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Not even a desert is completely flat. As you can see in this photo taken in the Mojave Desert, the terrain varies in height. Also note the amount of vegetation present. A desert is not necessarily just sand and gravel.

Introduction

I think most of us can remember our childhood train layouts. Usually these layouts consisted of a simple oval track on a sheet of plywood or even placed directly on the floor. Scenery was not a big concern; however, a very common feature on these layouts was a little hill with a tunnel the train could pass through. We added the hill to our layout because we wanted to see the train run through a tunnel but didn't give much thought as to why trains had to go through tunnels. To a 10-year-old, the fun is to see the train disappear into a hill and come out again on the other side—not why it has to do it.

As adults, we still like to see our trains go through tunnels, but we have become more conscious about how real railroads plan their routes through the terrain and try to make a replica of that. We hope the way the track cuts through our terrain is believable and realistic.

With this book, I hope to give modelers a better understanding of how to realistically create scenery with commercially available materials as well as with natural materials.

Look at the real world

There are a few basic rules to keep in mind if you want to create realistic scenery. First of all, the world is not flat. You may think that is a strange thing to say since it is common knowledge

these days, but I have a reason for bringing it up. I have seen many model railroads during the years, and a fair amount of them were built on a flat sheet of plywood. You won't find many places in the real world as flat as a sheet of plywood. The next time you are on a trip, pay attention to the terrain around you. You will be surprised at how the terrain varies in height even in places you consider flat.

Try to vary the height of the terrain on your layout. Not only is it more realistic that way, but it is also more interesting to view. Let the track cut through the landscape in a realistic manner. This includes adding fills, trestles, and bridges where the terrain makes dips or cuts and placing tunnels where the track meets a hill or mountain.

The terrain needs to be covered with rocks, dirt, grass, weeds, bushes, and trees. Again, you have to turn your attention to the real world and notice how everything blends together. You will also notice that weeds and bushes can grow anywhere. Even the desert is covered with vegetation.

Your choice of colors plays a big role in how your layout will appear. I prefer light colors for my scenery because it looks more realistic to me. Try to avoid using too many different colors in the same scene.

The color of grass, weeds, bushes, and trees varies depending on where it grows. In hot and dry areas, colors are often golden and olive green. In areas with more rain, or along rivers and lakes, the colors are greener.

Re-creating the flavor of a specific area

How does a modeler re-create the specific look and feel of a particular area? We see the real thing, but translating it to scale is another matter. It's not just through knowing scenery techniques.

You have to familiarize yourself with the area you want to model. This is, of course, easier if you model the area where you live instead of an exotic place in another country. But no matter what area you want to model, you should go there and observe. I do not believe it is possible to re-create the flavor of a specific area if you have never been there. I know I could not.

Photos can be useful to support your memory of a specific area, but you can't model from photos alone. You can use photos as a reference for colors, vegetation, and rocks, but the overall appearance to be modeled, more or less, comes from your memory of the place. If you model only from a photo, it is easy to get carried away with modeling specific details shown in the photo instead of modeling the flavor of the entire area.

Before you start building, you need to ask yourself what is special about the scenery you want to model. Let's say you want to model a desert or a prairie scene. Your highest priority would be to re-create the feeling of wide-open spaces. That is easily accomplished if you have unlimited space available for your layout, but for most modelers that will not be the case. Therefore, we

have to re-create the scene in a very limited space. So to do this, it is necessary to draw out the essence of the real scene. This could be a lone track crossing the plains, which rules out a "spaghetti-bowl" track plan. Leave out any unusual or strange-looking features and stick to the general look of the area. Any oddities will catch the viewer's eye more than the rest of the scene.

You have to let the scenery dominate the track. Make the scene as deep as possible. Place the track closer to the backdrop rather than the edge of the layout. Having most of the scenery in front of the track gives a better illusion of open spaces.

Creating the feeling of open spaces behind the track can be done with a backdrop. If you do not want to paint a backdrop, you can mount large photographic prints.

In a narrower layout space, modeling mountain scenes is easier than modeling the plains because mountain scenery is more vertical. Letting scenery dominate the track still applies. Mountains are large and trains are small—at least compared to the mountains.

