Distances in Astronomy
Learning Objectives

• Define an Astronomical Unit and Light year
• Explain and diagram the solar system using modeling clay and a ruler
• Explain how Astronomers determine distances in the universe
Astronomical Units

1 Astronomical Unit (AU) = 149,597,870.691 kilometers

Average distance between the earth and the sun.

Used to measure distances in the solar system.

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Astronomical Units

Distance light travels in one year

It takes 8 minutes for light from the sun to reach the Earth

Light travels at $3.0 \times 10^8$ m/s

Used to measure distances outside the solar system

http://www.noao.edu/outreach/aop/observers/n2261westphals.jpg

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Activity


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Conclusion

Why couldn’t you use the same scale for the planets and the distances between?

What surprised you the most?

Why do Astronomers use light years to measure distances out side the solar system?