

Fun Time

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With some justification model railroading is billed as “the world’s greatest hobby.” So how do you get started?

First, there are a number of different sizes, or scales, of model trains to choose from depending on your goals and the amount of room you have. And real railroads have different gauges, or distances between the rails.

Real Railroads

Real railroads have been made to different gauges, but standard gauge in North America and Europe is 4 feet 8.5 inches between the rails. Amazingly, this distance appears to be traceable back to the distance between the wheels of Roman war chariots! There are also several different narrower gauges, with 3-foot gauge perhaps the most commonly used in America. Narrow gauge is cheaper to build than standard gauge and is used primarily for remote mountain railroads and specialized logging and mining operations where tighter turns and clearances dictate smaller equipment, and where cost is especially important.

Model Railroad Sizes

Model trains are made in different sizes, or scales, for different purposes. Here we need to distinguish between the scale, or proportion of model size to actual size, and the gauge, or distance between rails. For most common scales this is somewhat academic because there is one scale corresponding to one gauge, so we can use the words *scale* or *gauge* interchangeably, except for the difference between modeling standard gauge or narrow gauge railroads. The one exception is the first gauge we will discuss, G.

The largest common gauge, G, which many think of as garden scale but really comes from the German *gross* for big – it was developed in Germany – is most useful for those who want to put a train layout outside in their garden. This gauge is the only gauge whose track and equipment are designed to survive outdoors, and uniquely offers the possibility to combine model railroading with gardening. For this reason, G is growing rapidly in popularity with many couples. G gauge runs on track with 45mm, or about 1.75 inches, between the rails. G is more correctly known as a gauge because the distance between the rails, or gauge, is standardized but different scales of model trains, from 1:20.3 to 1:32 scale, are run on it. For example, a narrow gauge train that runs on G gauge track could be 1:20.3 actual size, while a standard gauge train that runs on G track would be 1:32 actual size. This is the only common model railroad gauge in this situation. G gauge is now often used for Christmas train sets too.

The next smaller common size is O gauge, or 1:48 actual size (1/4 inch on the model = 1 foot on the actual, or prototype, item). In the case of O gauge, both the scale (1:48) and the gauge (32mm for standard gauge) are fixed. Standard O gauge track has a 32mm gauge; narrow gauge O scale, or On3, runs on standard HO track of 16.5mm gauge (see below). Most people are familiar with this scale from the well-known Lionel toy trains, which feature three-rail track instead of two rails like real trains. Of course, there are other O scale vendors in addition to Lionel, including many who make O scale trains that run on more realistic two-rail track. O scale trains have a wonderful presence that smaller

scales can't match and allow much detail to be visible, a plus for scale modelers. Their main disadvantage is the relatively large amount of space they require for a good layout.

The next smaller common size is S gauge, or 1:64 actual size (3/8 inch on model = 1 foot on the prototype). S gauge was developed as a more compact size that still offered a lot of detail to be easily visible. The old American Flyer trains running on two rails are S gauge, and many modelers who like narrow gauge railroads model in S scale. Standard S scale track has a gauge of 22.42mm; Sn3, or S scale narrow gauge, with the 3 indicating the prototype had 3-foot gauge, runs on special track of 14.28mm gauge.

The next smaller common size is HO, originally conceived as **Half O** but actually 1:87 actual size rather than the 1:96 one might expect from its name. HO is by far the most popular scale in the world because it is a reasonable compromise between a size large enough for detail to be visible but small enough to enable a reasonable home layout to be built. Currently about 76% of all model railroaders model in HO, and it therefore has the economies of scale to deliver the lowest prices and greatest variety of products supported by the widest variety of vendors. Standard HO track gauge is 16.5mm, and HO narrow gauge track is generally 12mm, representing about 3 foot 6 inches actual size, just a little larger than typical for American narrow gauge.

The next smaller common scale is N, which is 1:160 actual size. N track is 9mm gauge, and the scale's name stems from **N**ine millimeter gauge track. N is the most popular small scale and, while making model details difficult to see, enables the hobbyist to create a useful track layout in very reasonable space. Some modelers even build their N-scale layout on an old door!

Finally, Z is the smallest commonly available scale, and at 1:220 actual size makes even N scale look large. With Z the goal is clearly to model the most railroad in the least space for an operating layout.

There are other model railroad scales, but the ones listed are the most common and the ones I would recommend in most cases. However, if you like model trains large enough to ride on or want to see models that run on live steam, there are places to do that too; see the Resources links below.

What Size Is Right for You?

If running trains on a layout is most important to you, and having the most interesting layout in a convenient space is therefore a priority, then HO or N scales are recommended. On the other hand, the smaller the scale, the more challenging it is to see them and to get the models to run well. If making exquisite models of locomotives and train cars is your goal, the larger scales are recommended so the detail is more easily seen. And if you have enough space for layout, it is easier to get the larger scales to run well. Finally, if you want to build an outdoor layout, G gauge offers the only equipment that is designed to withstand the outdoor environment, including protection from the sun's UV rays.

HO is my personal choice as the best compromise between visible detail, good running on layouts of practical size, and the widest variety of models at the lowest prices.

However, **before you decide, go see some operating layouts and talk to the people there.** There are a number of model railroad clubs in your area that are open to visitors.

Resources

- ❑ For more information on model railroad scales:
en.wikipedia.org/wiki/Rail_transport_modelling_scales
- ❑ The San Diego Model Railroad Museum features large HO and N layouts:
www.sdmodelrailroadm.com
- ❑ The Glendale Model Railroad Club has an HO layout:
www.sdmodelrailroadm.com
- ❑ The Pasadena Model Railroad Club has a large HO layout: www.pmrcc.org
- ❑ The South Bay Historical Railroad Society is located in the Santa Clara Depot, has both HO and N scale layouts, and is open to the public Tuesday evenings and Saturdays: www.sbhrs.org
- ❑ Silicon Valley Lines is a large HO club in San Jose: www.siliconvalleylines.com
- ❑ The Tehachapi Loop Railroad Club: www.tehachapi.com/railclub
- ❑ The Bay Area Garden Railway Society is very active in G gauge and has an informative website: www.bagrs.org
- ❑ Riverside Live Steamers: www.steamonly.org
- ❑ LA Live Steamers: www.lals.org
- ❑ The World's Greatest Hobby site has lots of information, including ways to search for public layouts to visit: www.greatesthobby.com