

# Tips for the scales

## Understanding and converting scale ratios

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All right: 1/72 scale are the little planes, and 1/32 are the great big ones. 1/35 scale is what they make armor models in, but those huge Airfix airplane kits... are in 1/24? I thought that was a car scale! Scales can be confusing, especially for beginners in the modeling hobby. Many modelers have never thought of collecting "just one" scale of aircraft, and

are even befuddled when they open a kit box and find the plane half the size of the last one they purchased. What do the scales mean? What scales are available, and what types of kits are available in which scales?

If you're still confused, try taking a look at the chart below. In it, you should find all of the answers to the questions you've been

asking concerning what's available out there in model kits, and in what scales they're available.

**Converting drawings.** Working with and understanding can be even more confusing when you're building from scratch and the drawings you have are in a different scale than the one you want to model. If you want to enlarge or reduce the specs or drawings there's a simple formula: Divide the scale that appears on the plans by the scale that you want, then use the result to reduce or enlarge accordingly.

For example, if you want to build a 1/48 scale tank for your aircraft diorama but only have 1/35 scale drawings, simply divide the scale you have by the scale that you want:

$$35 \div 48 = .7291666.$$

Now round up, leaving you with .73

Adjust the decimal placement to 73 (you're moving the decimal because on the photocopier, 1.0 = 100%, 1.5 = 150%, etc.). Now just set the copier to make copies at 73 percent, and you have your plans in 1/48 scale.

To do the reverse and enlarge 1/48 to 1/35:  $48 \div 35 = 1.37$

Now round up, giving you 137% to enlarge the plans by.

Two popular armor modeling scales, 1/35 and 1/76, might complicate matters – most copiers will copy no smaller than 50 percent, and you'll need to reduce further than that.

To convert 1/35 scale to 1/76 scale:

$$35 \div 76 = .46 \text{ (or 46 percent)}$$

Now, since we can't go lower than 50 percent, determine the square root of .46, which is .68. Set your copier for 68 percent, copy the 1/35 scale plans, then copy those reduced drawings again at 68 percent. These will give you the 46 percent reduction, and your plans are now in 1/76 scale. **FSM**

### Some popular modeling scales

Scale	1 inch=	1 scale foot=	1 scale foot=(decimal)	1 scale meter=	Comments
1/4	4"	3"	3.0"	250.0 mm	Flying models, live-steam trains
1/8	8"	1 1/2"	1.5"	125.0 mm	Cars, motorcycles, live-steam trains
1/12	1'	1"	1.0"	83.3 mm	Cars, motorcycles, dollhouses
1/16	1'4"	3/4"	.75"	62.5 mm	Cars, motorcycles, live-steam trains
1/20	1'8"	19/32"	.6"	50.0 mm	Cars
1/22.5	1' 10 1/2"	17/32"	.53"	44.4 mm	G scale trains
1/24	2'	1/2"	.5"	41.7 mm	Cars, trucks, dollhouses
1/25	2'1"	15/32"	.48"	40.0 mm	Cars, trucks
1/32	2'8"	3/8"	.375"	31.25 mm	Aircraft, cars, No. 1 scale trains
1/35	2'11"	11/32"	.343"	28.57 mm	Armor
1/43	3'7"	9/32"	.279"	23.25 mm	Cars, trucks
1/48	4'	1/4"	.25"	20.83 mm	Aircraft, O scale trains
1/64	5'4"	3/16"	.187"	15.62 mm	Aircraft, S scale trains
1/72	6'	11/64"	.167"	13.88 mm	Aircraft, armor, boats
1/76	6'4"	5/32"	.158"	13.16 mm	Armor
1/87	7'3"	–	.138"	11.49 mm	Armor, HO scale trains
1/96	8'	1/8"	.125"	10.42 mm	1/8" scale ships, aircraft
1/100	8'4"	–	.120"	10.0 mm	Aircraft
1/125	10'5"	–	.096"	8.0 mm	Aircraft
1/144	12'	–	.083"	6.94 mm	Aircraft
1/160	13'4"	–	.075"	6.25 mm	N scale trains
1/192	16'	1/16"	.062"	5.21 mm	1/16" scale ships
1/200	16'8"	–	.06"	5.0 mm	Aircraft, ships
1/220	18'4"	–	.054"	4.54 mm	Z scale trains
1/285	23'9"	–	.042"	3.5 mm	Wargame pieces
1/350	29'2"	–	.034"	2.86 mm	Ships
1/700	58'4"	–	.017"	1.43 mm	Ships
1/720	60'	–	.016"	1.38 mm	Ships

For figures sized in millimeters, use this formula:  $1717 \div \text{figure size (mm)} = \text{scale denominator}$ . This assumes a full-scale height of 5'8" (or 1717mm). For example,  $1717 \div 54\text{mm} = 31.8$ , so a 54mm figure is approximately 1/32 scale.