Of course, it is not possible to build mountains to prototype size, even in N scale, but the overall appearance can be quite good as long as the relative proportions give the feeling of a mountain with a track clinging to it.



In the mountains, track often follows a river or creek as it does here, at the east end of Donner Pass. Following the flow of water often shows the easiest way over a hill and the gentlest grade.



A road along the track makes an interesting scene. Be sure to reserve space for roads on your model railroad layout.

There's no exact formula on how much track to have versus how much scenery, but you have a perfect tool for judging that: your eyes. If the scene looks convincing to you, it will probably look convincing to everybody else, but if you have the slightest suspicion that something does not look quite right, you can be sure that others will see it too.

Try to spot what looks wrong. Be a hard judge and tell yourself to make the scene look right. Don't think you can use scenery materials to later hide anything that does not look right. You will regret it and never really be satisfied with the scene. Redo the entire scene if necessary. It is easier to change a scene before the ground cover has been applied.

I know it is tempting to jump into construction right away, but it is a good idea to spend some time planning your scenes. However, I may not be the right person to say this since I am exactly the type of modeler who doesn't spend lots of time planning my scenes. I visualize the scene in my mind, and if I am not sure about the scene, I make a rough sketch of it.

One modeler I know made a miniature layout to be absolutely sure his ideas worked before he started constructing his layout. A miniature model of your layout or scene gives you the opportunity to see how the scene will appear from different angles. In most cases, a sketch is sufficient for judging if a scene will look convincing.

Scenes within scenes

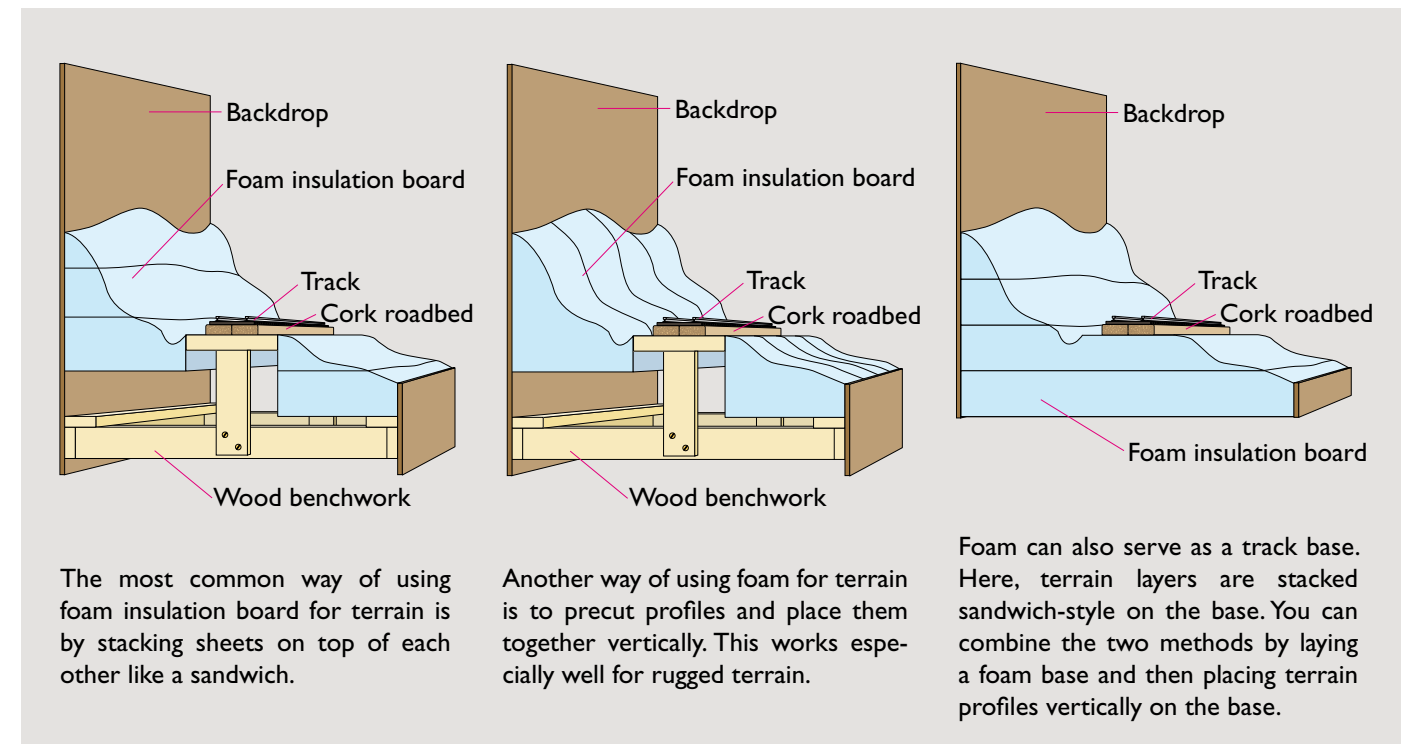
You can break the monotony of a track going through a landscape by adding a trestle, bridge, grade crossing, culvert, or tunnel depending on which type of scenery you are modeling. Such focal points will make your scenery even more interesting to view. But don't overdo it. Just add a few of these objects to the scene and make sure that they look natural and not out of place.

