATTLE & DAUB



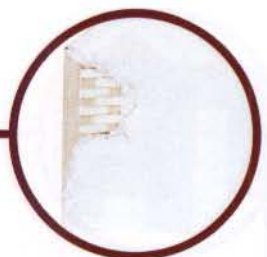
1. Draw out a guide for where you want the exposed wattle to be on your wall pieces. Then cut away the marked area.



2. Place your wattle against the hole in the position you want. Then draw its outline onto the back of the foamboard. Cut away the card layer and foam leaving the outer layer of card intact.



3. Glue the wattle in place, leaving enough room for a 5 mm broad length of balsa to be glued to the edge of the building as a corner post. The outer layer of card should fit over the wattling and balsa.



4. Apply filler around the edges of the wall where the wattling shows through and texture the walls.

Making the Wattle



1. Mark off rows 3 mm wide on a thin piece of card. Cut these rows using a sharp knife and steel ruler. It's important to not cut all the way to the edges, otherwise your wooden posts will fall out of the wattling while you're constructing it. It is also easier to make your wattling if you stick your card down on a sturdy surface with sellotape or masking tape.



2. Cut strips 3 mm wide out of thin balsa and cut them to about 6 mm longer than your strip of card.



3. Glue them into place, weaving in and out of the rows of card. When you're happy with the spacing of the posts, paint the wattle with PVA, so it doesn't fall apart when you cut it up.



BRICK



1. Buy some textured plasticard. We selected a herringbone pattern to represent brickwork.



2. Glue the moulded plastic card with the texture facing outward to your walls.



3. Use the door and window openings in your walls as a guide to cut them out of the plastic card.



4. Assemble your building and add 5 mm wide strips of balsa to it, just like the half-timbered house (see page 70).

TIMBER PLANKING



1. Measure and mark off 5 mm rows on a sheet of balsa. Score this with a knife and score in the vertical plank ends. Be careful not to cut all the way through the balsa.



2. Cut the balsa sheet to the right size and glue it onto the walls.



3. Use the windows and door in the inner walls as a guide to cut them out of the balsa.



CORRUGATED IRON



1. Peel off the outer card layer of your corrugated cardboard. Sand off any remnants carefully.



The card should now look like this.



2. Draw your building design onto the back of the card, on the smooth side, and cut it out.



3. Paint the outside with thinned down PVA and, after that has dried, glue some thin strips of cardboard onto the structure as dividing posts.

CONCRETE



1. Build up the front of the building with three layers of foamcard. Measure out where the slit will be on the top layer and where you want the buttresses to be. Bevel the edges of the top two layers, making sure they're equal on both sides.



2. Mark where you want any bullet holes and other damage to be, then score and cut those out, including the firing slot.



3. Fill any gaps with filler and paint it with textured paint.

CLOTH



1. Instead of building the basic structure out of foamcard, make the rough shape out of polystyrene. Glue pieces of balsa rod to the edges of your shape as posts.



2. Cover the structure with paper towel soaked in PVA.

Painting Tip

Structures like this can be easily made using a solid base to put the cloth on. You can use this method for any type of tent or cloth hut – just alter the basic shape of polystyrene to fit your needs.



TILE ROOF



1. Cut out strips of card 10 mm wide and then snip into tiles. Before you start gluing the tiles to your roof, trim some of the corners down to add the effect of wear.



2. Glue the tiles in rows onto the roof, starting at the bottom. Make sure the pattern is irregular.



3. Add a strip to the top ridge to cap the effect.

SHEET METAL ROOF



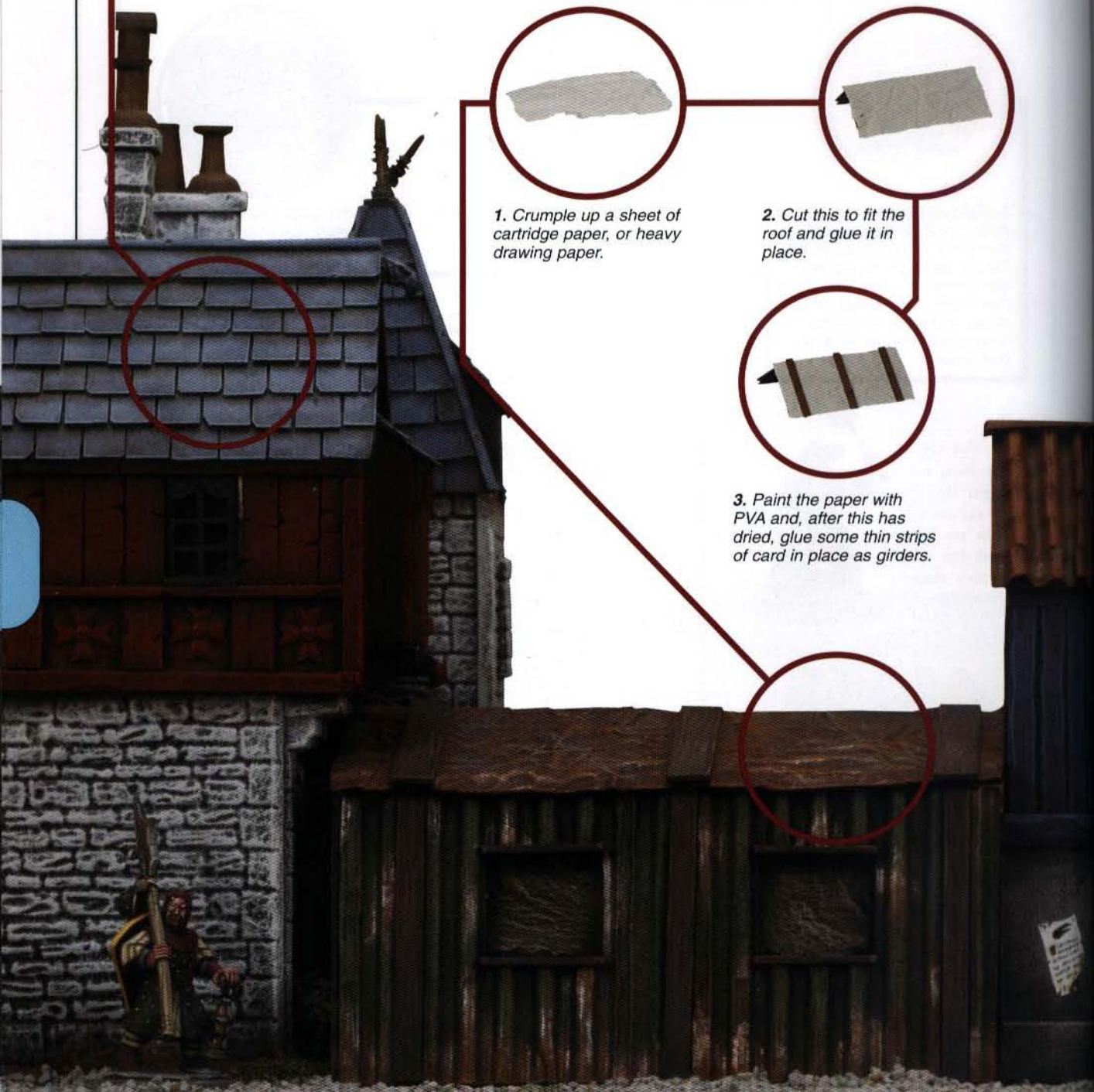
1. Crumple up a sheet of cartridge paper, or heavy drawing paper.



2. Cut this to fit the roof and glue it in place.



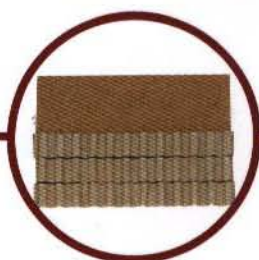
3. Paint the paper with PVA and, after this has dried, glue some thin strips of card in place as girders.



PANTILE ROOF



1. Take some corrugated card and remove one of the outer layers (see *Corrugated Iron*, p. 73). Then cut the card into strips roughly 10 mm wide.



2. Glue the strips in rows onto the roof.



3. Add a strip of card to the top ridge to cap it.

THATCH ROOF



1. Cut a piece of fake fur into shape and glue it to the roof.



2. Soak it with PVA.



3. Use a stiff brush to comb the fur into shape while still wet. Let this dry thoroughly before you paint it.

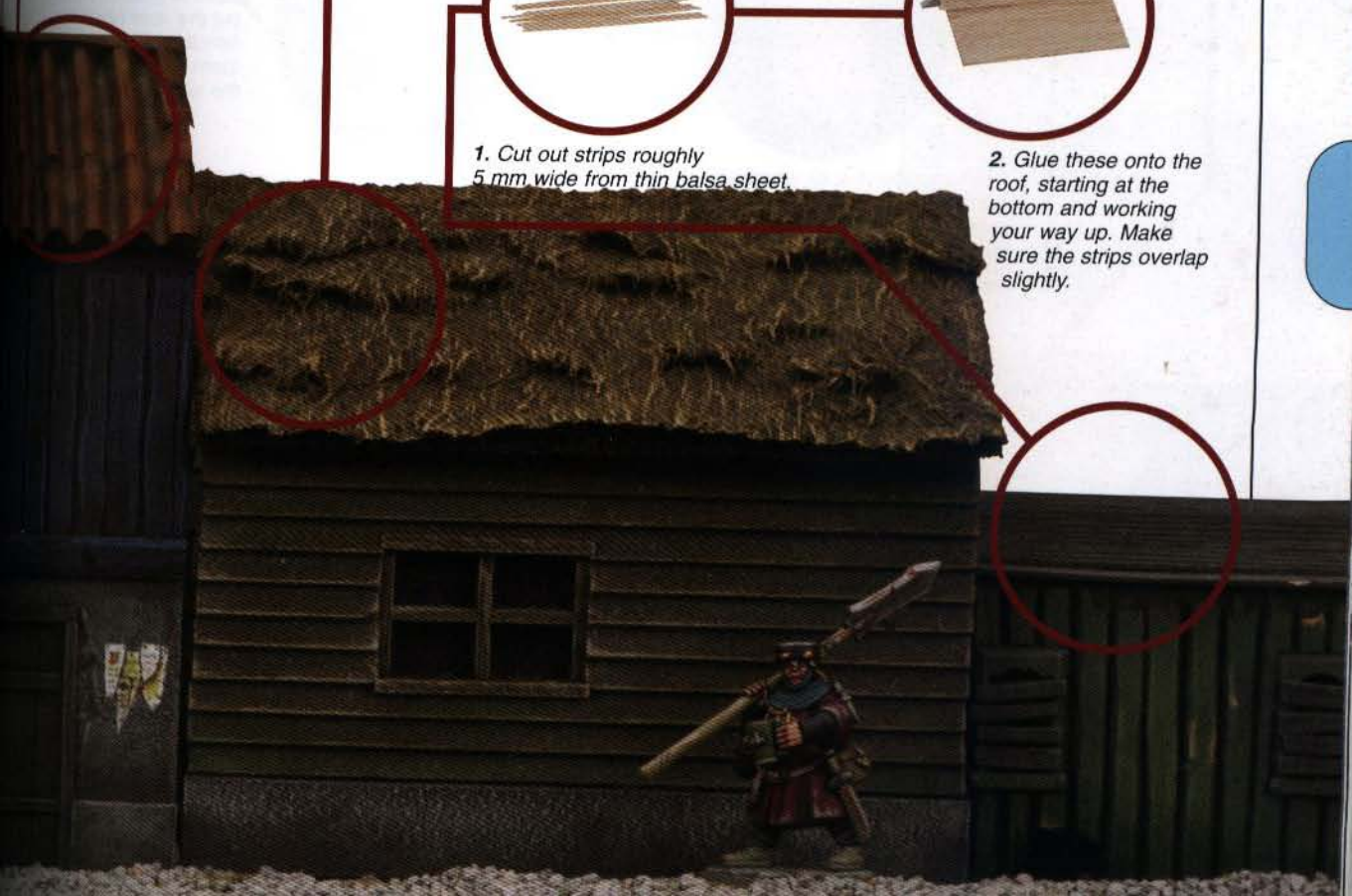
TIMBER ROOF



1. Cut out strips roughly 5 mm wide from thin balsa sheet.



2. Glue these onto the roof, starting at the bottom and working your way up. Make sure the strips overlap slightly.



FELT ROOF



1. Cut out a piece of sandpaper that's 5 mm larger than your roof on all sides.



2. Glue it to your roof.



3. Cut small squares out of the paper at the corners so that you can more easily fold it down over the edges.

CLOTH WINDOW



1. Crumple some cartridge paper and paint it with PVA.



2. Stick it behind the window opening.



3. When the paper towel is still wet, glue some foamcard or cardboard behind it for strength.

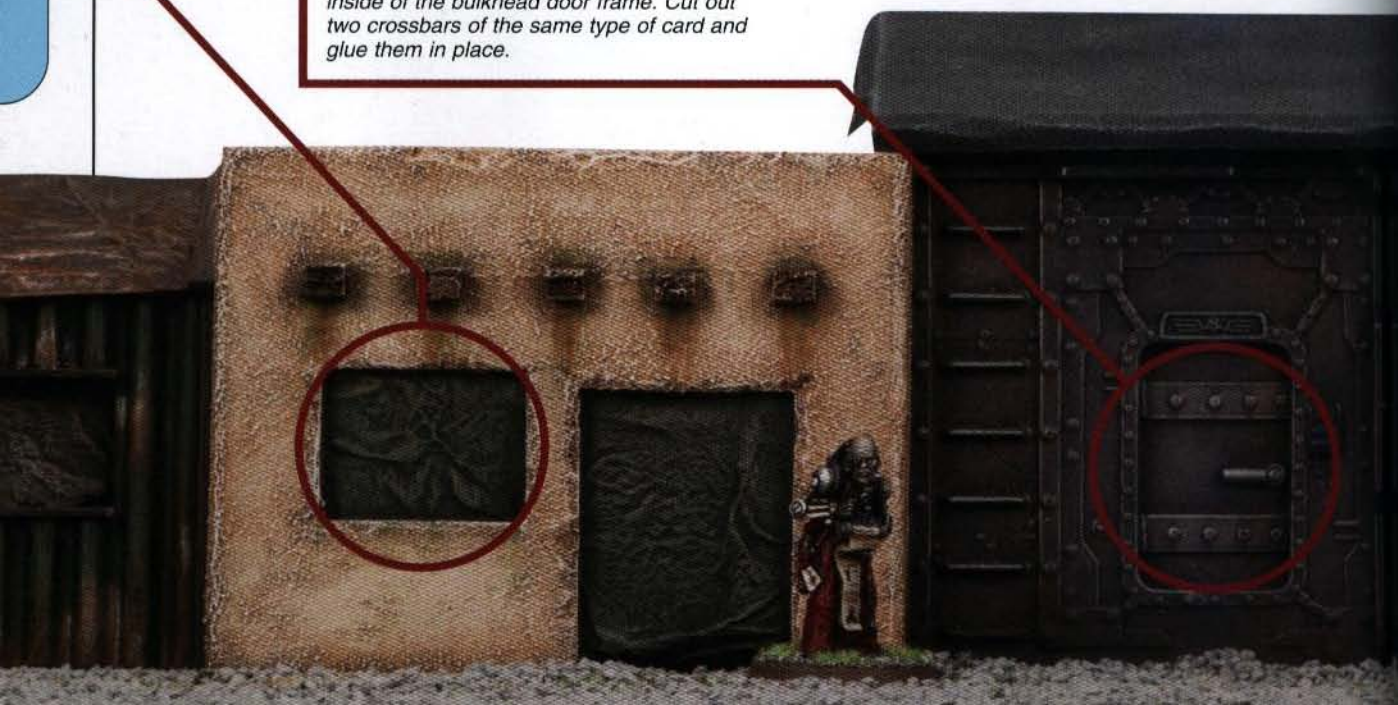
BULKHEAD



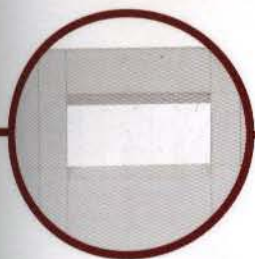
1. Glue a piece of thick cardboard to the inside of the bulkhead door frame. Cut out two crossbars of the same type of card and glue them in place.



