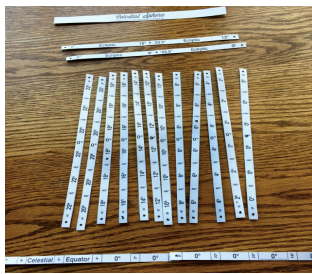
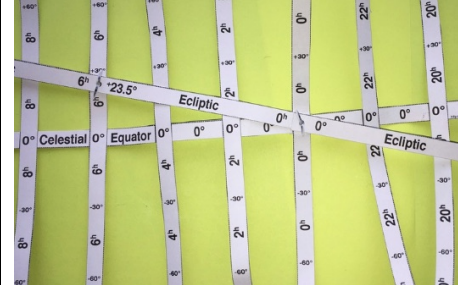


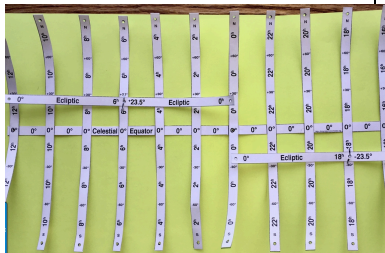



Celestial Sphere Construction Directions

v. 170311

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Safest version is to create the sphere completely with paper and glue. (Brads: If you use brads and beads, keep your sphere out of the hands of young children or pets, as the brads and beads are a choking hazard! If you do use brads, find an appropriate sized paper punch and small brads at a craft store, 1/8th inch for half size, and 1/16th for four printed per page. Punch the ● before cutting strips or the inner ones when have cut away a few strips in the way.)

<p>1. Using scissors, cut dotted lines for strips of RA hours, celestial equators & ecliptic. Glue the celestial equator strips together at either the 12^h end or the 0^h end so you have one long horizontal strip representing the celestial equator. (If constructing with brads, punch the black dots.)</p>		<p>5. Where celestial equator meets either 0^h or 12^h strip, glue or brad together, celestial equator, RA cross strip, then join the ecliptic ends at a slight angle on the inside. All printing faces inside of the sphere.</p>	
<p>3. Lay the hour angle (RA) strips out at right angles to the celestial equator. Make sure that when you read the words celestial equator that the N ends of the hour strips are at the top. Glue RA strips to celestial equator each crossing the celestial equator at a right angle. Match the RAs at center, so 0° overlaps corresponding RA hour division on celestial equator.</p>		<p>6. Join celestial equator ends with celestial equator grid on the inside.</p> <p>7. Gather and attach the N ends with a big brad or glue, do the same with the S ends. Strips are curving inward.</p>	
<p>3. Match & attach with a small brad or glue, each ecliptic strip to 6^h or 18^h strip at the ●.</p>		<p>8. Cut out the curves for declination circles at 60° and 30° + and - dec. Lay these over the sphere and glue into place.</p>	
<p>9. Make a ring stand from the remaining <i>Celestial Sphere</i> strip, by gluing ends together.</p>	