

# Earth moon distance to scale

distance of the Moon by creating a scale model. OBJECTIVE -- The students will: o Predict and then measure the size of the Moon relative to Earth's diameter. o Predict and then measure the distance of the Moon relative to a scale model of the Earth and Moon. MATERIALS -- o Tape measure o Two balloons OR o A basketball and a ...

The Moon is about 385,000 km (250,000 miles) from Earth (average distance). This is about 30x farther than the Earth is wide. The Moon orbits the Earth in about 28 days. One side of the Moon always faces the Earth, we call this the ...

Scale model of the Earth-Moon system (respecting sizes and distances), utilizing the mean radii of both bodies and mean distance of the orbit. Scroll right to find the Moon. ... (0.87 in) per year (2200 km or 0.56% of the Earth-moon distance per hundred million years) and the day lengthened at an average rate of 12 microseconds per year (or ...

The Sun's diameter of 1,392,000 km is 109 times the Earth's equatorial diameter of 12,756 km. The distance to the Earth from the sun at 149,000,000 km = 1 AU is 107 times the diameter of the Sun and 388 times the Earth-Moon distance. The Earth-Moon distance is not shown to scale in the above composite. The diameter of the Sun is 3.6 times the ...

where  $a$  is a past time Earth-Moon distance,  $a_0$  is a later time (e.g., present-day) Earth-Moon distance,  $t$  is the time difference between the two separations, and  $F$  is the mean drag factor for this period of time  $t$ . Because ...

4 days ago; Average distance? Why mention the average distance? Well, the Moon is not always the same distance away from Earth. The orbit is not a perfect circle. When the Moon is the farthest away, it's 252,088 miles away. That's almost 32 Earths. When it's closest, the Moon is 225,623 miles away. That's between 28 and 29 Earths. So far apart!

The Distance to Scale checkbox toggles between "distance to scale" (when checked) and "distance not to scale" (when not checked) modes. In the "not to scale" mode it is easier to see both Earth and Moon and it is also easier to see Earth wobbling in its path as the Moon pulls on it. The relative sizes of the Earth and Moon are always correct.

Once the size of the moon has been established, ask about the distance of the moon from the earth on this scale. Again, I start with the moon right next to the earth and ask the audience to call out "Stop!" ... 3,476 km 0.8 inches (ping pong ball) Moon (distance) 384,400 km 7.5 feet Sun (diameter) 1,392,000 km 27.3 feet Sun (distance) 150 ...

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Measure the distance you want between the balls. You can place the balls any distance apart. However, if you want to make the model to scale, you will need to measure the distance more precisely. The objects should be separated by a distance of 9.5 times the earth's circumference. Measure this distance with a ruler or tape measurer.

Calculate the scaled planet diameters and planet-sun distances for a solar system model. Enter scale or diameter or distance, select to show table and/or map below, select options, then press Calculate. Examples: Scale 1 : 100000000 or Sun Diameter ...

Earth & Moon (Scale size = 1.2 mm, Scale Distance = 15 m) In terms of size Earth and Venus are "sisters". However, Earth's distance from the Sun allows water to exist in liquid form, which makes a big difference! On this scale the Moon is a 0.3 mm dot about 3.5 cm away from the Earth. Our model Earth and Moon are on a notice board back to ...

The distance to the Moon would be 60 times this distance, or  $4 \text{ cm} \times 60 = 240$  centimeters (2.4 meters). Problem 6 - Very few. Artists try to show a vast 3-dimensional image in a flat perspective drawing that is only a few inches across on the printed page. To draw the Earth-Moon system in the proper perspective scale, the Moon would be a small dot.

The phase and libration of the Moon for 2022, at hourly intervals. Includes music, supplemental graphics that display the Moon's orbit, subsolar and sub-Earth points, and the Moon's distance from Earth at true scale. Craters ...

"Seeing" the Earth, Moon, and Sun to Scale. The moon is about 1.3 light-seconds away (240,000 miles). Here is a scale picture of the Earth-moon system, with the earth (actual diameter: ...

The phase and libration of the Moon for 2022, at hourly intervals. Includes music, supplemental graphics that display the Moon's orbit, subsolar and sub-Earth points, and the Moon's distance from Earth at true scale.

The Moon is farther away from Earth than people often think. A good ballpark number to remember is that the Moon is about a quarter of a million miles away (that is, 250,000 miles), or about 400 thousand kilometers. It's such a vast distance that you could just about fit the other seven major planets into the space between the two worlds.

Around the Earth: The Earth's circumference, or the distance all the way around the planet, is 24,901 miles. This means you could fit nearly ten Earths in the distance between Earth and the Moon! The Moon's Orbit. Now let's talk about why the Moon's distance from Earth changes. The Moon doesn't orbit Earth in a perfect circle.

The passage from precession frequency to Earth-Moon distance has been realized by interpolation using the

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nominal AstroGeo22 solution for all data points except for the blue points of (Zhou et al., 2022), who provide Earth-Moon distance values and associated uncertainties in their paper.

Overview Value Variation History of measurement See also External links Because of the influence of the Sun and other perturbations, the Moon's orbit around the Earth is not a precise ellipse. Nevertheless, different methods have been used to define a semi-major axis. Ernest William Brown provided a formula for the parallax of the Moon as viewed from opposite sides of the Earth, involving trigonometric terms. This is equivalent to a formula for the inverse of the distan...

The instructor will show you the scale model Earth and Moon. The real Moon is about 385,000 km from the Earth, about 30 times the Earth's diameter. How far away should the scale Moon ... Size to scale but not distance. 7. Here is a painting of our Milky Way galaxy, with the Sun marked. The galaxy is 100,000 light-years across.

This activity is related to a Teachable Moment from Aug. 10, 2017. See "Get Students Excited About Science With This Month's Total Solar Eclipse.> Explore more on the Teachable Moments Blog. Overview Using an assortment of playground and toy balls, students will measure diameter, calculate distance and scale, and build a model of the Earth-Moon system.

This 2D visual model illustrates the scale of the sun and planets in our solar system, and their current distance from each other. ... Earth (Terrestrial Planet) Diameter: 12 pixels Distance: pixels. Mars (Terrestrial Planet) Diameter: 6 pixels Distance: pixels. Jupiter (Gas Giant) Diameter: 139 pixels Distance: pixels. Saturn (Gas Giant ...

What is the Earth-to-Moon distance with our new scale? [ $30 \times 10 \text{ cm} = 300 \text{ cm} = 3 \text{ meters}$ . Remember, our scaling factor for distance is 30.] Go to your local lumber yard and have them cut an inexpensive 1-inch x 1-inch board whose length correctly represents this Earth-Moon distance.

"Seeing" the Earth, Moon, and Sun to Scale. The moon is about 1.3 light-seconds away (240,000 miles). Here is a scale picture of the Earth-moon system, with the earth (actual diameter: 8,000 miles) represented by a circle just a little bigger than 1/8 inch: ... The terms light-seconds and light-minutes are used as units of distance along with ...

The phase and libration of the Moon for 2022, at hourly intervals. Includes music, supplemental graphics that display the Moon's orbit, subsolar and sub-Earth points, and the Moon's distance from Earth at true scale. Craters near the terminator are labeled, as are Apollo landing sites and maria and other albedo features in sunlight.

The distance between the Earth and the Moon is about 240,000 miles; this is about 30 Earth diameters. So to try to visualize the Earth-Moon system on a proper scale for both size and distance, take two regular piece of papers and tape them together length-wise so you have one really long piece of paper.

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