Thousand Yard Model

As a class we modeled the solar system based on a thousand-yard model. Answer the following questions keeping in mind in this model the distance from the Earth to the Sun was 26 yards.

Astronomers believe there is a vast cloud of frozen comets called the Oort Cloud that surrounds our solar system. It lies roughly 50,000 times farther from the Sun than the Earth is. How far away would the Oort Cloud be in this model?

$26 \times 50{,}000$

$= 1{,}300{,}000$ yards

Alpha Centari is the nearest star to our solar system. It lies roughly 276,000 times farther from the Sun than the Earth. How far away would it be in the thousand-yard model?

$26 \times 276{,}000$

$= 7{,}176{,}000$ yards

A mile is 1,760 yards, how far away would the Oort Cloud be? Alpha Centari?

$\frac{1{,}300{,}000}{1760}$

$= 738.6$ mi

$\frac{7{,}176{,}000}{1{,}760}$

$= 4077$ mi

How did this activity affect your view of space? Is it bigger or smaller than you thought?