2. Take some different sizes of plastic rod and cut the door hinges, handle and rivets from them. Then glue them to the door.



FIRING SLOT



1. Measure and mark out the firing slot window on the outer wall and cut it out. Cut the top and bottom edges of the window at an outward sloping angle.



2. Make a smaller window from foamcard and glue that to the back of the window in the wall.

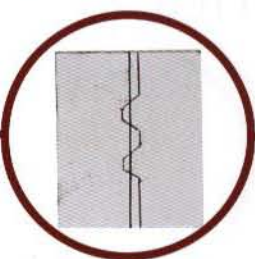


3. Cut the slot into another piece of foamcard and glue that to the back of the window, with the slot in the centre of the opening. Finally, glue a piece of card to the back of that.

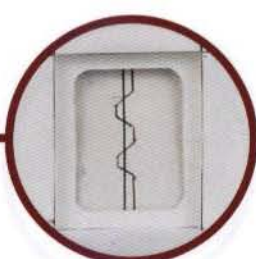
ARMOURED DOOR



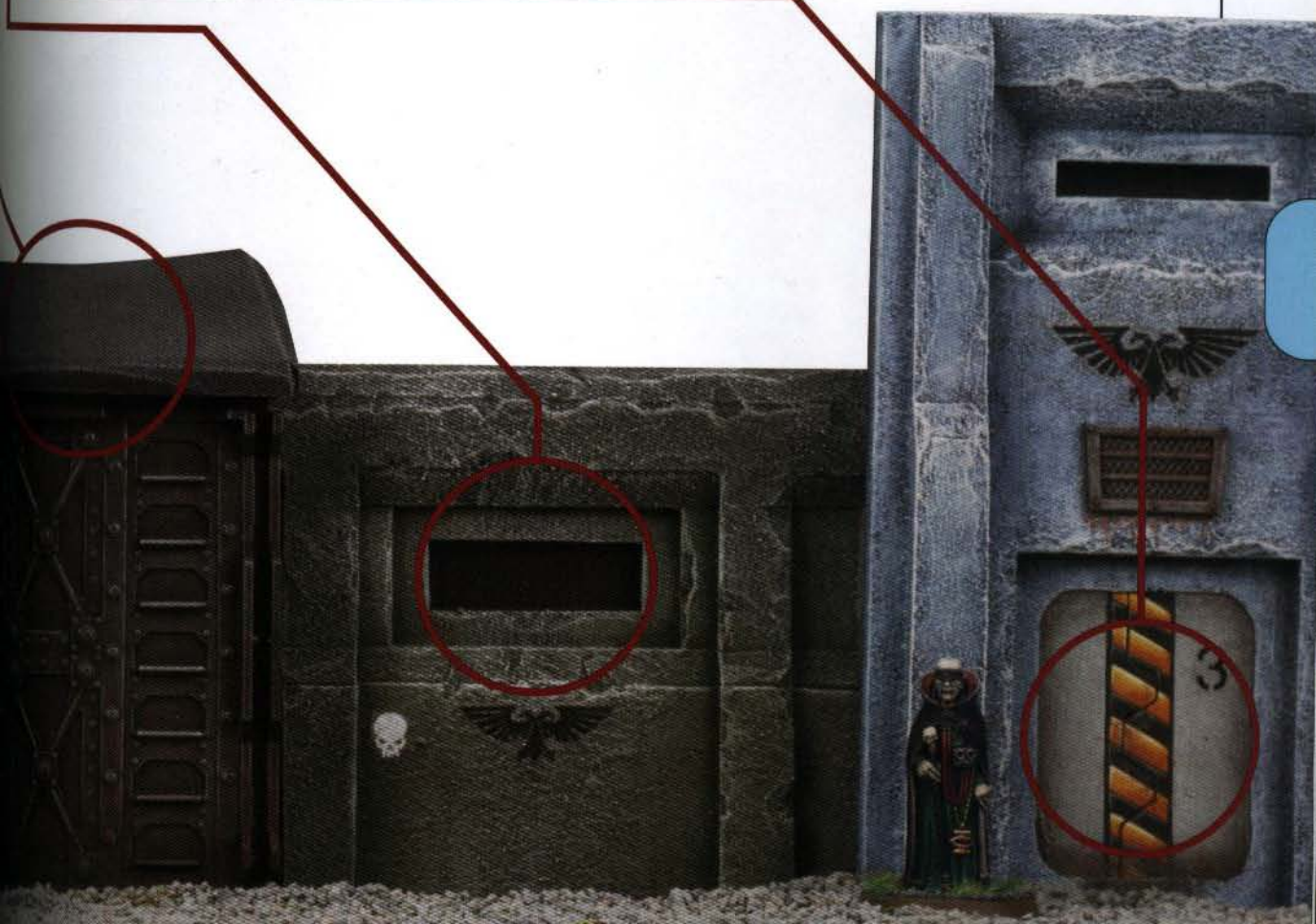
1. Mark off an area around the doorway that is roughly 5 mm wider all round. Cut the outer layer of card and the foam core away around the door opening.



2. Take the original cut-off from the door opening and score a line across the middle from top to bottom to define the two door halves.



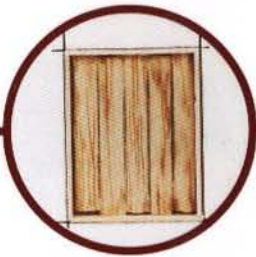
3. Glue the door to the back of the wall.



PLANK DOOR



1. Score planking onto a piece of balsa sheet.



2. Glue thin strips of balsa onto the edges of the door opening to frame it. Then cut the scored balsa sheet to the right size and glue it in the door opening.

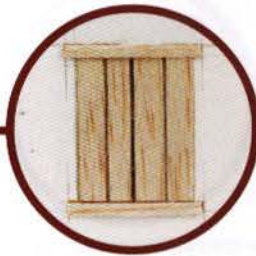


3. Add two thin strips to the door as crossbars, and a door handle made out of a small piece of bent brass wire. Using a needle, add thin dots of superglue to the handle and the crossbars to make the rivets.

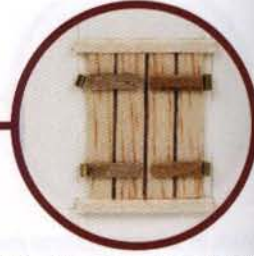
SHUTTERED WINDOW



1. Measure out and draw planking on a sheet of thin balsa. Score the lines with a knife.



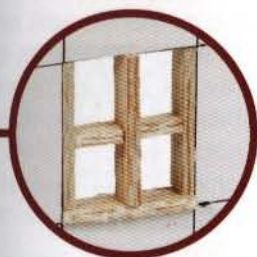
2. Cut the piece of scored balsa to size to fit the window and glue it in place. Glue two thin strips of balsa in place on the top and bottom window ledges.



3. Add the hinges by gluing two thin strips of card across each shutter panel, with a bit of brass wire on the end.



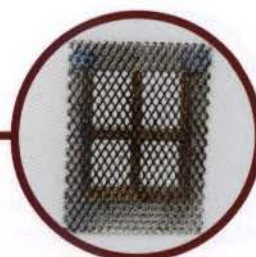
LEADED WINDOW



1. Frame the windows with balsa strip.



2. Cut any protruding balsa to the same height as the wall, except the window sill.

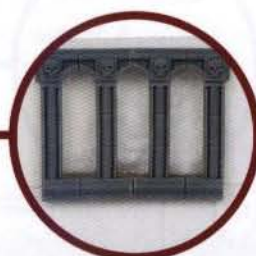


3. Glue a piece of wire mesh to the back of the window. Paint a piece of white card in a light colour, like blue or yellow, and glue that behind the mesh.

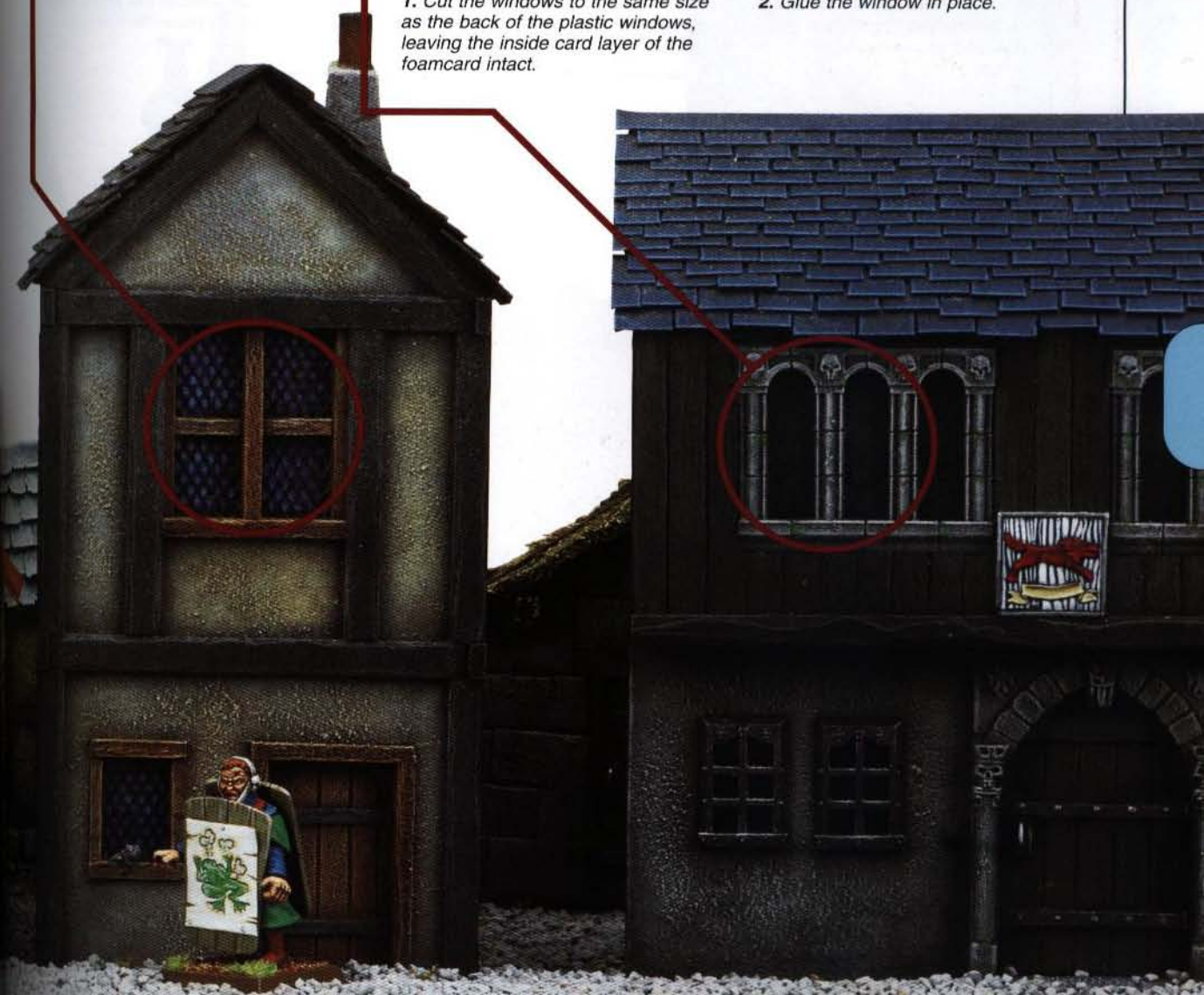
MASONRY WINDOW



1. Cut the windows to the same size as the back of the plastic windows, leaving the inside card layer of the foamcard intact.



2. Glue the window in place.



GOTHIC INDUSTRIAL WINDOW



1. Cut the excess bulkhead away from the windows.



2. Add a strip of card to the side of the windows to frame it.



3. Cut a piece of wire mesh to size. Glue this to the back of the window.

LOG DOOR



1. Score some balsa dowel using a coarse saw blade, holding it at a straight angle with the dowel, and scraping it over the balsa lengthways – make sure you scrape away from your fingers.



2. Break the dowel into lengths roughly the same size.



3. Glue a piece of card to the back of the door opening and, after the glue has dried, glue the logs in place. Add hinges to the doors in the same way as described on page 76.



DETAILS

It's the little details on a model building that can make all the difference to how it looks. To finish off this whole section we'll take a look at how to make door knockers, chimneys, trophies and the like. We'll begin by looking at a few common details, such as door knockers and chimneys. We finish off by looking at even more examples.

Bear in mind this isn't an exhaustive list, details vary from race to race, and game system to game system. However, with a little imagination, you can add all manner of extra details to your buildings. This is just to get you started.

Construction Tip – Posters

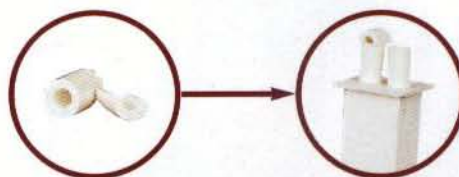
Use photocopies to reduce down pictures to make small posters that you can glue onto your buildings.

Construction Tip – Ladders

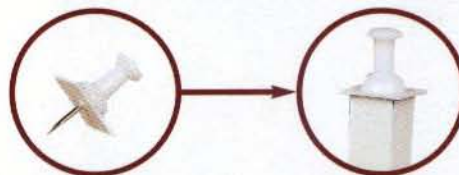
Take two bamboo skewers and glue matchsticks at regular intervals between them as steps.



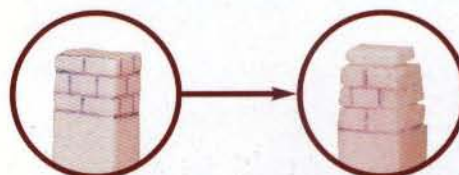
CHIMNEY



1. The pot was made from two pieces of plastic tube, one as the pot and the other cut in half and added to the top.



2. A map pin was pressed through a piece of card and into the chimney stack to make this pot.



3. To make this chimney stack, polystyrene was sculpted into the shape of bricks.

DOOR KNOCKERS



Wire bent around a paintbrush to make a circle and held in place with a little modelling putty.



Doorknob made by melting the end of a plastic rod over a flame.



Banner decorations from the Zombie sprue, one with the tassel cut off.



