

Sustainable Development in Science Education

Magyar Csabáné and Pataki Zsuzsanna | Eötvös József High School | Tata | Hungary

Numarical scale model of the solar system 1 : 2.500 000 000

	Real diameter (10 ⁴ km)	Real distance from the Sun (10 ⁴ km)	Diameter of proportioned model (cm)	Proportioned distance of model (m)
Sun	140		55	
Planet	Y	S	Y*55/140	S*0,55/140
Mercury	0.49	5 800	0.19	23
Venus	1.21	10 800	0.48	42
Earth	1.28	15 000	0.50	59
Mars	0.68	22 800	0.27	90
Jupiter	14.3	77 800	5.62	305
Saturn	12.0	142 900	4.72	561
Uranus	5.08	287 100	1.97	1128
Neptune	4.86	450 400	1.91	1770

Model of the Earth’s atmosphere

Diameter of Earth (km)	Layers of the atmosphere	Air layer thickness (km)	Diameter of the globe model (m)	Air layer thickness of the globe model (mm)
12 740	Troposphere (greenhouse, weather, 80% of the total weight)	15	0,3 1 : 42 500 000	0,4
	Stratosphere (in the middle is ozone, 18% of the total weight)	20 - 50		1,1
	Mezosphere (sparse, but this is where the falling objects burn)	50 - 90		2,0
	Karman line the edge of space	100		2,3

