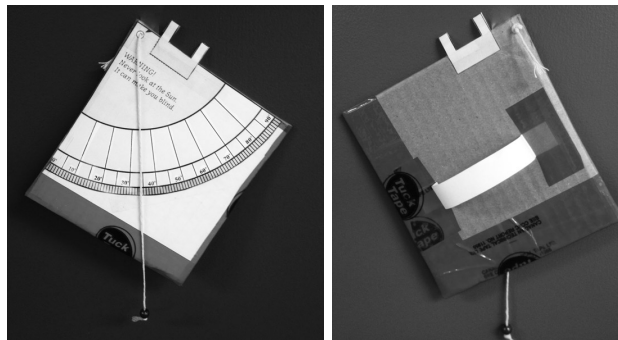


Quadrant Construction & Usage

Materials: quadrant template from website, cardboard, string, a bead, scissors, and tape/glue.

- Cut a 5" x 5" square from a piece of cardboard (part of a cereal box will do)
- Cut off about 9" of string (or thread) & attach a bead (or similar object) to one end
- Download & print off the quadrant template from the website; cut out all pieces
- Glue or tape the quadrant to the cardboard square, aligning straight edges/corner
- ** You may upgrade the given sights by replacing them with a straw attached horizontally along the top edge. ** Glue or tape one of the sights to the marked space on the top edge of the quadrant. Glue or tape the other sight to the *opposite side* of the cardboard, so that the 'prongs' from the two sights are lined up; tape the 'prongs' together to form two triangles or loops. You align & measure a target by looking through these.
- Fold the handle strip along the dashed lines to form two tabs; glue or tape these to the back side of the cardboard (opposite side as the quadrant template) so as to form a (slightly) arched handle (like a drawer pull). The handle should run parallel to the top of edge of the quadrant and be roughly centered on the cardboard. If you have large hands, make a slightly longer handle. You may also use (thin) cardboard for the handle.
- Make a (small) hole where the circle is printed in the corner near the sights
- Attach the string to the hole so that the bead hangs down below the cardboard.



The quadrant is used to determine the elevation (angle) of an object above the horizon. You need a target, like a star or planet, to aim at; if none are available, attach the cut-out star to a convenient surface and use it. ***DO NOT AIM AT THE SUN USING THE QUADRANT. YOU MAY PERMANENTLY DAMAGE YOUR VISION. I MEAN IT.***

- Pick a (safe) target. Hold the quadrant by the handle so the sight(s) are at top and string hangs freely downward. The thin vertical edge near 0° and where the string is attached is the 'front' and faces toward the target. Align the target with the top edge of the quadrant while looking through the sight(s).
- With your free hand, carefully hold the string in place along the scale.
- Read off the elevation of the target (to the nearest degree)

NOTE: 0° means the target is on the horizon; 90° means it is overhead (at the zenith).