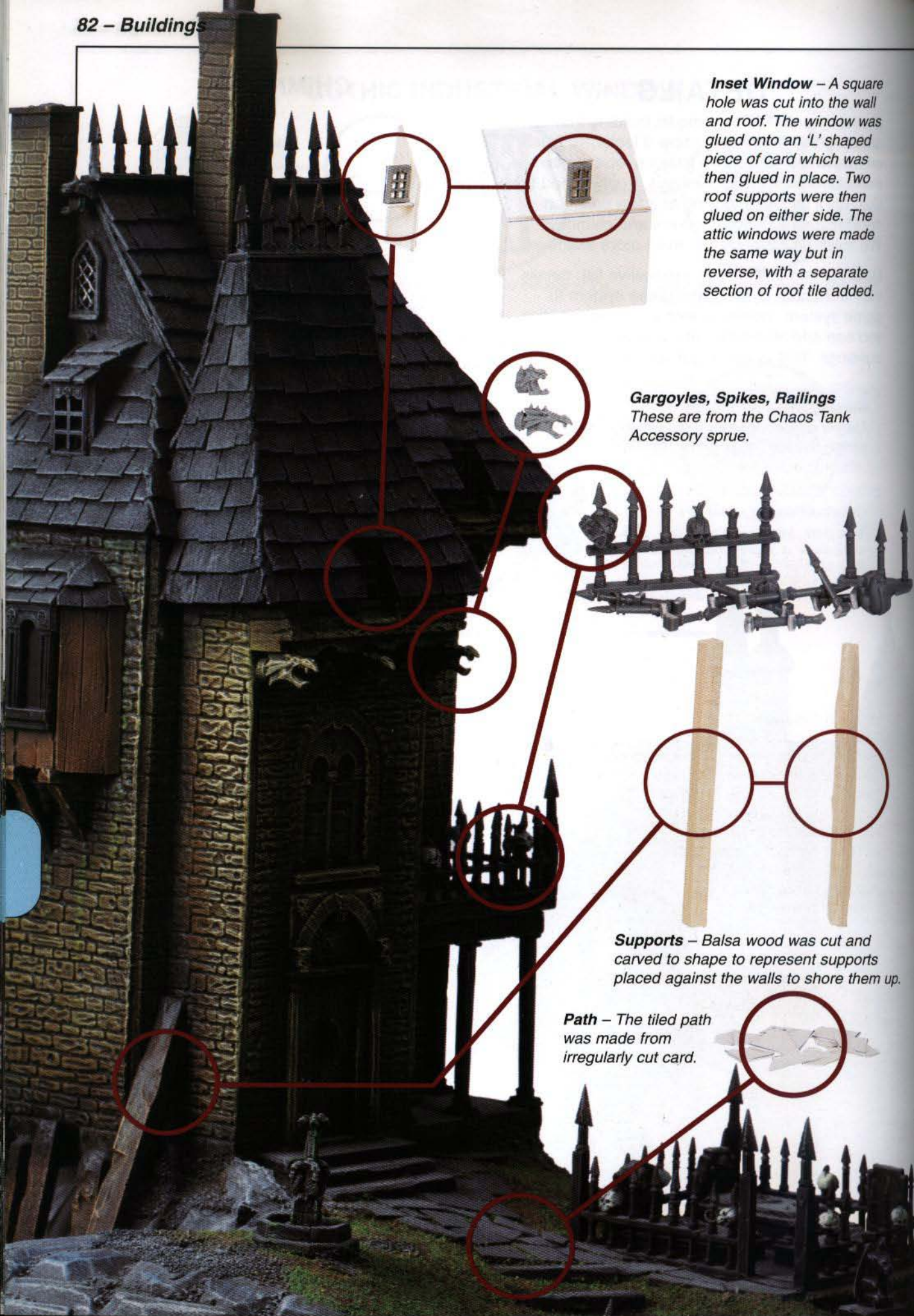
Inner doors from a Land Raider with an auspex from the Space Marines sprue.

Inset Window – A square hole was cut into the wall and roof. The window was glued onto an 'L' shaped piece of card which was then glued in place. Two roof supports were then glued on either side. The attic windows were made the same way but in reverse, with a separate section of roof tile added.

Gargoyles, Spikes, Railings
These are from the Chaos Tank Accessory sprue.

Supports – Balsa wood was cut and carved to shape to represent supports placed against the walls to shore them up.

Path – The tiled path was made from irregularly cut card.



Spikes & Chains

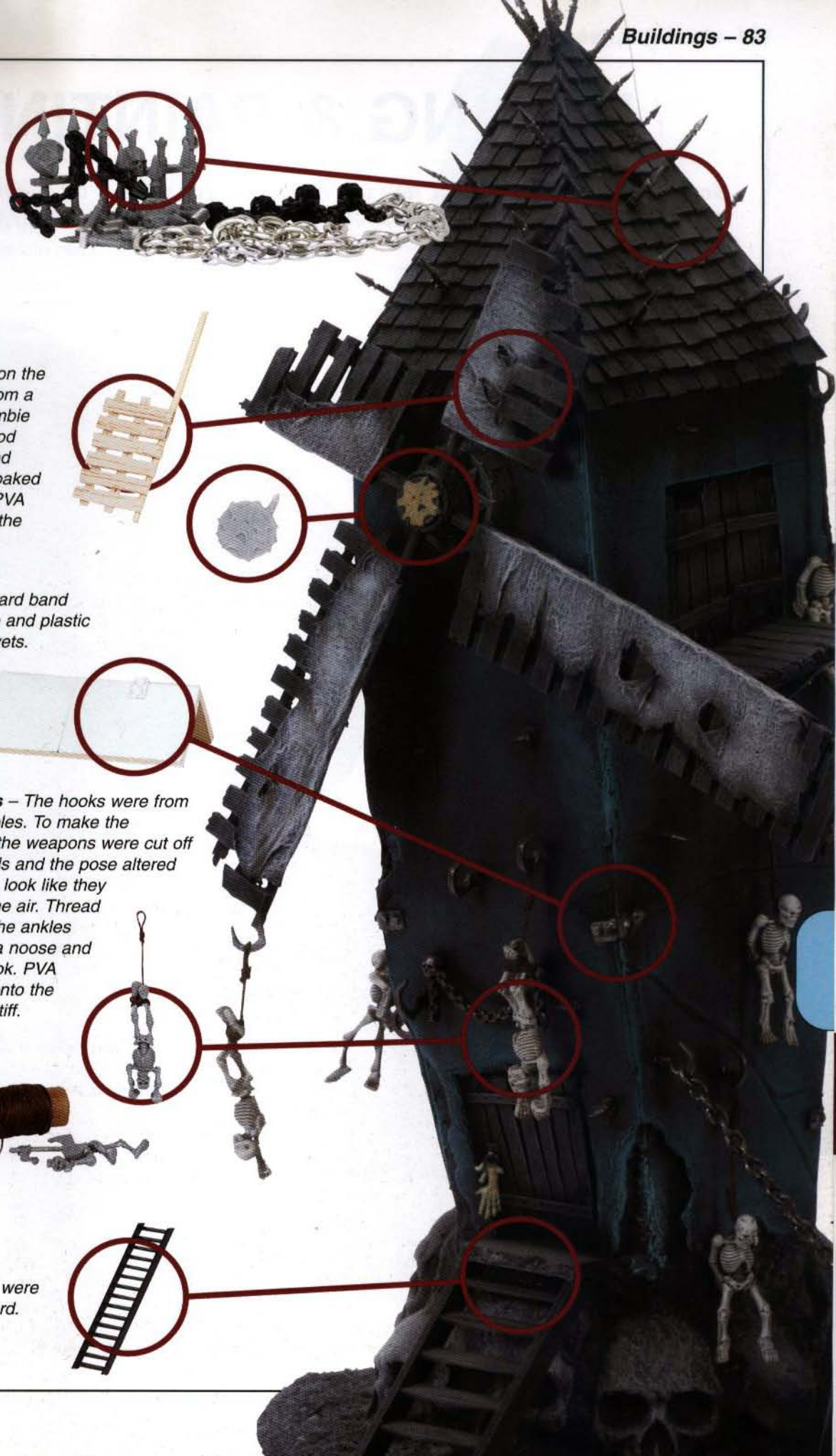
– The spikes on the roof and walls of the windmill, plus some of the chains, are from the Chaos Tank Accessory sprue. The larger chains are cut from a necklace.

Sails – The boss on the sails was made from a gong from the Zombie sprue. A balsa wood frame was built and pieces of tissue soaked in watered-down PVA attached to make the sails themselves.

Metal Brace – A card band was glued in place and plastic rod cut to make rivets.

Hooks & Trophies – The hooks were from Dark Elf banner poles. To make the skeleton trophies, the weapons were cut off the skeleton models and the pose altered to make the bones look like they were dangling in the air. Thread was used to bind the ankles and then tied into a noose and attached to the hook. PVA glue was painted onto the thread to make it stiff.

Steps – The steps were made from plasticard.

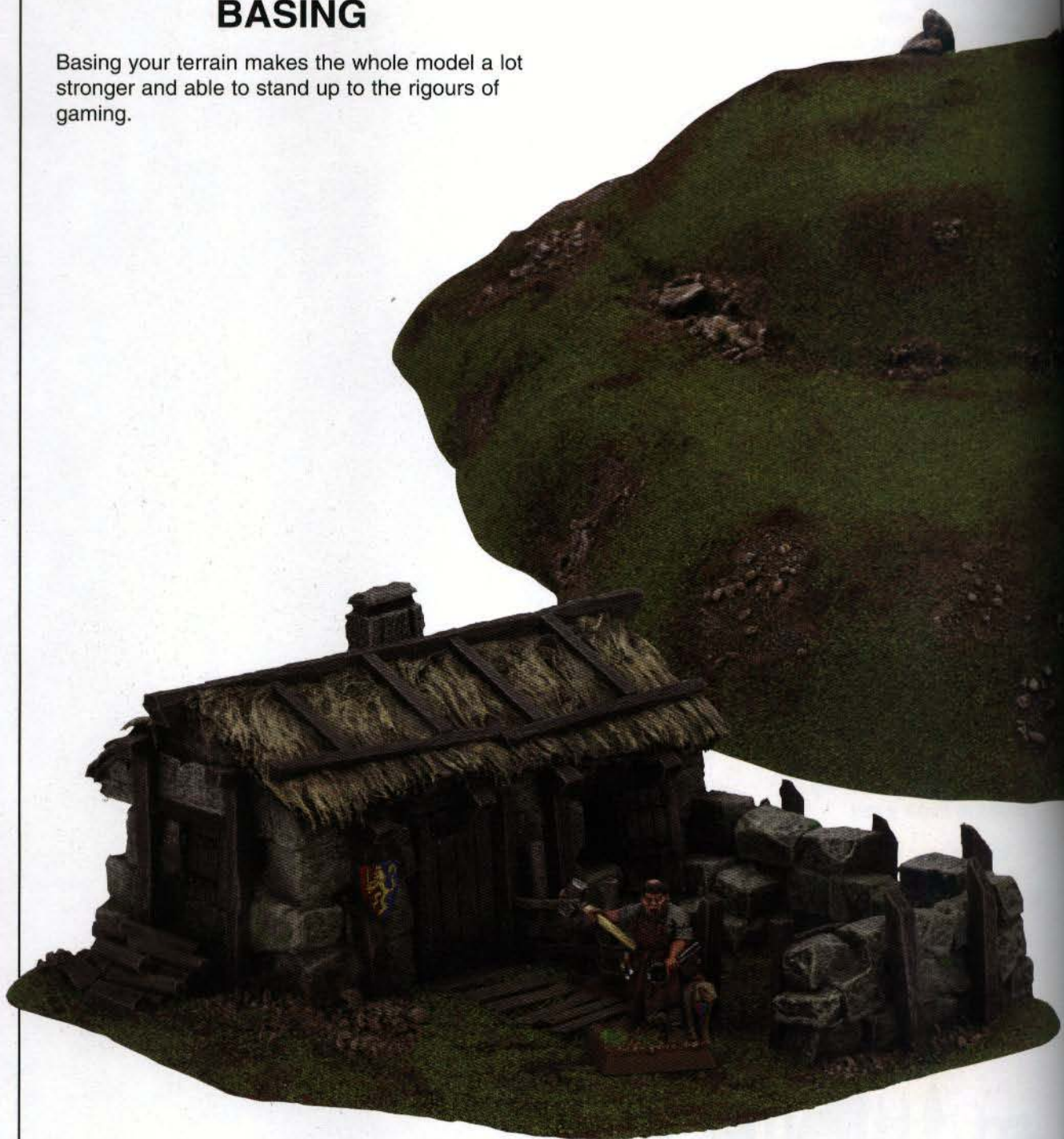


BASING & PAINTING

Now you've built your terrain, let's talk about how you finish it off and make it look good. Painting terrain is almost exactly the same as painting miniatures. You just tend to use larger brushes.

BASING

Basing your terrain makes the whole model a lot stronger and able to stand up to the rigours of gaming.



As well as providing a solid foundation for the house itself, the base of this model also supports extra structures, such as the walls of a pen and a wood pile.

Base size

There are a few things to think about as far as making a base is concerned. The first deals with its size: you want people to admire the model you've made, not the base. To stop the base becoming too obvious, it should be as small as possible. So as long as the base is the same size, or only slightly larger, than the terrain piece, you've got it about right.



The bevelled edge cut onto the rim of this model's base helps it to blend into the surrounding table surface.

To create a bevel edge, cut the base out at an angle then shave away the edge to create a more rounded shape.



Materials

Although bases can be made from a wide variety of different materials, the two major choices would be thick card or thin wooden sheet. Cardboard bases are thinner and less obtrusive than wooden ones. Wooden bases do have the advantage of being much tougher. In the Studio, we tend to use wood when basing our terrain as it is used a lot and needs to be hardwearing.



A card base



A base cut from wood

Shape

The shape of the base depends on the kind of board the model will be placed on and the nature of the model itself.

For urban buildings in reasonably good condition, squared corners and a regularly shaped base works well because it looks like a kerb.



For rural buildings and ruins, a more rounded shape makes the boundary of the base appear less definite.



Craters, swamps and other natural features also suit an irregularly shaped base.

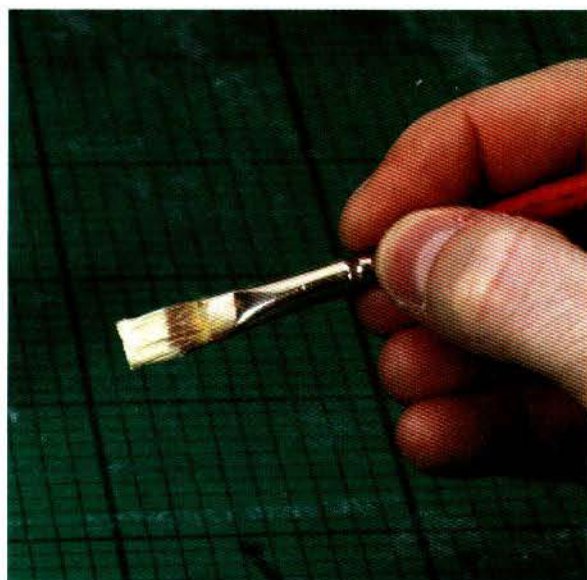


PAINTING

Now we've looked at basing your models, we're going to take a look at some of the ways you can prepare and paint them.

Undercoat

The way you go about undercoating terrain will be dictated by the size of the piece you are painting. Small, detailed terrain pieces should be treated in the same way as miniatures in your collection and, as such, we would recommend that you use a Chaos Black undercoat. Bigger, less detailed, terrain pieces are best undercoated using a big pot of paint and an



even bigger brush or roller. When it comes to choosing the colour to use for the undercoat, we find it best to use a darker version of the finished colour. For example, if painting a planetary landscape terracotta, then Scorched Brown would be a good undercoat.

