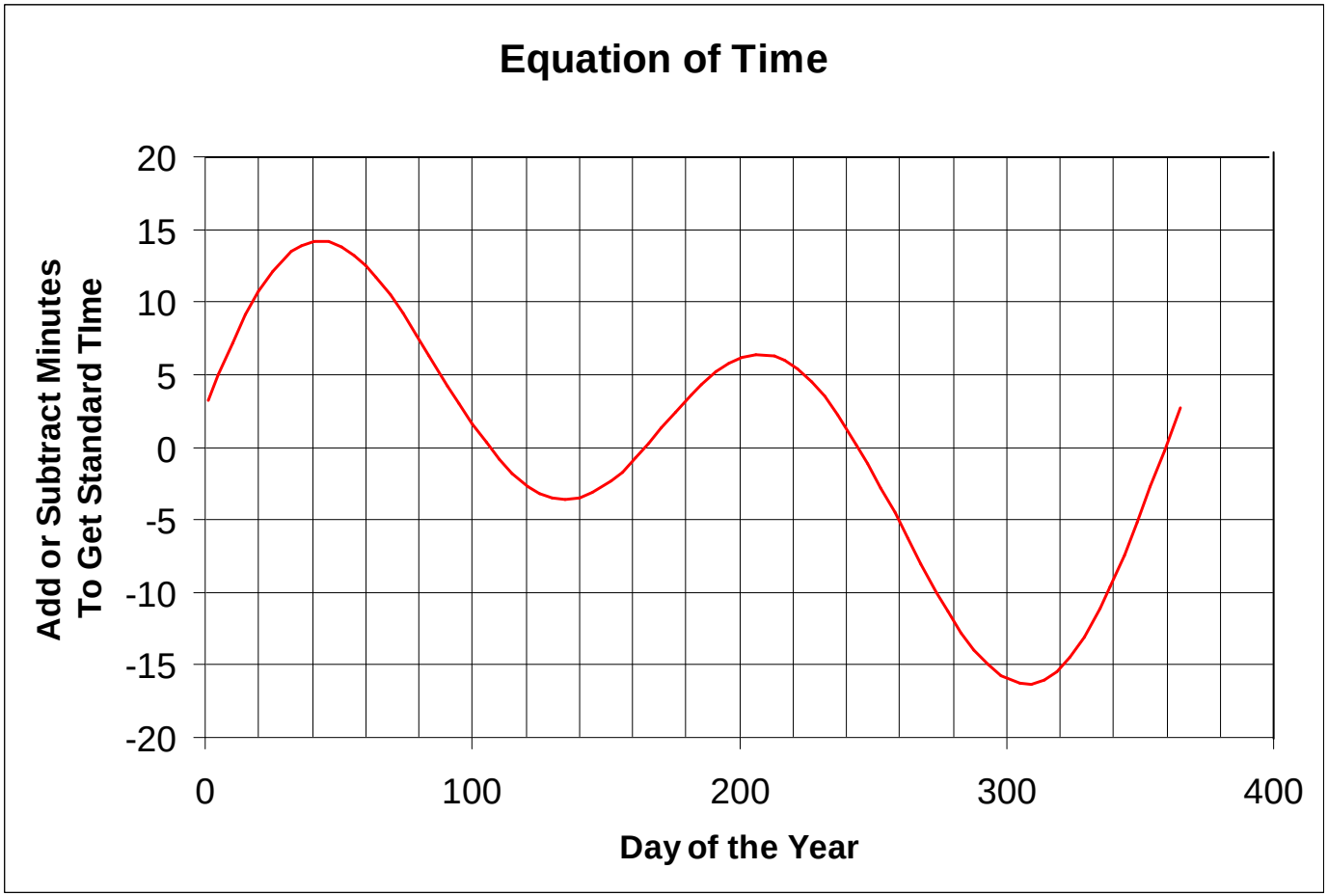
Design an Earth Dial

North American Sundial Society

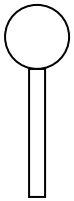
Created by: R.L. Kellogg webmaster@sundials.org March 2013

1. Find your latitude and print out the Earth Dial
2. Cut out the Earth Dial and glue it to a piece of wood or stiff cardboard.
3. Varnish it for weatherproofing.
4. You need to construct a gnomon (shadow caster). Use a wood dowel and ball the same size as drawn to the left of the dial. Push the dowel into the ball and glue the dowel vertically on the Earth Dial in the center of the circle.
5. Align the 12 o'clock line toward north. Your Earth Dial will now tell local apparent solar time. It may differ from actual clock time due to your longitude and due to the sun's slight irregular motion throughout the year (called the Equation of Time, where the apparent sun "runs" fast or slow of the mean solar time by about 15 minutes maximum. The Equation of Time is found on the next slide.