It is best to determine such scenes while planning your basic terrain. If you want a tunnel in the scene, it should be there because it would have been too difficult for the railroad to go around the hill. Real railroads always seek the easiest and cheapest solution when they plan their routes.

Keep your track plan simple

I will not get detailed about track planning as this book is supposed to be about scenery, but it is no secret that I favor simple track plans that make room for the scenery. Try not to see your layout space as something to be filled with track but rather as something to be filled with scenes. Avoid the temptation to add an extra siding or spur just because the space is there.

How much priority you want to give scenery or to operation is always a personal decision. My advice is that if you want realistic scenery you have to leave space for it. A realistic-looking model railroad gives you the feeling of scenery with a track in it—not lots of track with a little scenery around it.



The most common way of using foam insulation board for terrain is by stacking sheets on top of each other like a sandwich.

Another way of using foam for terrain is to precut profiles and place them together vertically. This works especially well for rugged terrain.

Foam can also serve as a track base. Here, terrain layers are stacked sandwich-style on the base. You can combine the two methods by laying a foam base and then placing terrain profiles vertically on the base.

The basic terrain

There are various ways to create the basic terrain. I prefer using foam insulation board since it is easy to work with and is strong. I used it on my Daneville & Donner River layout, where it became an integrated part of the benchwork. The foam stabilized the relatively thin wood construction, and I created lightweight benchwork that was just as solid as much heavier wood construction would have been.

When making portable dioramas, weight is even more important, and foam insulation board is an obvious choice of



I cut foam profiles and placed them vertically on my Daneville & Donner River layout.

material for that. The corners may be a little fragile, but applying a fascia to the finished diorama easily solves that issue and also makes the diorama look more appealing. Planting trees and telephone poles on your layout or diorama is very easily done when using foam for your base.

I use various tools for cutting foam. A hot wire cutter is a handy tool. I also use a common bread knife and a foam knife from Woodland Scenics.

Foam insulation board comes in different colors: light blue, pink, gray, and light yellow depending on brand and density. I have tried different brands and colors but have not noticed any difference in working qualities.

The most common way to make terrain from foam insulation board is to stack pre-cut foam blocks on top of each other like a sandwich and then cut the terrain contours. You can also cut the terrain profiles and glue them together vertically. This works well especially for creating more rugged terrain.

I do not use chicken wire and plaster cloth for my basic terrain, but I know that many modelers swear by that method. No matter what method you prefer, the basic rules for creating realistic looking scenery are the same.

In the following chapters, I will show you examples of how to create various types of scenery that you can use on a layout. I will present my techniques step by step on four 24 x 50-inch dioramas. Each scene represents a different type of scenery: plains, mountain, desert, and a suburban neighborhood.

Ground cover, ballast, and the riverbed



Sprinkle finely sifted dirt evenly on the service road. This homemade shaker is an old jar with many small holes drilled in the lid.