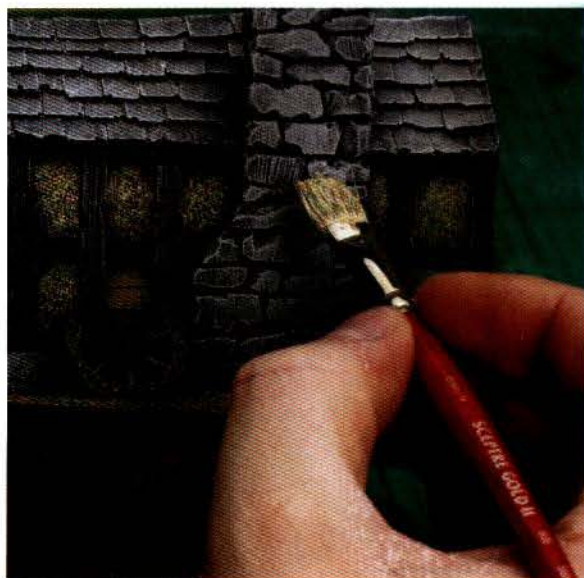
Techniques

Although you can use any miniatures painting technique (see *How To Paint Citadel Miniatures* for details), when painting large terrain pieces we find that you get the best results using a mixture of drybrushing, overbrushing and washes.

Drybrushing

This is an effect that will highlight your terrain and give it a pleasing weathered effect. To drybrush your model, take a brush (preferably an old brush as drybrushing tends to damage bristles) and work your chosen colour into it, then wipe any excess onto your palette. The paint will need to be fairly dense or you will find it smudges when you try to use it. If the paint is too thin, let it dry a little on your palette before you begin.

With the paint on the brush, take a piece of tissue or newsprint and run the brush over it until the brush strokes leave almost no marks, even when pressure is applied. To best cover the large, flat areas of most terrain you will need to have your brush as dry as possible. This will mean that you need to scrub the brush quite hard onto your model to deposit any paint.



Build up the colour in layers, starting with a dark colour and working up to quite a light colour: you can even use white as a final layer. At the beginning you will need to use quite a big brush. As you reach the lighter shades of colour, you may want to switch to a slightly smaller brush. The size of the brushes you use will be largely dictated by the size of the model itself. The bigger the model, the bigger the brush.

The final result should be a natural texture, with shadows created by the darker shades and basecoat still being visible in the corners and crags of the model.

Painting Tip – Textured Paint

One of the methods you can use to undercoat terrain is using textured paint. This comes in a variety of grades from fine to coarse, and can even be found in spray cans. Using textured paint to undercoat has a number of advantages: not only does it provide an undercoat but it will texture and seal at the same time. Course textured paint will give a good sand or earth texture to terrain, whilst a fine texture will provide a good key when it comes to painting, ideal for weathered surfaces.



Overbrushing

This is a simple way of painting heavily textured surfaces, such as a rock, bricks, etc. It is basically the same technique as drybrushing but instead of using a dry brush, you apply a light stroke of paint over the surface to pick out the texture.

Many people employ the drybrushing technique use the same word to describe overbrushing too - the two methods merge into each other and most modellers will naturally combine the techniques together as they work.

The main difference between the two approaches is that overbrushing doesn't produce the classic 'dusty' look you get from extreme drybrushing.

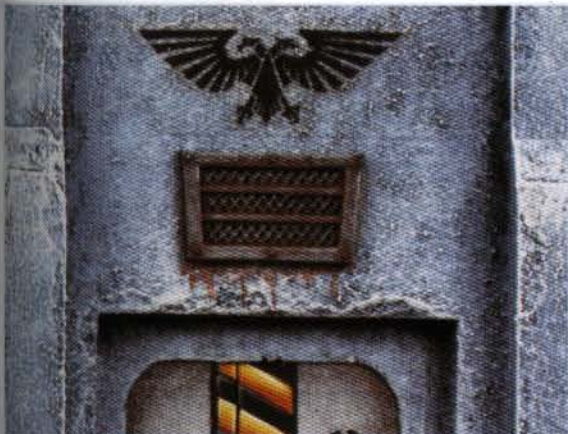


Here you can see a rocky hill being overbrushed. The first overbrush was using Dark Flesh, then a combination of Bestial Brown followed by Codex Grey. As the lighter colours were applied using a smaller brush, the strokes of the brush got lighter, too.



Washes

For our purposes, a wash can be paint or ink that has been watered down to produce a translucent pigment. Washes are mainly used to shade areas on models. When painted on a model a wash will naturally run into any cracks, crevasses and other recessed areas. Washes can also be used in a dilute form to apply rust or chemical staining or, in very watered down form, light weathering effects applied in streaks.

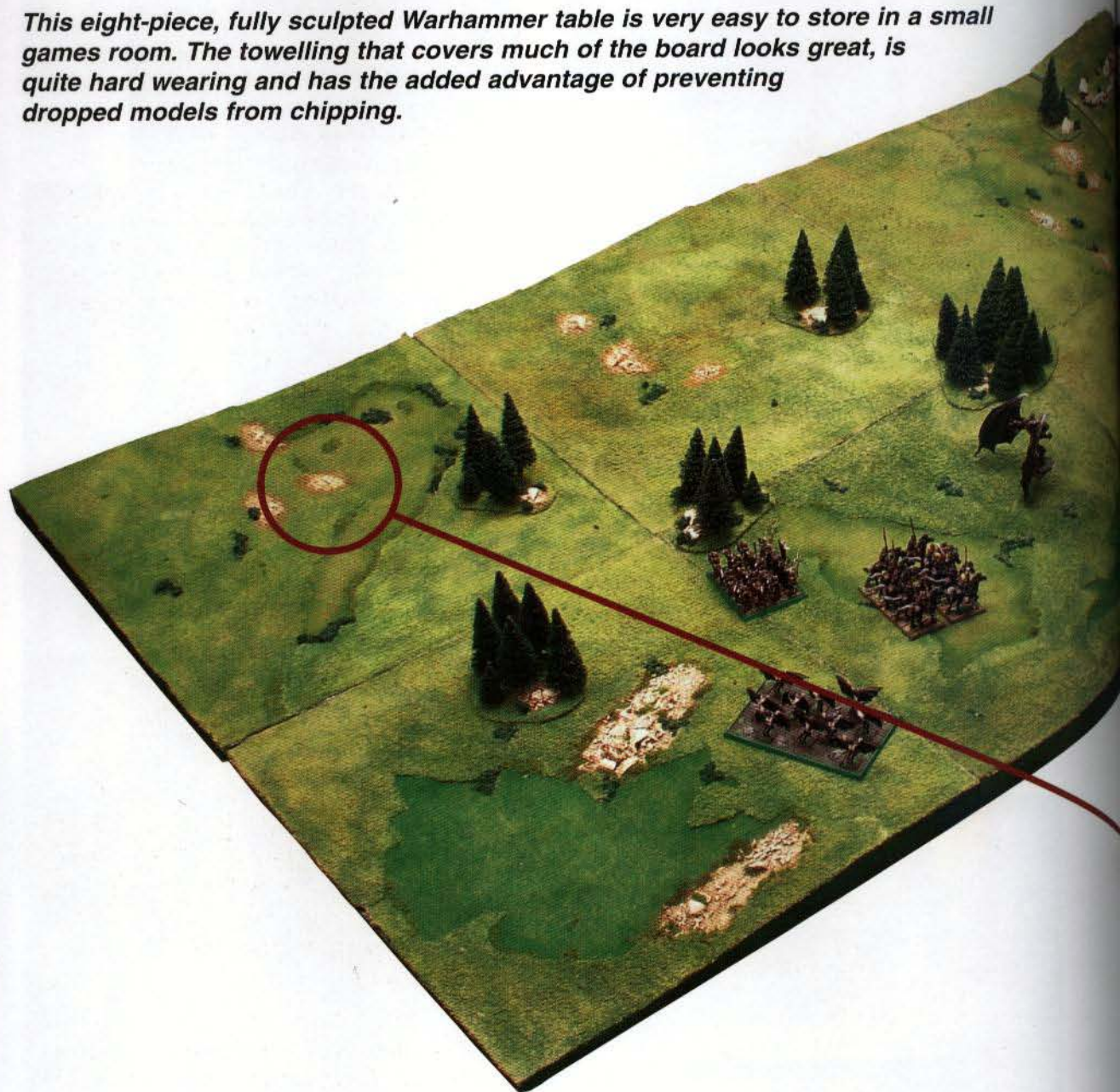


TERRAIN BOARDS

You'll find that looking at other people's terrain boards can inspire you to have a go yourself. Here are some of the coolest boards we've seen from around the world, as well as the methods used in their construction...

Coastal Terrain

This eight-piece, fully sculpted Warhammer table is very easy to store in a small games room. The towelling that covers much of the board looks great, is quite hard wearing and has the added advantage of preventing dropped models from chipping.



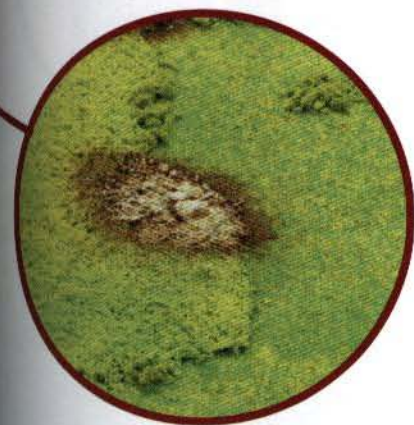


Cliff and seashore

Once the cliff was built up from polystyrene, chunks of tree bark were used for the rock effect. Filler was used to add ripples on the surface of the water, and the ripples were painted to resemble waves breaking against the shore, as described on page 44.

Baseboard

Most of the surface of the board is covered with a mixture of dyed towelling and battle mat. The surface was broken up further with patches of sand and rock.



Trees

Modelling trees directly onto a board makes it difficult to store without damage. Tightly grouped together on bases, these bought fir trees can be easily stored on shelves.

Pumping Station

The most interesting thing about this board is that it's halfway between a fully-modelled board and a flat table. The central pumping tower and the recessed pipelines are fixed into the table, while the rest of the terrain is separate.



Icicles

A chance discovery in a modelling store was strips of plastic icicles which were a perfect addition to the board.





Frosting

A dusting of Skull White spray paint was carefully applied to create the frost effect on the buildings.



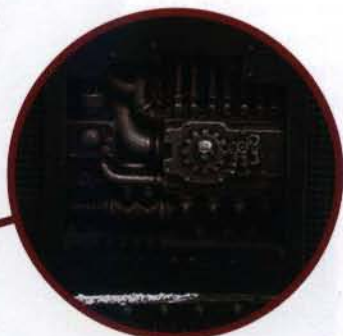
Snow

Sand and PVA glue were used to create patches of thawing snow.



Detailing

Never throw away any spare pieces from your models. This Land Raider engine is just one example of the spare parts used to detail the buildings.

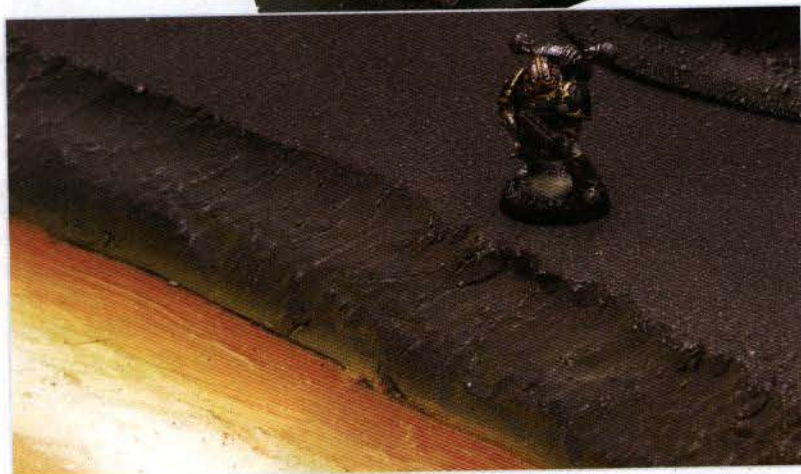


Piping

To give the board an industrial feel, a variety of plastic pipes from a hardware store were used on all of the buildings, as well as being used for the pipelines themselves.

Volcanic Death World

The most striking features on this board are the lava flows that break it into islands. The only other terrain on the table are the collections of alien rock formations.



Baseboard

The islands were made from sheets of polystyrene cut into shape then glued to the table. The surface of the lava flow was made with ready-mixed filler.



Safety Tip

When melting polystyrene, do it outside or use a well ventilated area.



Rock formations

The characteristic volcanic rock was made by roughly shaping blocks of polystyrene into spires then going outside to melt holes into the rock surface with lit matches. Careful use of a heat gun created an interesting surface later.

A layer of smaller pebbles built up the surface around the rocks.



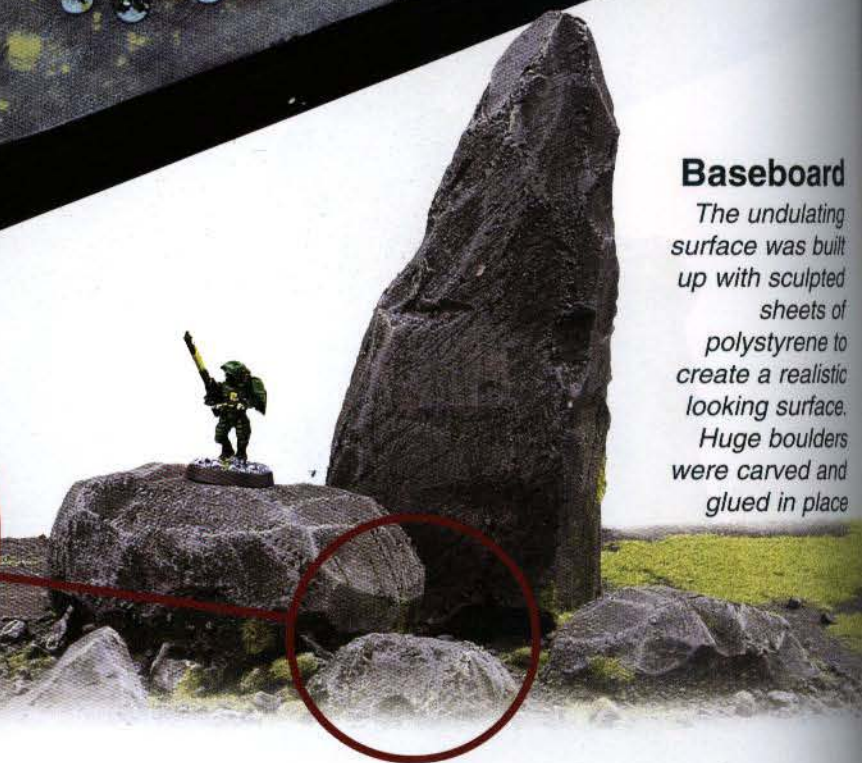
Tau Outpost

This large, fully-modelled board features buildings designed with the characteristic domes of the Tau and an undulating, rocky surface.



