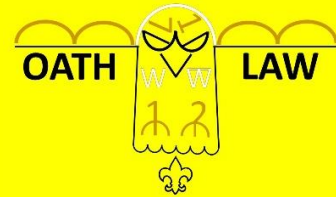


Orienteering

Daytime Navigation



Object: Teach how to use the sun and common objects to find directions—north, south, east, and west.

Watch Method

- 1) Hold your watch level.
- 2) Place a short, straight twig upright against the edge of the watch at the point of the hour hand.

(Note: If using a digital watch, not the hour, imagine where the hour hand would be point, and place the twig accordingly.)
- 3) Turn the watch until the shadow of the twig falls along the hour hand's position—that is, until the hour hand points toward the sun.
- 4) Notice the angle formed between the numeral 12 (the top half of the digital watch) and the shadow lying on the real or imaginary hour hand.
- 5) A line from the center of the watch that divides that angle in half will point South.

*Note: This method requires standard time. If your watch is set on daylight savings time, turn it back one hour.

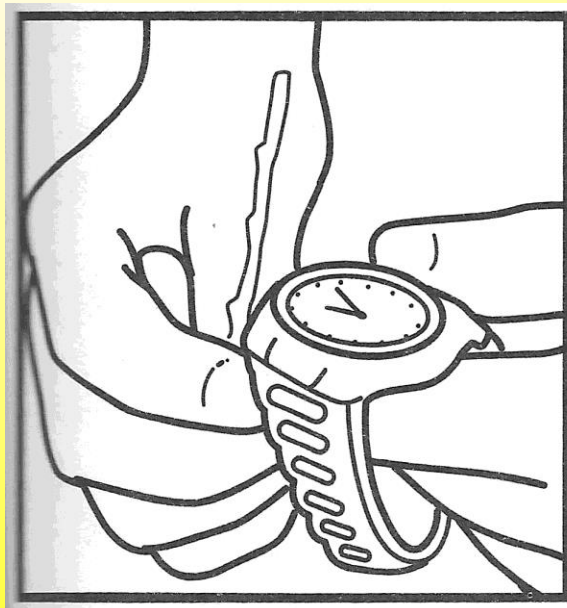
Shadow-Stick Method

- 1) Push a short (6-8 inch), straight stick into the ground.
- 2) Angle it toward the sun so that the stick makes no shadow.
- 3) Then wait until it casts a shadow at least 6 inches long.
- 4) The shadow will be pointing east from the stick.
- 5) A line at right angles across the shadow will be north—south.

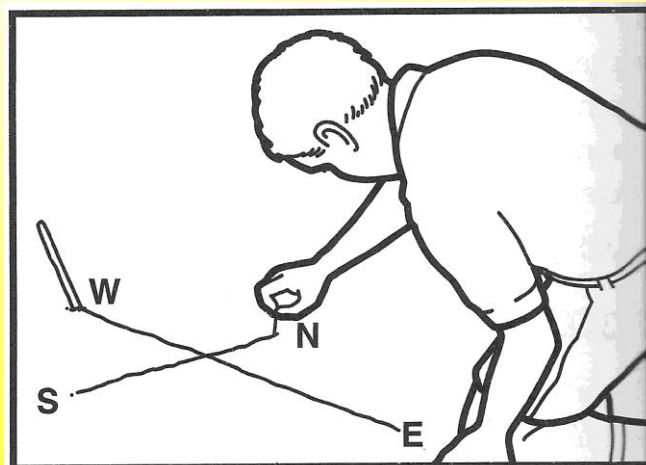
Equipment:

- Watch (preferably with hands), and thin twig/pencil
- One 6-8 inch straight stick or dowel
- 5-6 feet of string/twain/parachute cord
- 2- or 3-foot straight stick/dowel, and two (4-inch) pegs

Watch Method



Shadow-Stick Method



Equal-Length Shadow Method

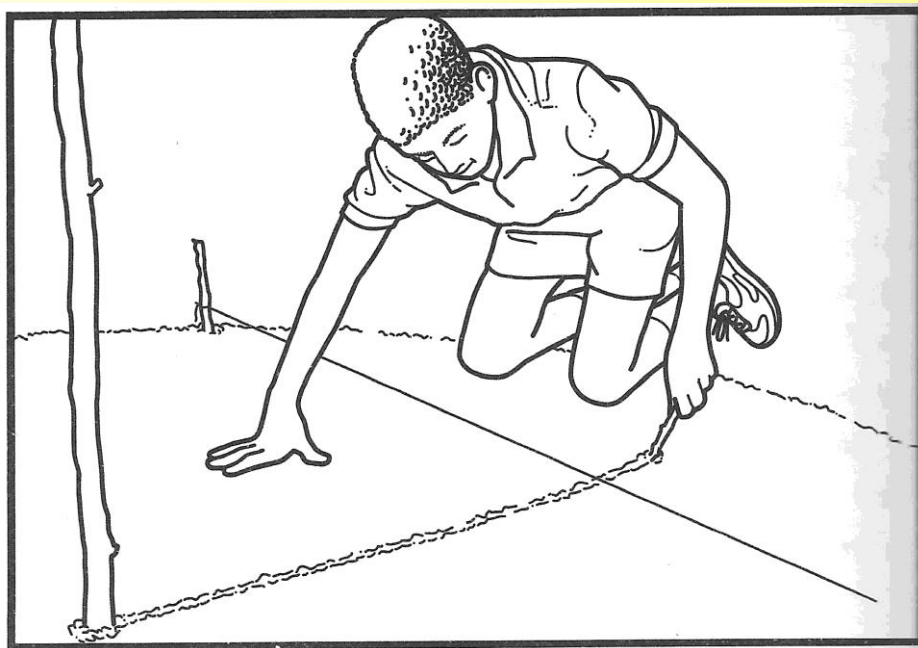
In the Morning—

- 1) Push a straight 3-foot-long stick upright into the ground.
- 2) Tie a string around the base of the stick with a bowline.
- 3) Next, extend the string to the end of the stick's shadow.
- 4) Tie a peg to the string at that point and use it to scratch a circle on the ground around the stick.
- 5) Push the peg into the ground where the tip of the stick's shadow touches the circle.

In the Afternoon—

- 1) Place another peg where the tip of the shadow again touches the circle.
- 2) A straight line drawn between the pegs is a west-east line, with West pointing to toward the morning peg.
- 3) A line drawn at right angles across the west-east line will be north--south.

Equal-Length Shadow Method



Extra Credit:

Find directions at night using the *Shadow-Stick Method* and the moon

Explanation—

- The moon rises in the east and sets in the west, as does the sun.
- The shadow-stick method for use with the sun will work just as well on the nights when the moon is bright enough to cause shadows to form.

