

## Scaling - creation of a model

### Task:

All data should be divided by a factor of one billion ( $10^9$ ).

Diameter/Distance	Meters	Scientific (m) *	Model (m)
Ø Sun**	1391400000	1.3914E+09	
Ø Earth	12750000	1.2750E+07	
Moon orbit	382500000	3.8250E+08	
Distance Earth-Sun	149600000000	1.4960E+11	
Ø Jupiter	142984000	1.4298E+08	
Distance Jupiter-Sun	778360000000	7.7836E+11	
Ø Saturn	120000000	1.2000E+08	
Distance Saturn-Sun	1433400000000	1.4334E+12	
Ø Uranus	50000000	5.0000E+07	
Distance Uranus-Sun	2872400000000	2.8724E+12	
Ø Neptun	49000000		
Distance Neptun-Sun	4495000000000	4.4950E+12	
Height of a human	1.70	1.7000E+00	
Distance of next Star (Proxima Centauri)	43000000000000000	4.3000E+16	

Object/ distance of interest	Size comparable to: (Analogy)
Ø Sun**	
Ø Earth	
Moon orbit	
Distance Earth-Sun	
Ø Jupiter	
Distance Jupiter-Sun	
Ø Saturn	
Distance Saturn-Sun	
Ø Uranus	
Distance Uranus-Sun	
Ø Neptun	
Distance Neptun-Sun	
Height of a human	
Distance of next Star (Proxima Centauri)	

\* z.B. E+09 =  $10^9$  =  $10^9$

\*\* Ø = Diameter