Baseboard

The undulating surface was built up with sculpted sheets of polystyrene to create a realistic looking surface. Huge boulders were carved and glued in place



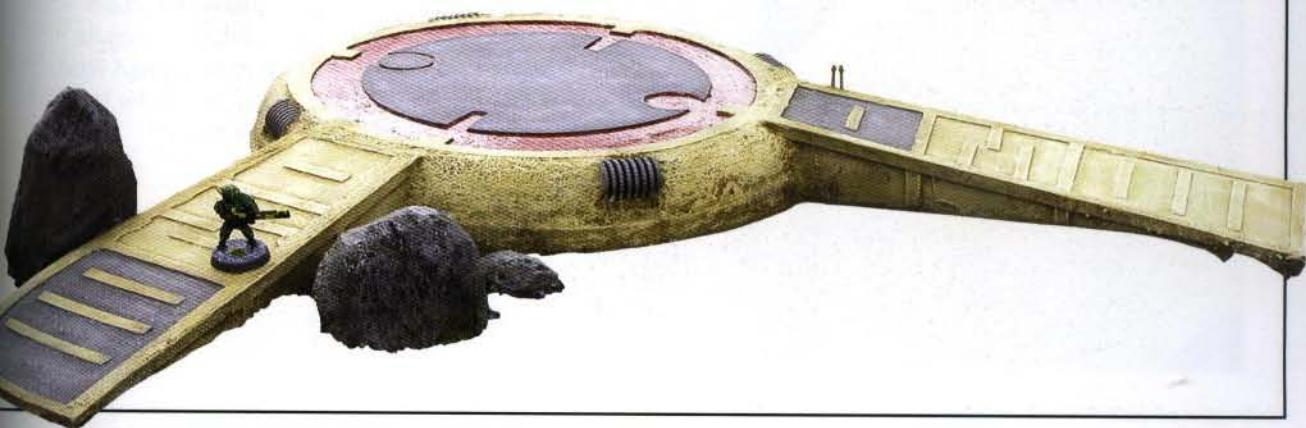
Piping

Plastic piping from a local hardware store was used to add more detail to the buildings.



Buildings

The bulk of the buildings were carved from polystyrene and geometric details added in plasticard. All of the buildings have additional details taken from parts from Tau vehicles and Battlesuits, as well as domes made from polystyrene spheres.



Gondor

Built to play games of The Lord of The Rings, this table was made to appear as realistic as possible. The hills, crevasses and river were carved with a long bladed knife, leaving a huge pile of discarded polystyrene in the process!





River

The river was carved straight down to the wooden baseboard with huge chunks of polystyrene stripped away to make the riverbanks. It was important to make sure that the river started and finished at the same point on each board for some extra flexibility.



Small hill

The rocky hills were made from two layers of polystyrene, surrounded by debris made from a mixture of polystyrene scraps and slate.

Two-part hill

The largest hill on the board was built over two sections butted together.

Two layers of polystyrene were glued to the table to make the basic shape, and then both halves of the hill were carved together.



Khemri

This Tomb Kings board is very simple, with only a few modular terrain pieces that can be set up in a variety of different ways.



Cliff Face

The cliff face was built up using tree bark.



The Temple

The largest feature on the board is the temple. It was built using layers of polystyrene and detailed with cake decoration pillars and a plastic skull from a toy store.



Trees

The trunks of the trees were built up using Green Stuff over a wire armature. The foliage and roots came from plastic jungle trees.



Kislev

Although built with Kislev in mind, this snow table can be used with any army from Warhammer, Warhammer 40,000 or The Lord of The Rings. The dominant feature of the board is the patchy covering of snow over a hilly surface.

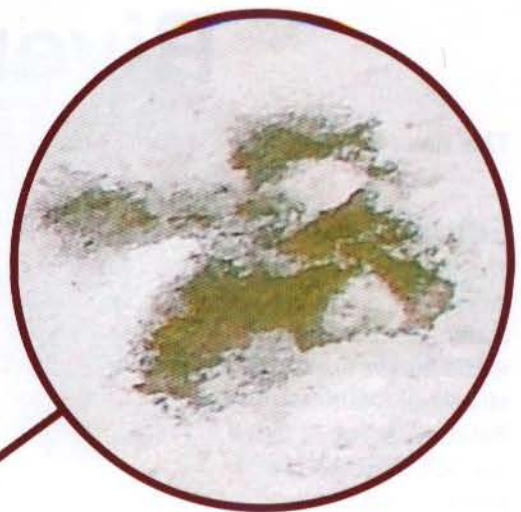
River

The waterfall was made from string covered with a layer of resin. The resin covers a sculpted river that flows off the board.



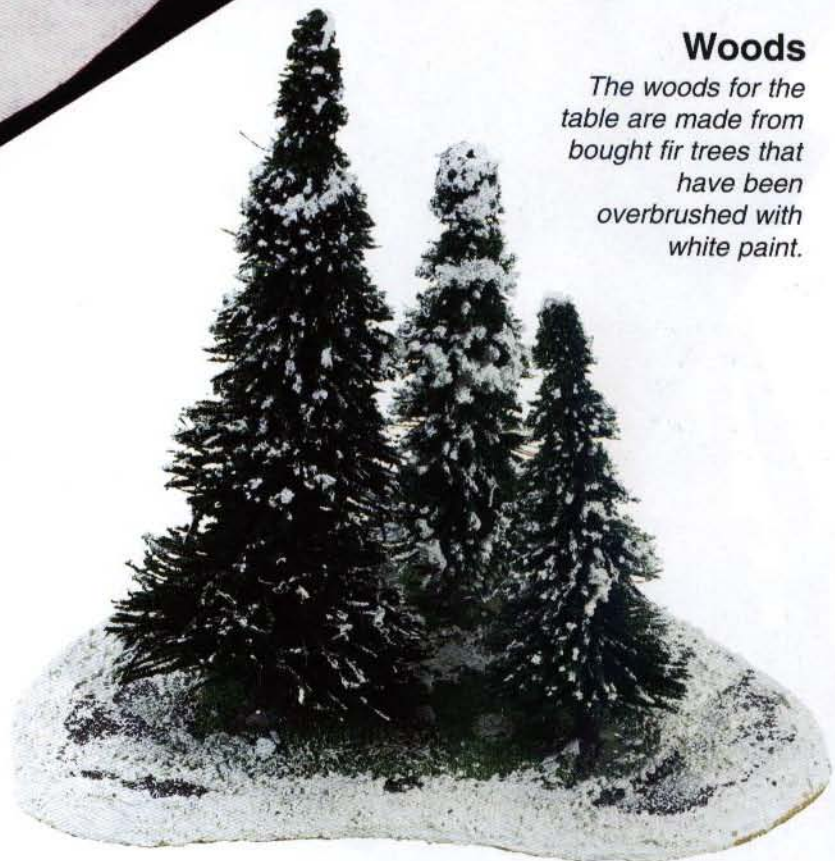
Grass

Patches of Static Grass were glued to the table, followed by a layer of sand painted white to resemble snow.



Woods

The woods for the table are made from bought fir trees that have been overbrushed with white paint.



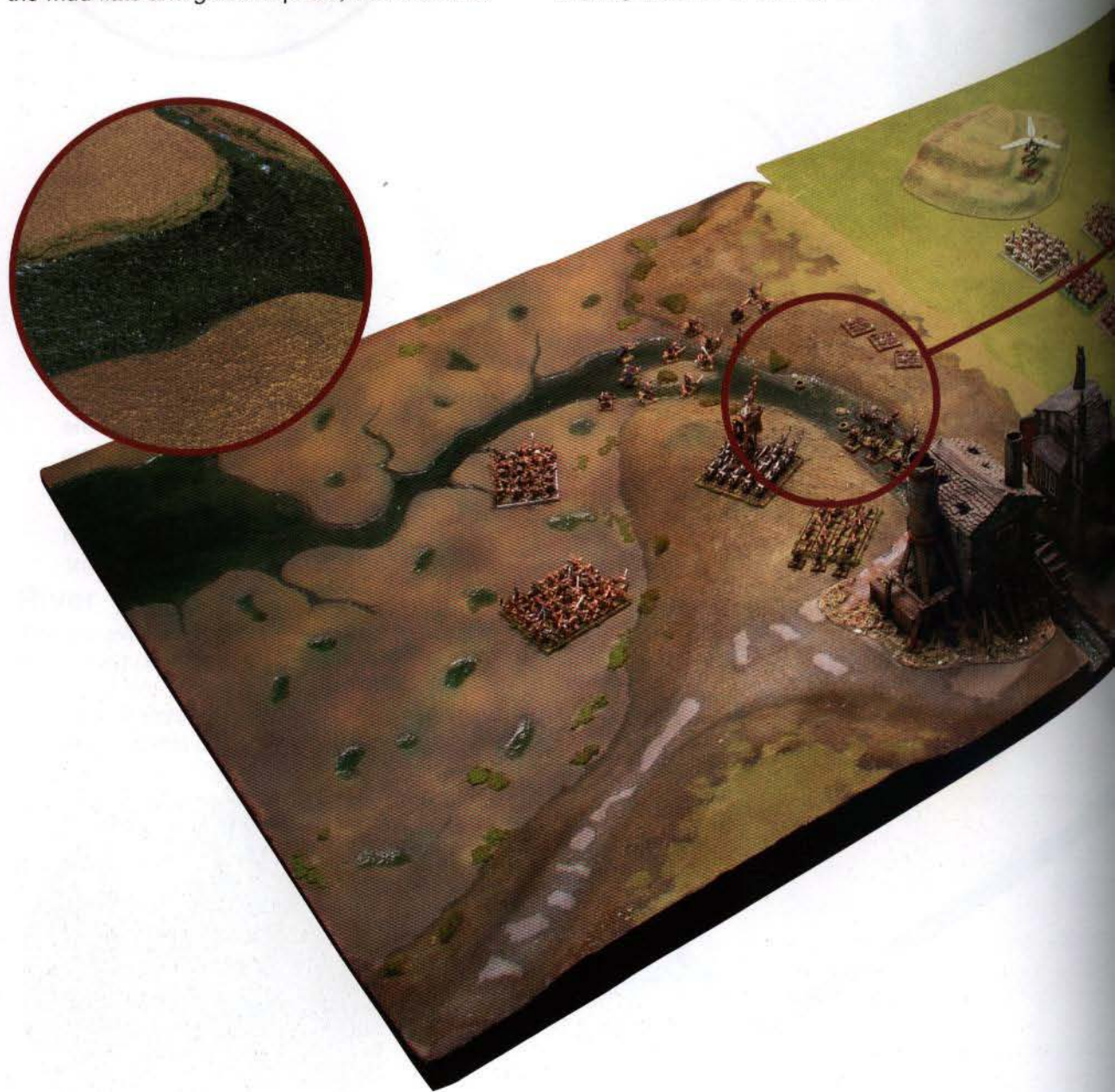
River Estuary

The river estuary is a combination of a traditional gaming board with a sculpted table.

Estuary side

The sculpted half of the board is made up of three levels: water, mud flats and dry earth. The water effect was made with several layers of varnish over the mud-coloured baseboard. Large sheets of foamboard were cut into the shape of the mud flats and glued in place, then covered

with a layer of sand mixed with water and PVA glue. Polystyrene was used to build up the dry earth and was covered with the same mix as the mud, but with ready-mixed filler added. Pieces of textured plasticard proved useful for making patches of hard ground.



Dry land side

For the other half of the board, the hills and buildings were made with separate bases for greater flexibility. The models have the same abandoned appearance as the rest of the board.



Barrels

To create that abandoned look, some barrels from Empire Cannon sprues were cut up and then glued into the water.



Mill house

This run-down building was made from blocks of resin brickwork from a hobby store, with gaps carefully cut into it. The chimney was made from a cardboard tube, wrapped in textured wallpaper. Using the texture of the paper as a guide, the tube was cut near the top to make it look more like a crumbling chimney.

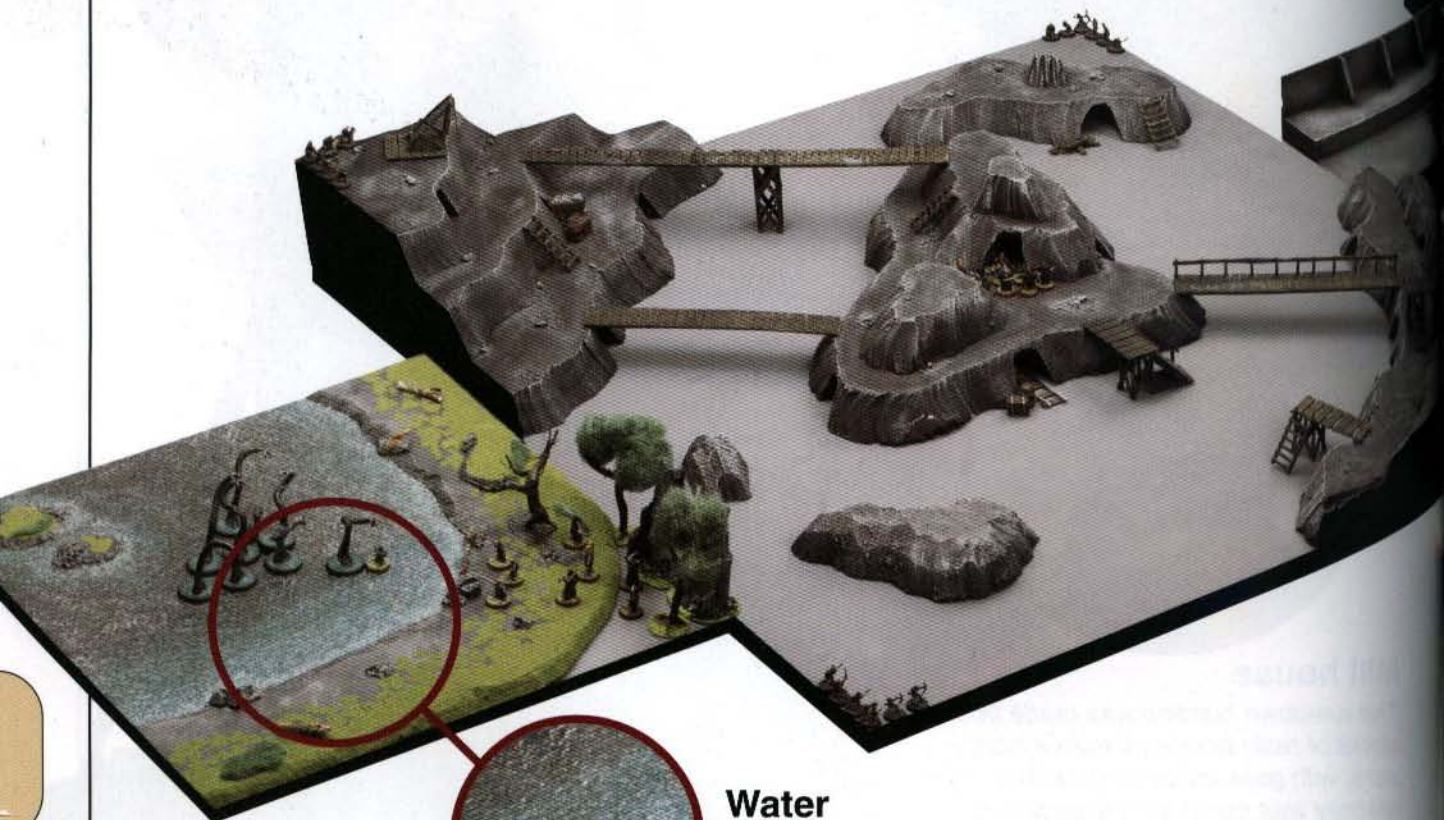


The Mines of Moria

This isn't just one table, it's a collection of smaller boards which, when put together, portray the dramatic scenes from the journey of The Fellowship through the mines of Moria. The whole construction was made from foamboard, polystyrene, cork tiles and balsa wood.

