

Size to Fit Any Interest or Space

YOU DON'T HAVE TO SPEND MUCH time with model trains to realize that they come in a number of different sizes. These differences are one of the things that make model trains so much fun because there are advantages to each size. Let's take a look at them so you can think about which size may be best for you.

Long ago, these sizes were arbitrary – whatever the craftsman making the miniature locomotive or car decided would look good. Now, of course, these sizes have precise meaning, which is why hobbyists usually choose one as their favorite.

We differentiate model and toy trains according to their scale and their gauge.

“Scale” relates to the comparative ratio of measurements between a miniature and its full-size prototype.

Dedicated scale modelers expect that every element of their models will have been designed to be in the same proportion. Collectors and operators of toy trains are less demanding and understand that



Large Scale

O Scale

S Scale

liberties may have been taken to create attractive playthings that fit on their track.

“Gauge,” the second aspect of a model’s size, refers to the space between the rails of the track. Precision and consistency are essential when dealing with gauge. Manufacturers must be able to guarantee that the wheels of all the models they advertise as being of that gauge do indeed fit on that size track so all trains can be used together.

The largest of them all

Toy trains have been built to a variety of gauges since the 19th century. The largest have been abandoned because those trains took up so much room and hobbyists preferred creating realistic layouts with structures and scenery in the space at their disposal.

The one exception to this trend is garden railroading. Big garden railway trains

running on Gauge 1 track operate outdoors (and sometimes indoors). This track has 45 mm between the rails.

Models are offered in a range of scales, all of which operate on Gauge 1 track. Collectively, they are called “large scale trains.” To give you an idea of the size of these trains, an actual 50-foot-long boxcar would measure 26½ inches in large scale.

The most popular gauge for toy trains is O (pronounced “oh”), with 1¼ inches between the rails. The rugged O and O-27 gauge (circles of track have diameters of 31 and 27 inches, respectively) trains produced by Lionel in the 1940s and ’50s helped introduce millions of children to this hobby. Many of those youngsters, now grown up, still enjoy trains of this size.

Hobbyists realize that the toys of their youth weren’t scale models. Most of today’s O gauge trains feature greater realism and can be described as scale, having been built to a ratio of 1:48. That means a 50-foot boxcar would be 12½ inches long in O.

Smaller and not quite as popular among toy train enthusiasts are S gauge trains. These locomotives and cars, many of which were once marketed under the American Flyer brand, run on track whose rails are spaced ⅞ inches apart. Today’s S gauge trains are almost all scale models, with nearly every feature being designed to a ratio of 1:64.

Small and very popular

Overshadowing the various toy trains are scale models built to be approximately half the size of O gauge models (that’s why we call them “HO” – pronounced “aitch-oh”).

These trains have a relationship of 1:87 to their full-size compatriots, and the track gauge measures 16.5 mm. Our 50-foot boxcar is now down to 7 inches in length.

HO trains are small enough to allow you to plan a satisfying layout in a compact space, say a 4 x 8-foot sheet of plywood, and still be large enough to show off lots of detail and be easy to work with and enjoy. As important, this segment of the hobby offers an enormous range of kits and ready-to-run models. No wonder HO railroading is the most popular of the scales, with more than two-thirds of modelers making it their top choice.

Smaller still but growing in popularity is N scale. Rolling stock and locomotives of this size are designed to be in a ratio of 1:160 to their prototypes. The track

SCALES AT A GLANCE

Z scale: Trains built to a ratio of 1:220. A 75-foot-long locomotive measures 4 inches long. The rails of the track are 6.5 mm apart.

N scale: Trains built to a ratio of 1:160. A 75-foot-long locomotive is 5½ inches long. The rails of the track are spaced 9 mm apart.

HO scale: Trains built to a ratio of 1:87. A 75-foot-long locomotive is 10½ inches long. The rails of the track are 16.5 mm apart.

S scale: Trains built to a ratio of 1:64. A 75-foot-long locomotive is 14 inches long. The rails of S gauge track are ⅞ inches apart.

O scale: Trains built to a ratio of 1:48. A 75-foot-long locomotive is 18¾ inches long. The rails of O gauge track are 1¼ inches apart.

G scale: These trains are built to a ratio of 1:22.5. A 75-foot-long locomotive is 40 inches long. G and other large scale trains run on Gauge 1 track with rails 45 mm apart.

gauge is 9 mm between the rails. Despite being so small, N scale works well for modelers who don’t have a lot of space at their disposal (apartment dwellers, for example) or who prefer to run their trains through truly expansive scenery.

Even smaller are Z scale trains. Their proportion to the prototype is 1:220, and they run on track whose rails are 6.5 mm apart. How tiny is this scale? Well, that 50-foot boxcar measures just 2¾ inches in Z.

Which size is best?

You can see that no one scale is right for everyone. Look at several of them and consider how much space you have to devote to your trains, whether you want to run longer trains amid towering scenery, and how much you can spend on your hobby. Talk with experienced modelers and learn what they like. And don’t worry if you change your mind and later decide that a different scale is a better choice for you.

The important thing is to get started and move ahead with an open mind. Try building models in one scale and then see how you feel. Maybe you’ll want to explore something larger or smaller. Soon you’ll hit upon a scale that’s right for you. Then prepare to have a blast!



HO Scale

N Scale