PLANET DISTANCES

HOW FAR APART ARE THE PLANETS?

AGES 5–12

Cut along the dashed border and tape to a wall →

SCALE: 1 AU = 8 MM



What's an AU? *"Astronomical Unit" — the average distance from Earth to the Sun, about 150 million km. Mercury is 0.39 AU from the Sun; Neptune is 30 AU.*

★ TOILET-PAPER UNIVERSE

HANDS-ON

1 sheet ≈ 1 AU

Roll out a long strip of toilet paper down a hallway. Place a Sun symbol on sheet 0, then mark each planet:

Mercury	*~½ sheet*	**Venus**	*sheet 1*
Earth	*sheet 1*	**Mars**	*sheet 1½*
Jupiter	*sheet 5*	**Saturn**	*sheet 10*
Uranus	*sheet 19*	**Neptune**	*sheet 30*

★ PRINT & TAPE

NO SUPPLIES

Use the strip above

The strip at the top of this page is the entire solar system at scale (1 AU = 8 mm). Print it, cut along the dashed border, and tape it to a wall or hallway.

Discussion: Notice how Mercury, Venus, Earth and Mars are squished together near the Sun? Now look at how spread out the gas giants are. That's why missions to the outer planets take so many years!

★ WALK THE SOLAR SYSTEM

OUTDOORS

1 step (about 1 m) = 1 AU

Find a long open space — a corridor, the playground or a sports field. Pick a starting point as the Sun and have kids count out the steps:

Mercury	*step 0–1*	**Venus**	*step 1*
Earth	*step 1*	**Mars**	*step 1–2*
Jupiter	*step 5*	**Saturn**	*step 10*
Uranus	*step 19*	**Neptune**	*step 30*

Planet sizes shown larger than scale to be visible · Distances are average (orbits are elliptical)