Mine workings

All of the mine workings were made from balsa wood, scored to look like individual planks. The wheels on the mine cart were made from shields taken from plastic Warriors of Rohan.



Water

Textured ceiling tiles and layers of PVA glue were used to get the effect of the murky water at the edge of the tomb.

Balin's Tomb

Balin's tomb was built from two cocktail stick boxes. The base of the first box made a good lid for the tomb, while the second box, cut down to Dwarf head height, served as the rest.



Pillars

One of the most common features on the board are the pillars, which are made from polystyrene ceiling tiles.



INSPIRATION

Finding inspiration for your terrain pieces is easy. For a start, take a look through the rulebooks and other published gaming material for whichever game you're building your terrain for. Each of the worlds in which Warhammer, Warhammer 40,000 and The Lord of The Rings are based has its own distinctive flavour: there is a wealth of material in these worlds that you can draw on to generate ideas. Beyond these is an ever-increasing number of novels, comics and computer games set in these worlds which can inspire you through their artwork or battlefield descriptions.

History, film and Internet imagery can be a huge source of ideas due to the sheer amount of material available, providing a wealth of authentic detail which you can use as you plan your terrain. What better way to decide what your ruined castle should look like than to find a photograph of a real one! Over the following pages is a selection of

photographs from a number of different environments as well as concept sketches for buildings from the worlds in which our games are set. These are partly intended as a spring board for your imagination when thinking about terrain, and also as a way of sampling the atmosphere that makes each of our game worlds unique.

Countryside



Jungle



Arctic



Photo Credit: Simon Fraser/Science Photo Library

Desert



Photo Credit: David Parker/Science Photo Library

Moonscape

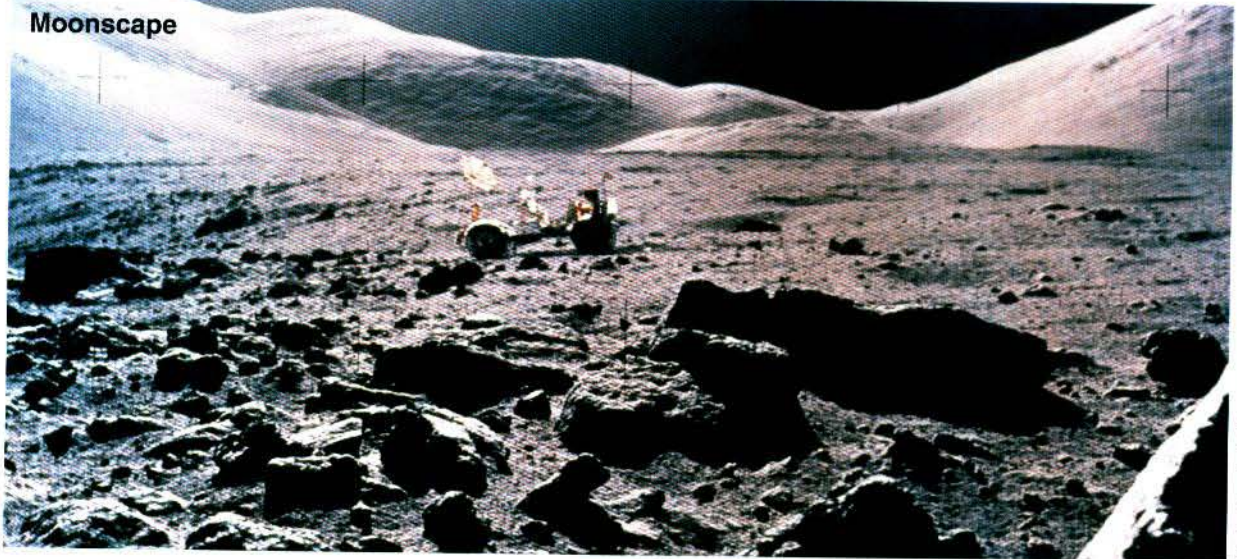
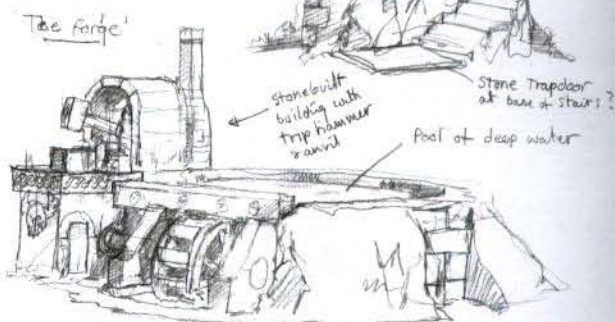
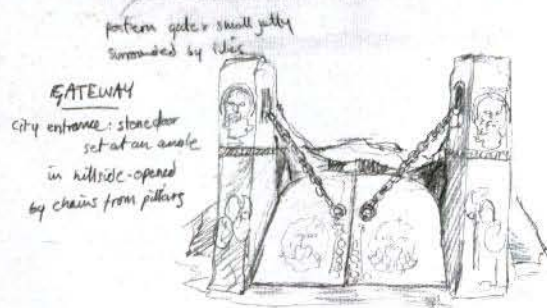
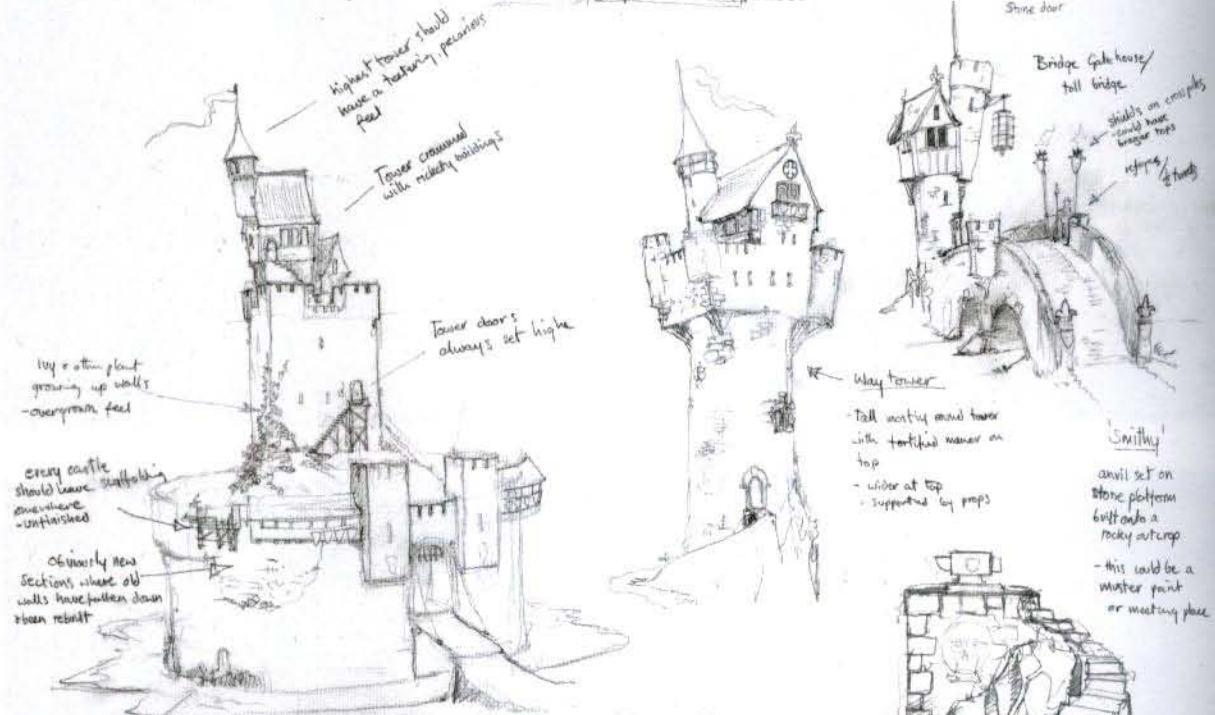
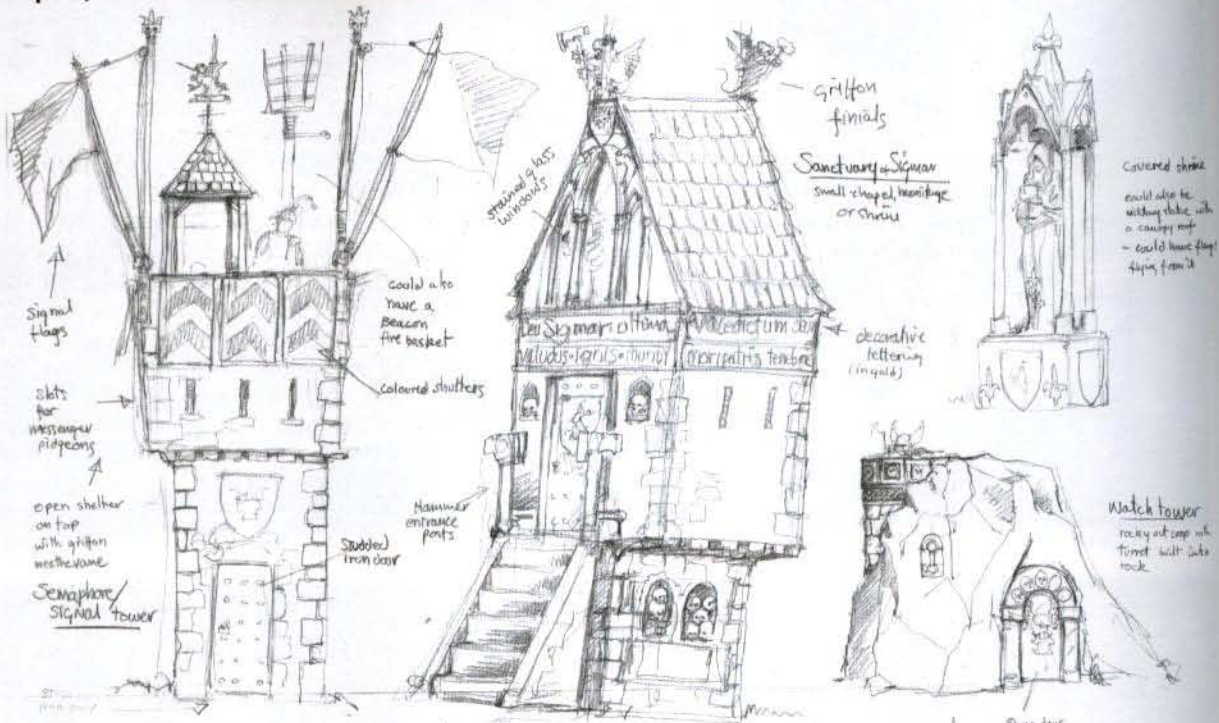


Photo Credit: NASA/Science Photo Library

Empire, Dwarf & Bretonnian Structures



Chaos, Orc & Lizardmen Structures

Hillfort
- incorporating stone circle
in wooden palisade walls

Fortified stone circle

Surround
of stakes
or spikes

large central stone
hung with heads & skulls
- could have a platform
on top

Sacrificial pillar
beaver skull
topped

Hanging
chains to which
sacrificial victims
are chained

Orc watchtower

Orc encampment/settlement/fort
possibly surrounded by a stinking moat

Sacrificial temple
- great capped standing stone
- skull shaped altar above
blood pool
- cyclopean masonry
with skulls set into
joints

Head

Statue emerging from ground
overgrown with creepers/vines/roots

Blood pool

Watchtower
can vary
in height

Altar - twin headed sacrificial altar

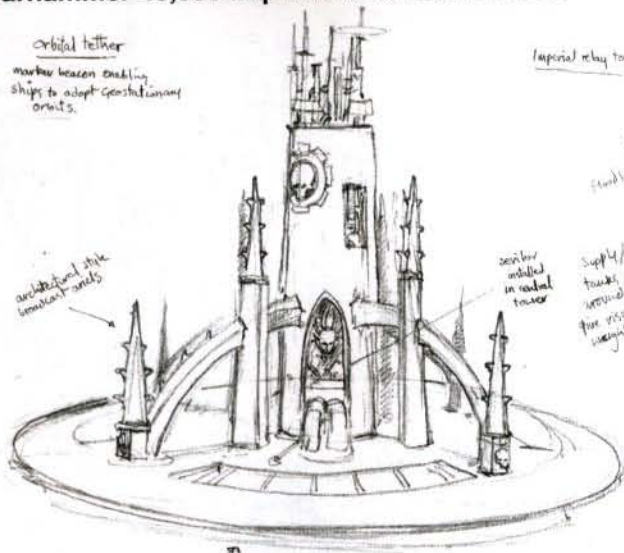
freestanding or on a plinth or low zigzag

Signal
alarm tower
- large drum or
gong held between
decorative pillars

Warhammer 40,000 Imperial & Ork Structures

Orbital tether
marker beacon enabling
ships to adopt geostationary
orbits.

architectural style
consistent across



Imperial relay tower

flared lights

city's
council house

supply storage
trucks clustered
around base
for rapid
loading

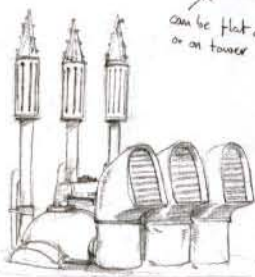
stabilized
by small
flying buttresses

shuttered
windows

door &
platform
on opposite
- built or
without
steps

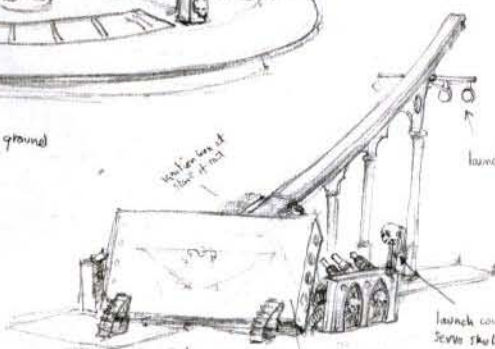
Secure processing tower
not a military installation
so could be bright industrial colors

