The Solar System, to scale, for a school yard

Julian D. A. Wiseman, of www.jdawiseman.com

On the highest-resolution printer you can, print pages, twice. (On low-resolution printers some moons disappear.)
Print pages at 100% (some printer drivers default to 96%). Do not print duplex.

Affix pages to cards; string together pairs of cards such that they can be draped over the back of a chair.

Put Sun cards over a chair in corner of playground, and 'planet'-chairs at correct distance from the Sun.

Sun-Saturn distance set to be 120 metres, which determines the scaling of 11,950,000,000 to 1.
At 1200 dots per inch, one printer pixel is about 253 km.
At this scale, the nearest star, Proxima Centauri, would be about 3,360 km away.
At this scale, the nearest major galaxy, Andromeda, would be about 13.4 A.U. away.

Sun-asteroid distance proxied by Sun-Ceres.
All asteroid-asteroid distances are huge and vary as they orbit.
So obviously portrayed asteroid-asteroid distances are nonsensically not to scale.
(But everything else to scale: planet sizes; moon sizes; planet-moon distances; sun-planet distances.)

Links:
Author, Julian D. A. Wiseman   http://www.jdawiseman.com/author.html
English   http://www.jdawiseman.com/papers/schools/solar_system_to_scale.html
                                      http://www.jdawiseman.com/papers/schools/solar_system_to_scale_A4.pdf
                                      http://www.jdawiseman.com/papers/schools/solar_system_to_scale_USL.pdf
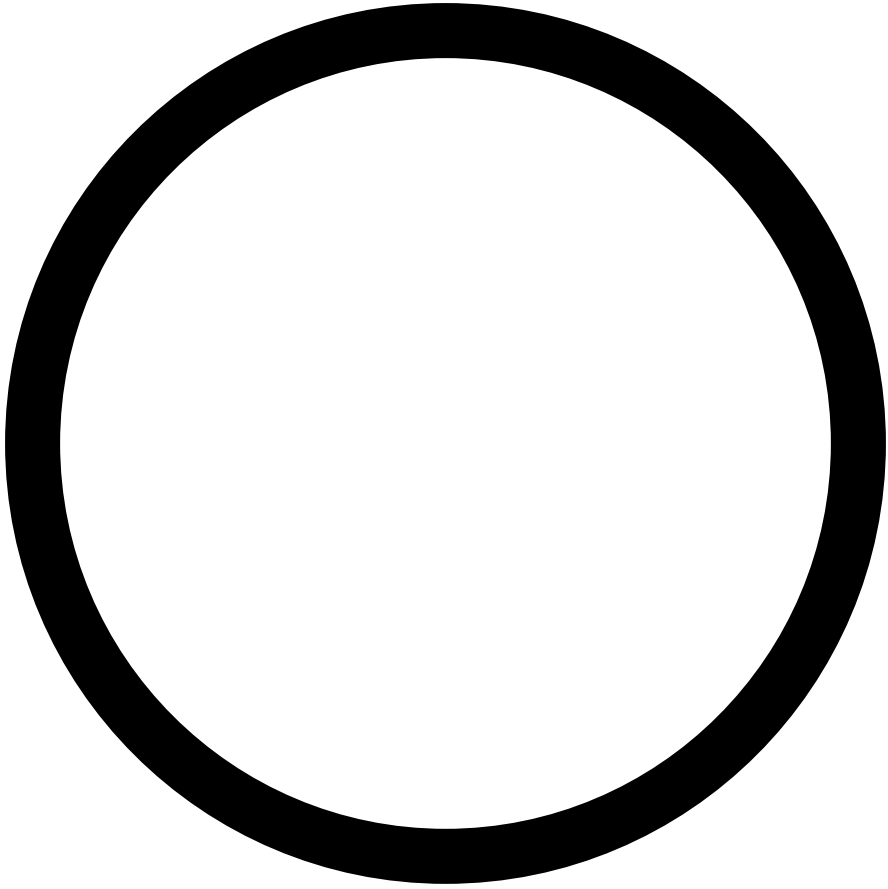Português = Portuguese   http://www.jdawiseman.com/papers/schools/solar_system_to_scale_PT.html
                                      http://www.jdawiseman.com/papers/schools/solar_system_to_scale_PT_A4.pdf
                                      http://www.jdawiseman.com/papers/schools/solar_system_to_scale_PT_USL.pdf
For changing of scale and of language http://www.jdawiseman.com/papers/schools/solar_system_to_scale.ps

The Sun

The equatorial diameter of the Sun is about 1,391,400 km.

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Mercury
  To sun, average: 58,000,000 km
  Scaled: 4.86 metres

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Venus
  To sun, average: 108,000,000 km
  Scaled: 9.04 metres

Earth
To sun, average: 149,600,000 km
Scaled: 12.5 metres

At this scale the moon is ≈32 mm from the earth, and that is the furthest humans have travelled.

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Mars
  To sun, average: 228,000,000 km
  Scaled: 19.1 metres

Asteroids
To sun, average: 413,900,000 km
Scaled: 34.6 metres

As Ceres is largest asteroid, and about 31% of mass of all asteroids, uses average Sun-Ceres distance.
Obviously asteroid-asteroid distances huge and hugely variable, so portrayed gaps are nonsense.

Jupiter
   To sun, average: 778,500,000 km
   Scaled: 65.2 metres

Saturn
To sun, average: 1,433,000,000 km
Scaled: 120 metres
Rings shown to size of A and B rings. Stripes are schematic not actual.

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Uranus
  To sun, average: 2,938,000,000 km
  Scaled: 246 metres

Neptune
  To sun, average: 4,499,000,000 km
  Scaled: 377 metres

Pluto
To sun, average: 5,907,000,000 km
Scaled: 495 metres
Dwarf planet. Distance is average of aphelion (49.319 AU) and perihelion (29.656 AU).

Eris
To sun: 14,410,000,000 km
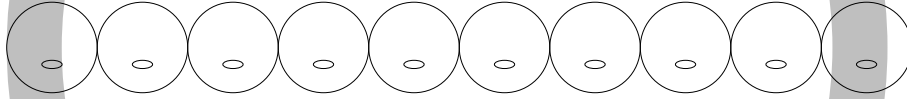### Scaled: 1,206 metres
Dwarf planet. Distance as of May 2016.

Size comparisons

Sun versus Jupiter; gas giants versus Earth

The Sun

Mercury

Venus

Earth

Mars

Asteroids

Jupiter

Saturn

Uranus

Neptune

Pluto

Eris