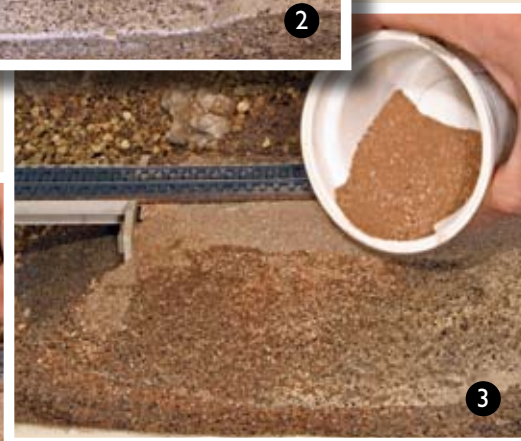
Brush thinned white glue on the riverbanks.



Apply ballast between the rails and along-side the tracks.



Pour soil on the wet glue.

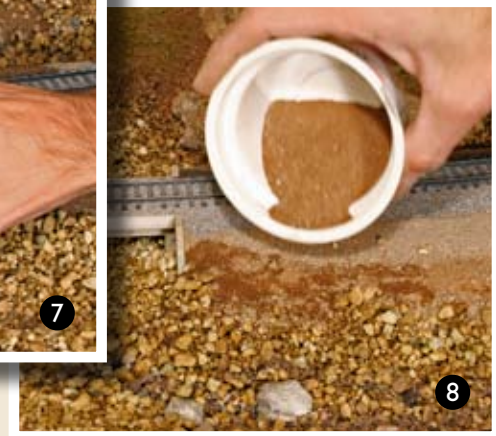


Spread the ballast evenly between the ties with a soft brush.

Tap the tops of the rail with the brush shaft. This knocks any stray ballast down between the ties.



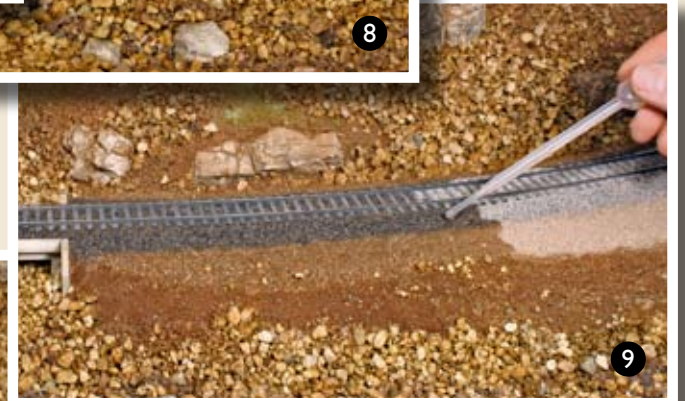
Fill the riverbed and banks with talus. Place bigger boulders individually.



Saturate the entire area with wet water, starting with the ballast since it is the highest point on the work area.



Apply thinned white glue to the area.



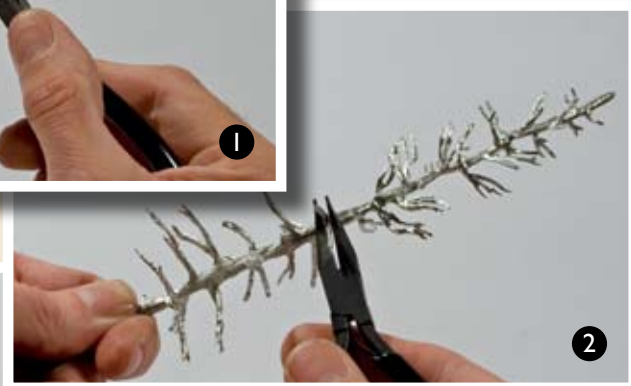
The basic scenery is now complete. Let it dry for a few days before proceeding.



Making realistic pine trees



Twist the metal trunk like a spiral.



Bend all the branches into shape.

Drill a hole in the bottom of the trunk and attach a piano wire planting pin in the hole with CA.



Paint the trunk a brownish gray color.