can be flat on ground
or on tower



Atmosphere purifier

satellite
dish of rail



launch lights

launch control
serve shell weaponry

launch rail
for anti-air
missiles & manned flyers

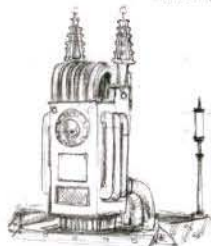
Heavy Blast shield
on hinges



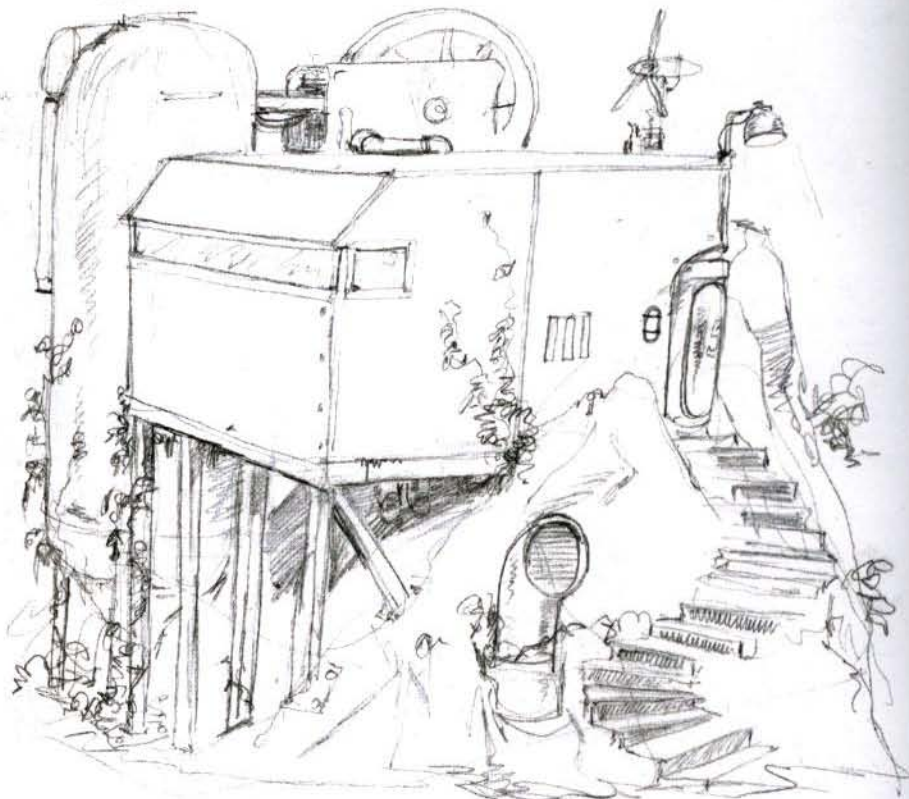
Auto-medic
proclamator



monitor bank

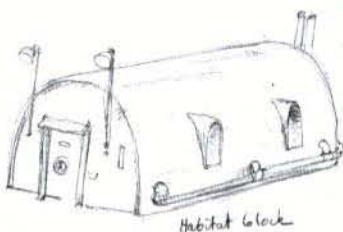
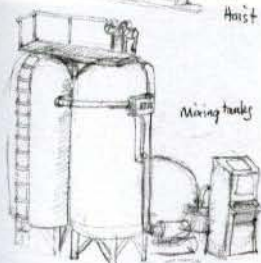
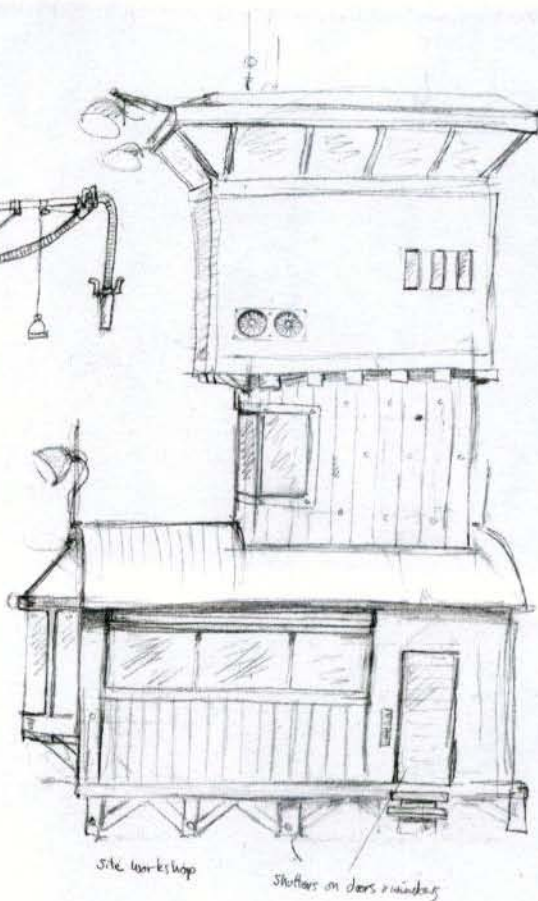
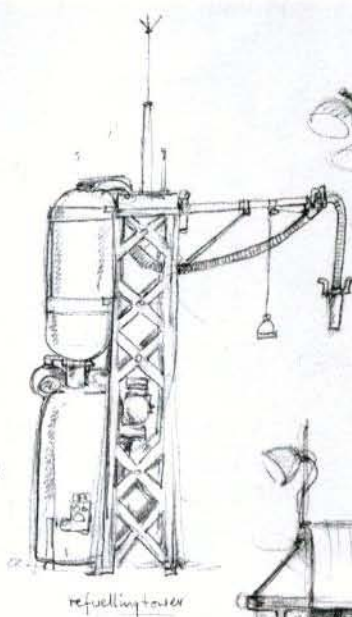
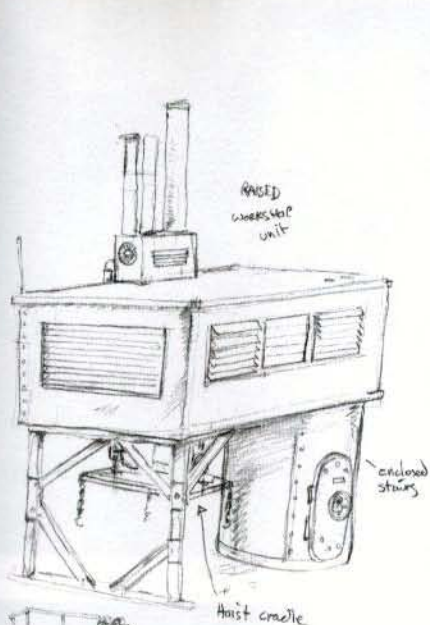


Power from former
sub-station

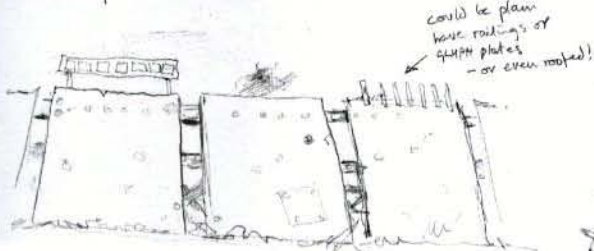


Mine working
or small holding station built into hillside

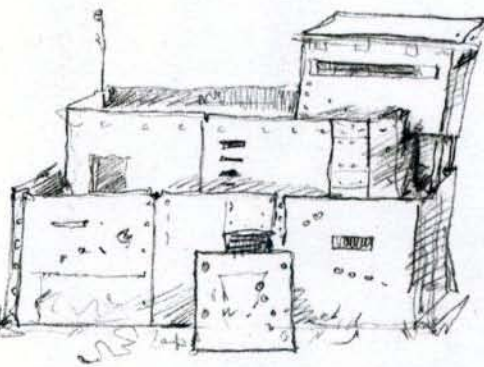
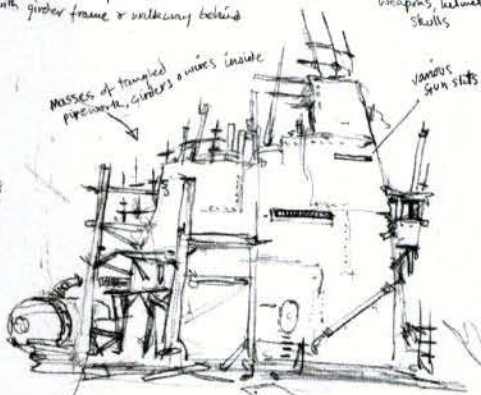
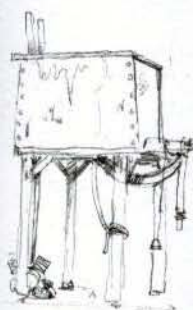
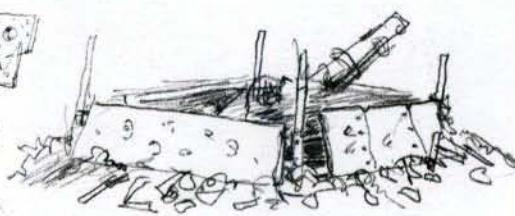
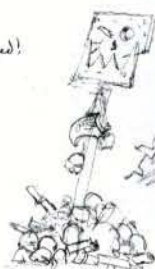
prefab concrete
overgrown with creepers or alien vines
will soften shapes and give a feeling of age



OR scenery



OR perimeter wall
- Not a ramshackle barricade!
Heavy iron plates - spaces between each
with girder frame & unloading behind



The Shire



Moria



Bree



Rohan



Amon Hen



Osgiliath

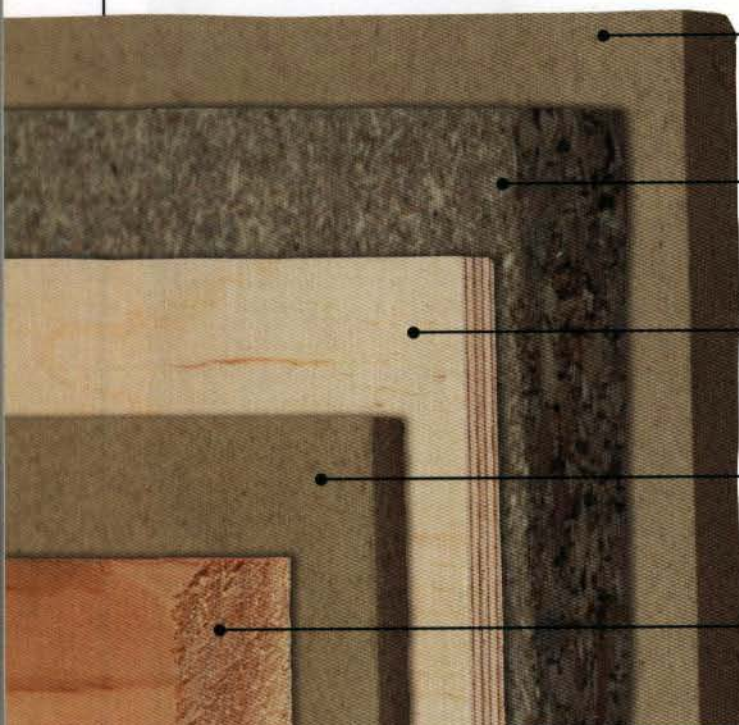


MATERIALS

What follows is a list of materials useful for making terrain, so you can choose the ones most suitable for your terrain project.

Safety Warning – Make sure you read any safety instructions before using!

Wood: Different kinds of wood that are suited to various types of baseboard and even bases for individual scenery pieces. The most important thing about the material you choose for your baseboard is that it has to be hardwearing and sturdy enough to be handled often without breaking.



MDF: This has no wood grain, which makes it relatively easy to cut.

Pro: Hardly warps.

Con: Need specialist tools to cut.

Chipboard: Chipboard is made from tiny chips of wood, compressed together in sheets.

Pro: Hardly warps.

Con: Crumbles and splinters when cut.

Plywood: Plywood is made from intersecting layers of thin wooden sheets.

Pro: Good for baseboards.

Con: Warps if not braced.

Hardboard: This is a material similar to chipboard, only much tougher.

Pro: Thinner sheets can be cut with a sharp knife.

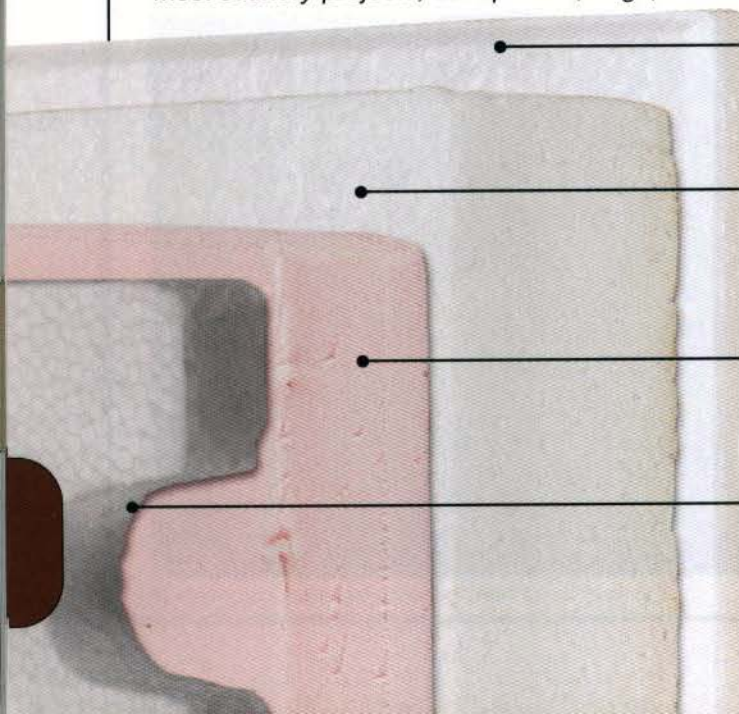
Con: Warps if not braced.

Soft Wood: This is the best material to brace baseboards with to stop them from warping.

Pro: Easy to work with.

Con: Only useful for bracing baseboards.

Expanded Polystyrene: This is available in all manner of shapes and sizes. Sheets are useful for most scenery projects, but spheres, rings, blocks and other shapes are also available.



Polystyrene Ceiling Tiles: These are thin sheets of polystyrene with one textured side.

Pro: Comes readily textured.

Con: Made from Low-density Polystyrene (see below).

Low-density Polystyrene Sheet: Often white in colour, consists of small foam pellets pressed together, resulting in a loose, soft structure.

Pro: Easy to cut.

Con: It damages easily.

High-density Polystyrene: Often coloured, has a smooth, tough structure.

Pro: Does not crumble.

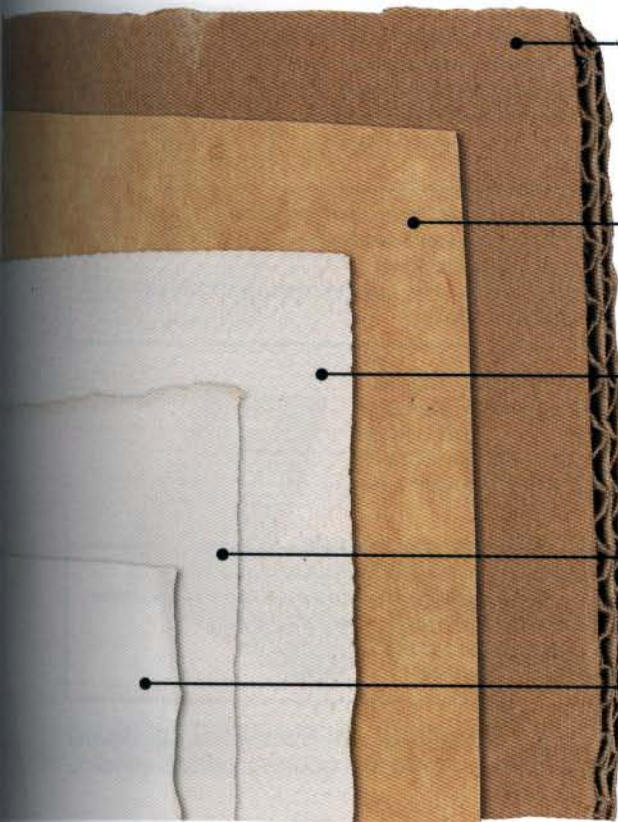
Con: Blunts knives very quickly.

Polystyrene Packing: Comes in all kinds of interesting shapes and sizes.

Pro: Perfect for making Warhammer 40,000 ruins.

Con: Made from Low-density Polystyrene (see above).

