I'm Standing on Mars! - Teacher Notes

Students may not understand that the planets are all quite different sizes to each other so making some scale models may help.

The first table below shows some scaled measurements of the diameter of the planets in our solar system, at a scale of 1:100,000,000. These measurements could be used to make cut-outs of the planets of a size suitable to have students stand on. You may only want to make a wedge of the Sun or demonstrate it's size in another way, such as with a length of string.

Note: Pluto has also been included but it was re-classified as a dwarf planet in 2006.

A fun Maths activity could be to count how many students can stand on the model of each planet. This could also involve students dressing up according to the conditions on each planet e.g. hot or cold, oxygenated atmosphere or not.
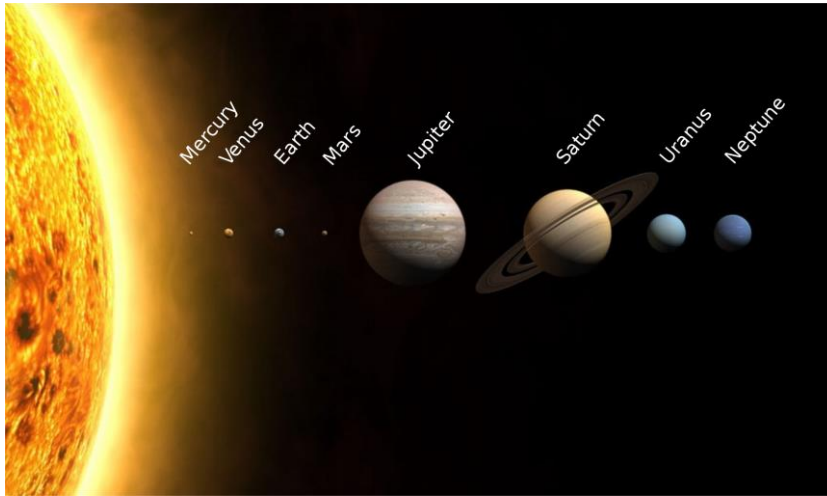
Diameter of objects in our solar system – Scale 1:100,000,000

Object	Actual diameter (km)	Scaled diameter (cm)
Sun	1,392,000	1,392
Mercury	4,879	4.9
Venus	12,100	12.1
Earth	12,740	12.7
Earth's Moon	3,474	3.5
Mars	6,779	6.8
Jupiter	139,800	139.8
Saturn	116,500	116.5
Uranus	50,720	50.7
Neptune	49,250	49.3
Pluto	2,372	2.4

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(Distances between planets in this image are not to scale)

The second table below shows scaled measurements for a much smaller set of cut-outs, that could be put up on a classroom wall. This scale is 1:300,000,000. Again, a model of the Sun will be massive so perhaps a sliver might be more manageable.

See over

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Diameter of objects in our solar system – Scale 1:300,000,000

Object	Actual diameter (km)	Scaled diameter (cm)
Sun	1,392,000	464
Mercury	4,879	1.6
Venus	12,100	4.0
Earth	12,740	4.2
Earth's Moon	3,474	1.2
Mars	6,779	2.3
Jupiter	139,800	46.6
Saturn	116,500	38.8
Uranus	50,720	16.9
Neptune	49,250	16.4
Pluto	2,372	0.8