Cut pieces of foliage with a scissors, stretch them slightly, and apply them to the branches.



Apply Hob-e-Tac on the branches and let it set.



Spread a sand and powder mix along the middle of the riverbed.



Spread the sand and powder evenly between the boulders with a soft brush.

My favorite is a two-part polyester casting resin often used for embedding objects in clear blocks. You can make deep water with it and it won't creep up the banks. You must work in a well-ventilated room with this product as the fumes can be dangerous to your health.

When applied, all three product types have a tendency to create air bubbles around rocks and other objects. In most cases, the bubbles release themselves, but sometimes they need a little help. Poking the resin with a pin or the tip of a knife will bring the bubbles to the surface.

Before filling the river with polyester water, make sure no rocks or boulders are loose. Secure any loose items with a dab of glue. Woodland Scenics talus is very light and will float off if not glued in place. If the river ends at the edge of the layout, make sure there are no openings where the resin can run out. Even though the polyester has a syrup-like consistency, it will leak through even the smallest opening.

I dyed the polyester resin by mixing it with a little Model Master Italian Sand. Only a solvent-based paint will mix with the resin, and it still maintained some transparency. Apply the hardener and stir the mix thoroughly. Let the resin stand for 30 seconds to allow for the release of air bubbles. Transfer some of the resin mix into a smaller cup and carefully pour it in the riverbed. Proceed that way until the mix is gone. If necessary, a second layer can be applied after the first layer has hardened.

Final things to do include adding a couple of replaced ties along the track and placing a whistle sign before the tunnel entrance.



Add wet water to the area. Drip water on the boulders to clean them of dust.

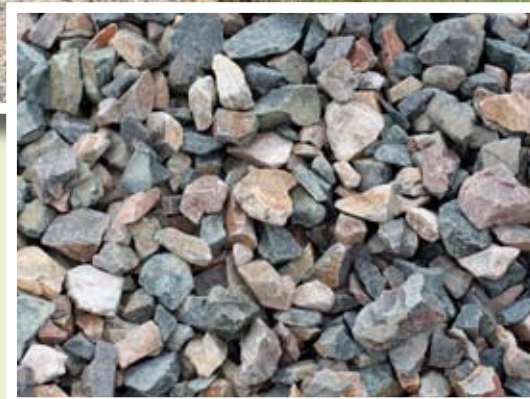


Add thinned white glue to the riverbed and give it time to dry.



Carefully pour the syrup-like polyester resin into the riverbed. I dyed the resin with some tan solvent-based paint. Just keep pouring the material in the river until it reaches the level you desire. There's no limit to how deep you can make your water with polyester resin.

Realistic ballast



This view of the Union Pacific main line in the Mojave Desert shows a typical example of well-maintained gray ballast. Also note the height and profile of the ballast.

As the photo at right shows, gray ballast is not a just gray. It includes many colors of rock.

Below are three colors of model ballast blended to duplicate the real thing.



The basic scenery is finished, but there are lots of details left to add.

Many scenery products are available to replicate the weeds and scrub vegetation found in the desert. Start with a substantial amount of Silflor grass tufts in autumn and winter shades. Olive green fine-leaf foliage from Woodland Scenics represents scattered bushes. Dead weeds can be made from Woodland Scenics harvest gold and natural straw field grass.

Prepare the grass tufts by peeling them off their backing paper and dividing them into smaller bunches. Place a dab of glue under each tuft and place it on the surface. Cut the fine-leaf foliage into small bits and place the bushes on the terrain with a dab of glue. Prepare the field grass bundles as shown on page 23. Hold the tip of a bundle between two fingers and cut it to an appropriate length. Dip one end in glue and place it on the scene. Spread the fibers with the tip of a knife.

This can be tedious work and there are no shortcuts, but you will be rewarded in the end with a realistic desert scene.



Add small groups of Silflor grass tufts to the scene. Apply a small dab of glue under each tuft and place it on the terrain.



By smoothing the surface of the wider dirt roads with fine sandpaper, you can create tire marks.



Small pieces of fine-leaf foliage represent desert bushes. A tweezers works well for placing small pieces of foliage.