Card: This comes in different types and thicknesses, which can easily be cut with a pair of scissors or a knife. This makes it very versatile and it's always handy to have a few different sorts of card or paper lying around.



Corrugated Card: Consists of one or two layers of wavy card glued between two layers of thick paper.

Pro: Single layered corrugated card can be used to represent corrugated iron.

Con: Susceptible to warping.

Thin Card: Cereal packets and old miniatures boxes can be used as a cheap alternative to using plastic card.

Pro: It's very cheap or free.

Con: It's not very sturdy.

Textured Wallpaper: There is a huge variety of textures available, which can be used for different finishes on buildings or baseboards.

Pro: Quick way to add texture.

Con: Susceptible to damage.

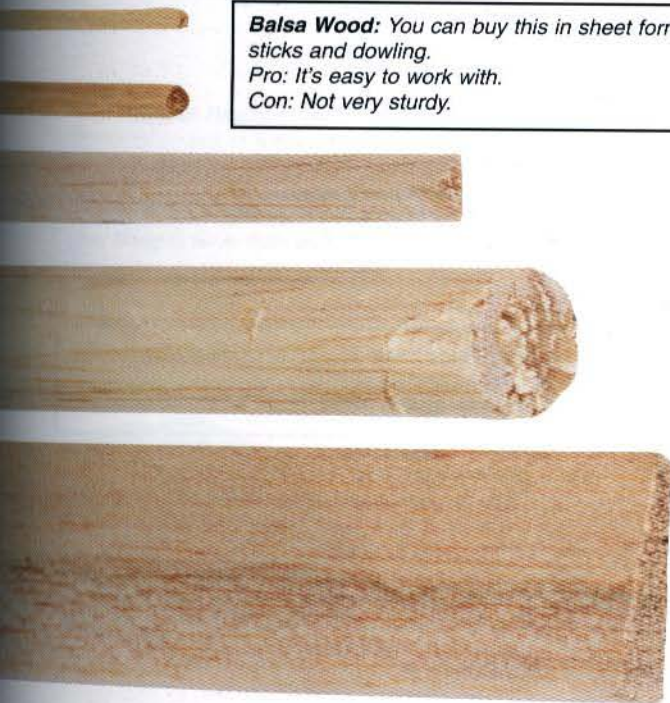
Textured Paper: This is very similar to Cartridge Paper, but has a distinct texture to it (see Cartridge Paper).

Cartridge Paper: Can be used to make animal hide and crumpled metal finishes.

Pro: Readily available from art stores.

Con: Needs to be sealed with a mixture of PVA and water before painting.

Modelling Sheets: This covers a variety of materials that are sold in sheet form. These can be used for a lot of different purposes, like making building shells, fences, doors, etc.

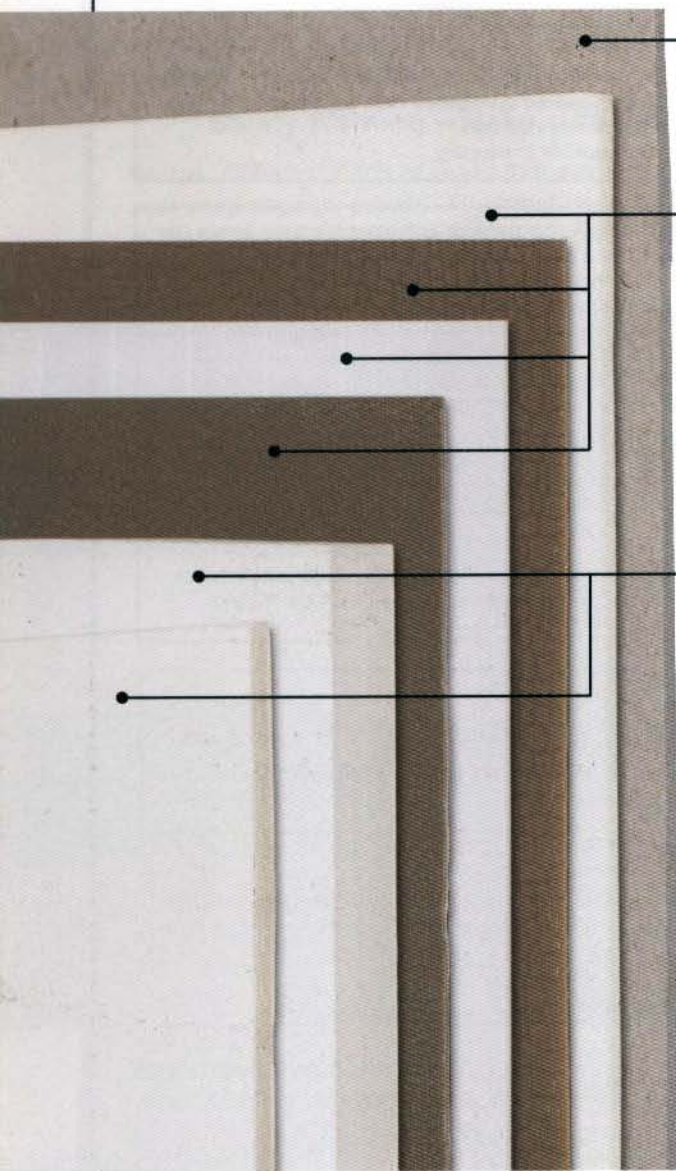


Balsa Wood: You can buy this in sheet form, sticks and dowsing.

Pro: It's easy to work with.

Con: Not very sturdy.

Modelling Sheets: This covers a variety of materials that are sold in sheet form. These can be used for a lot of different purposes, like making building shells, fences, doors and other things.



Thick Card: This is also called mounting board.

Pro: Alternative for balsa sheet and plastic card.

Con: Needs to be cut with a sharp knife.

Plastic Card Sheet: These are sheets of plastic in different thicknesses that are either plain or have a pattern moulded into them.

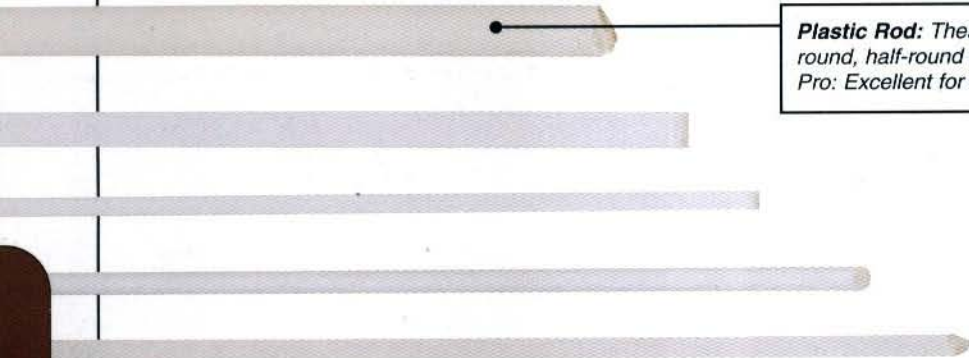
Pro: Sturdy and can be used to create very fine details.

Con: Quite expensive.

Foamboard: It consists of a layer of polystyrene sandwiched in between two sheets of card. It's available in different thicknesses.

Pro: Very light and sturdy.

Con: Quite expensive.



Plastic Rod: These come in a lot of unusual shapes, like round, half-round and square.

Pro: Excellent for adding detail.

Fillers and Texturing: There are many materials you can use to texture your terrain, of which the most useful are listed below. Adding texture to your scenery pieces has a two-fold purpose: it protects them and it gives a realistic texture that makes painting easier.



Filler: A thick, sludgy material that can be used to fill in holes and gaps, either by using a brush or a spatula.

Pro: Can be thinned with water.

Con: Cracks if used on too large an area.



Textured Paint: Comes in a variety of colours, and consists of emulsion with a grainy, sand-like texture to it.

Pro: Protects polystyrene against spray paint.



Two-part Epoxy Putty: There are many types available, including one from Games Workshop (Green Stuff).

Pro: Can be used for both sculpting and filling.

Con: Takes time to set.

Air Hardening Clay: Available in large quantities, but must be stored in an airtight plastic box or bag.

Pro: Can be moulded and sculpted.

Con: Shrinks when dry.



Detailing: The details are what really bring your terrain to life. A barrel on the corner of a farmhouse or loose cables sticking out from an electrical panel give your scenery that extra bit of character.



Bits Box: This can include parts of model kits, miniatures and anything else that looks useful.

Pro: Anything can be useful.

Wire: Brass rod, guitar string and electrical wire all have their uses when making terrain.

Pro: Can be used for detailing or pinning.



Box of Hoarded Useful Stuff: Having a large box to keep your offcuts and any other interesting bits in is always a good idea.

Pro: Recycling material and offcuts is value for money.

Con: Need to have sufficient storage space.



Towelling: This can be dyed and cut to size easily.

Pro: Hardwearing, cheap and easy to use.

Dressmaker's Pins: Small pins with a large head.

Pro: Good for making rivets and pinning foamboard while gluing.



Earthen Foliage: This is used to create grass, plants, scrubs and all other plant coverage. Some are more realistic than others, and others more sturdy. Most come in the form of 'scatter', namely loose, grainy material.



Flock: Made from sawdust, dyed in different colours.
Pro: Easy to use.
Con: Rubs off over time.



Sand and Gravel: Comes in different grades and gives realistic earth and rock texture.
Pro: Extremely hardwearing.
Con: Needs to be painted.



Static Grass: This is made from strands of artificial fibres and comes in a variety of natural colours.
Pro: Adds realism to your terrain.
Con: Has to be applied sparingly with a pair of tweezers.



Dried Herbs: Dried herbs, such as crushed parsley and coriander, are great for creating tree and bush foliage.
Pro: Looks very realistic.
Con: Susceptible to damage.



Wire Wool: This can be used to make tree foliage or bushes.
Pro: Looks very realistic when covered in flock.
Con: When cutting, use a pair of scissors and protective gloves.



Clump Foliage: Sponge-like material held together by latex.
Pro: Can be used as tree foliage and bushes.



Flat Moss: Can be bought in big clumps and is mainly used in flower arranging.
Pro: Great for tree foliage, small plants, etc.
Con: Is very fragile.

Aquarium Plants: Available in all manner of sizes, these are made from soft plastic and are pre-coloured.
Pro: Easily cut with scissors.
Con: Only oil paint will stay on this material.



Brush Bristles: Can be used to create large clumps of grass.
Pro: Easy to cut and shape.
Con: The bristles need to be painted.



Rubberised Horsehair: This consists of clumps of horsehair sprayed with latex.
Pro: Easy to cut and shape.
Con: Not very durable, fiddly to apply.



Pan Scourer: Can be used to make hedges.
Pro: Cheap, can be cut with scissors.
Con: Looks very stylised.

Doormat: Excellent for making cornfields
Pro: Cheap and durable
Con: Tough to work with



Paint and Varnish: Paints and varnish are essential to make your terrain look realistic and provides it with some protection as well.



Resin: Although not really a paint, this can be used to create water effects.
Pro: Hardwearing and simple in use.
Con: Can be toxic and smelly.

Spray Paint: Comes in a lot of different colours.
Pro: Paints large areas quickly.
Con: Must be used in a well ventilated area. Melts polystyrene.



Emulsion: This is a type of acrylic based paint used for household decorating.
Pro: Great for painting large areas, most colours are available.
Con: Only comes in large quantities.



Citadel Colour: Fine-grade acrylics with a large range of colour.
Pro: Fast drying and matches colours of miniatures.



Oils: Oil-based paints are available in a large variety of colours and quality.
Pro: Can be used to paint aquarium plants.
Con: Takes a long time to dry.



Gloss and Matt Varnish: Comes in both spray cans and brush-on variety in oils and acrylic form.
Pro: Brush-on gloss varnish can be used to create water effects.
Con: Needs to be used in a well-ventilated area.

Citadel Materials: *These modelling materials and terrain pieces are available from Games Workshop.*

Earthen Foliage

Green Flock

Static Grass

Modelling Sand

Modelling Gravel

Grass Gaming Battle Mat



Glue

Citadel Miniatures Superglue

Citadel Plastic Glue

Citadel PVA



General Terrain

1. Hills

2. Hedges and Walls

3. Trees



Warhammer 40,000 Terrain

4. Warhammer 40,000 Ruined Buildings

5. Warhammer 40,000 Jungle Trees

6. Warhammer 40,000 Battlefield Accessories

7. Warhammer 40,000 Obstacles and Barricades

8. Necromunda Bulkheads



Warhammer Terrain

9. Warhammer Fortress

10. Mordheim Architecture



TOOLS

This section lists the tools you'll need to make all the terrain shown in this book. It has been divided into two sections; Essential Tools, which are the tools that are most commonly used making terrain, and Additional Tools, which are tools that are not necessary, but you might find useful nonetheless.

Remember: knives and glue are not toys! Use with adult supervision if you are under 16.

ESSENTIAL TOOLS

Brushes

Brushes come in all manner of shapes and sizes, but a flat decorating brush and some Citadel drybrushes are essential for terrain making. You can use these for all painting jobs, plus applying glue and smoothing wet filler.



Other brushes that are useful are flat artists' brushes and fine pointed Citadel brushes. These are not essential, but can be used for detailed painting and drybrushing.

Steel Ruler

Steel rulers come in a lot of different lengths, but one that is approximately 12" long will do for most terrain projects. Very often there is an imperial/metric conversion table on the back, which can be very useful.



Sandpaper

This comes in a variety of grades, from superfine to very coarse. A sheet of medium-fine sandpaper and a sheet of relatively coarse paper are the only ones you'll need. These can be used to smooth bases, shape polystyrene and smooth down dried filler.



Retractable Knife

These have a long retractable blade divided into small segments. You can break off these segments when the blade has become blunt, to keep a sharp point. When extended to its full length, the blade is excellent for shaving off thin slivers of polystyrene.



Safety Tip

Be careful that you do not apply too much pressure on this type of knife as the segments can easily snap and end up in your eyes. Please use care when using this or any other knives and always cut away from your body.



Permanent Marker or Pencil

These are essential when you need to draw or mark off anything. A pencil is fine for this, but on some materials, like polystyrene, a permanent marker will mark better.



Clippers

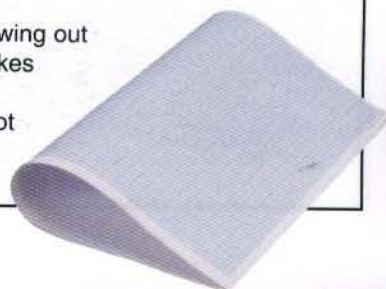
These are very useful for cutting wire, bamboo skewers and plastic rod.

Be careful not to apply too much pressure on the handle as the blades might snap.



Graph Paper

This can be used for drawing out plans for buildings. It makes designing the separate sections of structures a lot easier.



How to Make Wargames Terrain clearly explains how to build your own terrain pieces. Fully illustrated throughout, this book will help make terrain building as easy as possible.

This book contains sections on:

- *Stage-by-stage instructions on how to build terrain features, including:*

Hills

Roads

Woods

Obstacles

Buildings

Water features

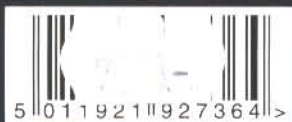


- *Useful techniques for basing and painting your models.*
- *10 example terrain boards made by modellers from around the world.*
- *Appendices: Inspiration, tools and materials.*

Whatever your level of experience, this is the indispensable guide for anyone wanting to learn more about making terrain suitable for wargaming.



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