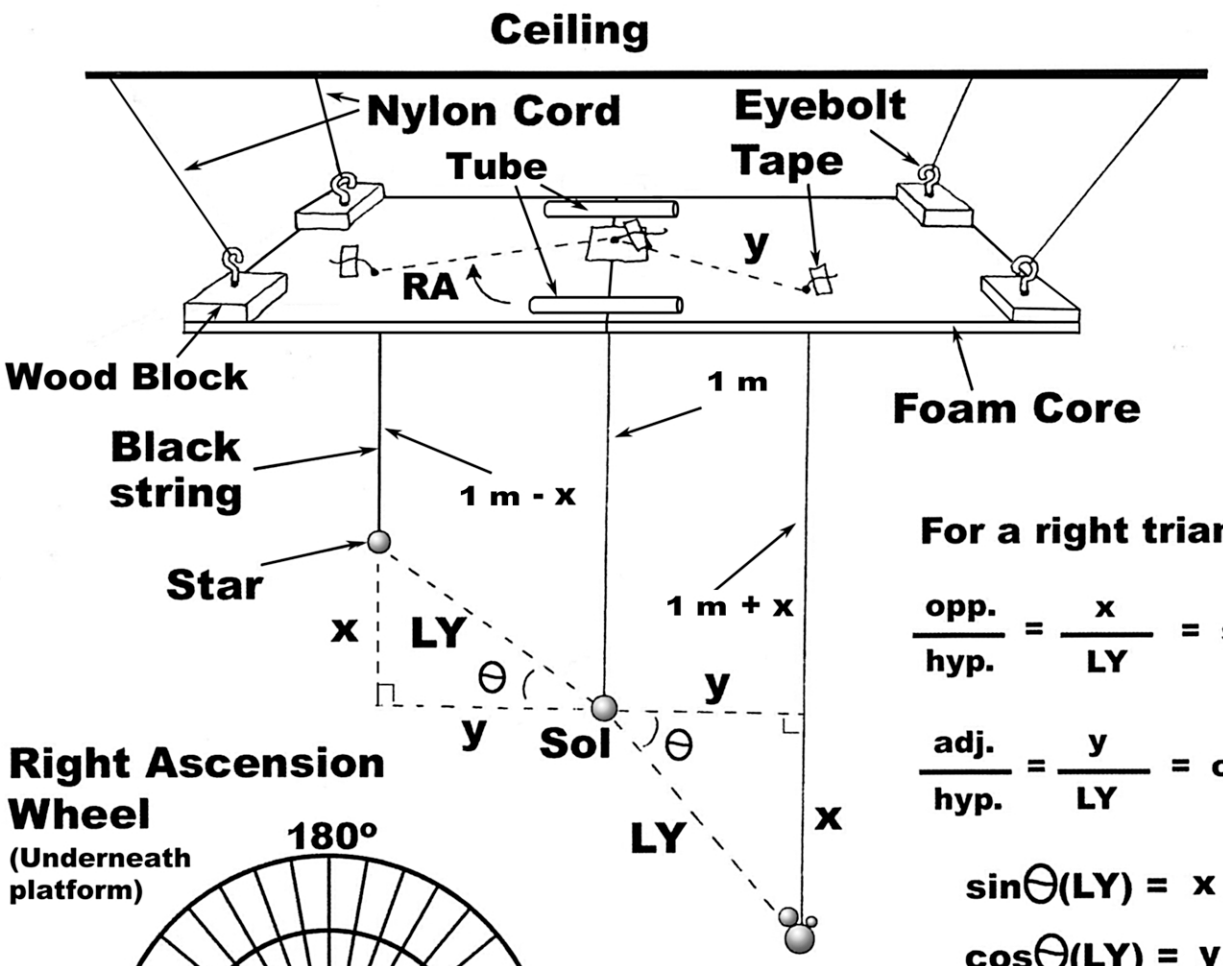
Hanging Stars



For a right triangle:

$$\frac{\text{opp.}}{\text{hyp.}} = \frac{x}{LY} = \sin\Theta$$

$$\frac{\text{adj.}}{\text{hyp.}} = \frac{y}{LY} = \cos\Theta$$

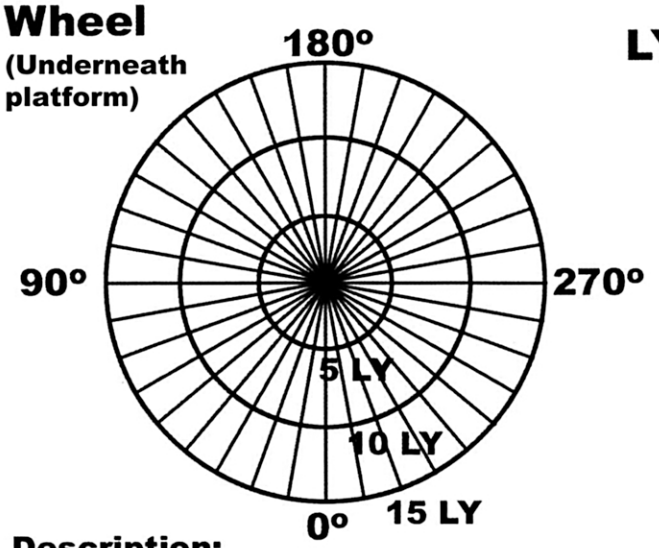
$$\sin\Theta(LY) = x$$

$$\cos\Theta(LY) = y$$

Θ = **Declination Angle**

LY = Light Years Distance = hyp.

Right Ascension Wheel
(Underneath platform)



Description:

Finding the exact location of a star when hanging it in the star model can be a challenge as it requires measuring the distance, the Right Ascension, and the declination angle all at once. A simpler way of locating the stars uses the idea of right triangles and trigonometry. Even though the math is more difficult, this method is ultimately easier and faster.

As shown in the diagram above, the light years distance is the hypotenuse of a right triangle with a declination angle of Θ (theta). The distance **y** is the horizontal distance from Sol to a star, and the distance **x** is the vertical distance that is either added or subtracted from **1 m** (the distance Sol is hanging from the foam core false ceiling of the model). First measure the Right Ascension around on the guide circle, then use the functions above to find **x** and **y**. Measure the **y** distance out along the guide angle and poke a hole in the foam core. Then use the **x** distance to determine the length of the star's string from the ceiling, adding a few inches to tape it down.