Equation of Time



Gnomon Shape



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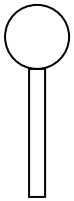

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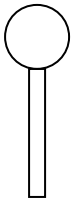

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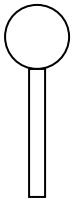

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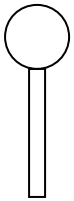

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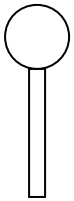

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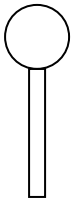

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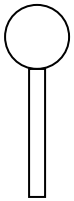

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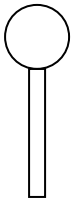

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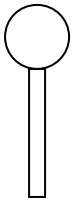

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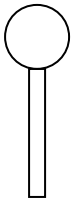

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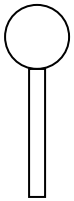

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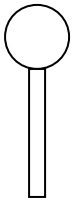

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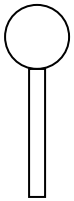

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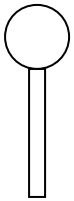

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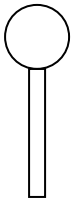

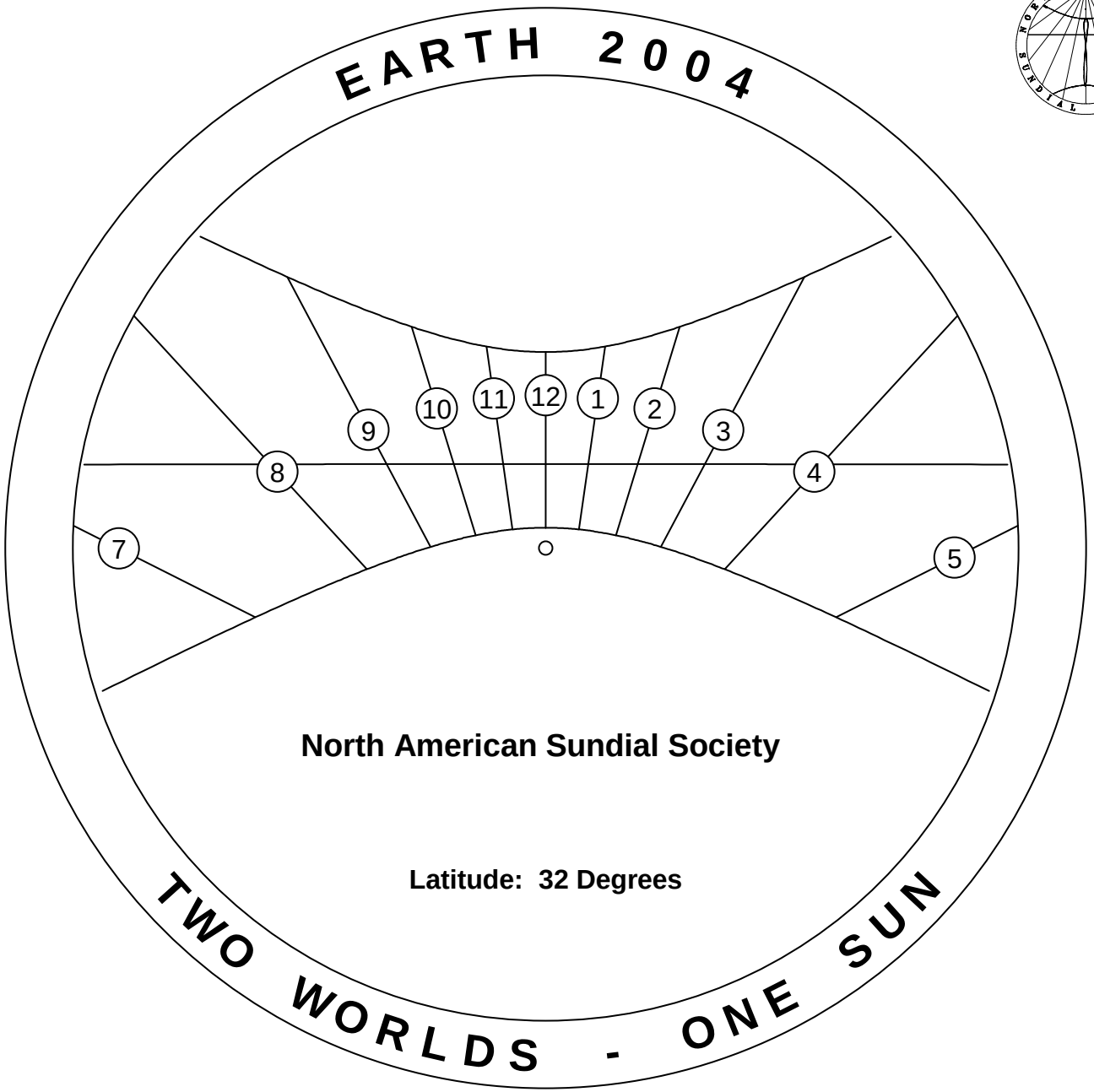

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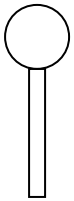

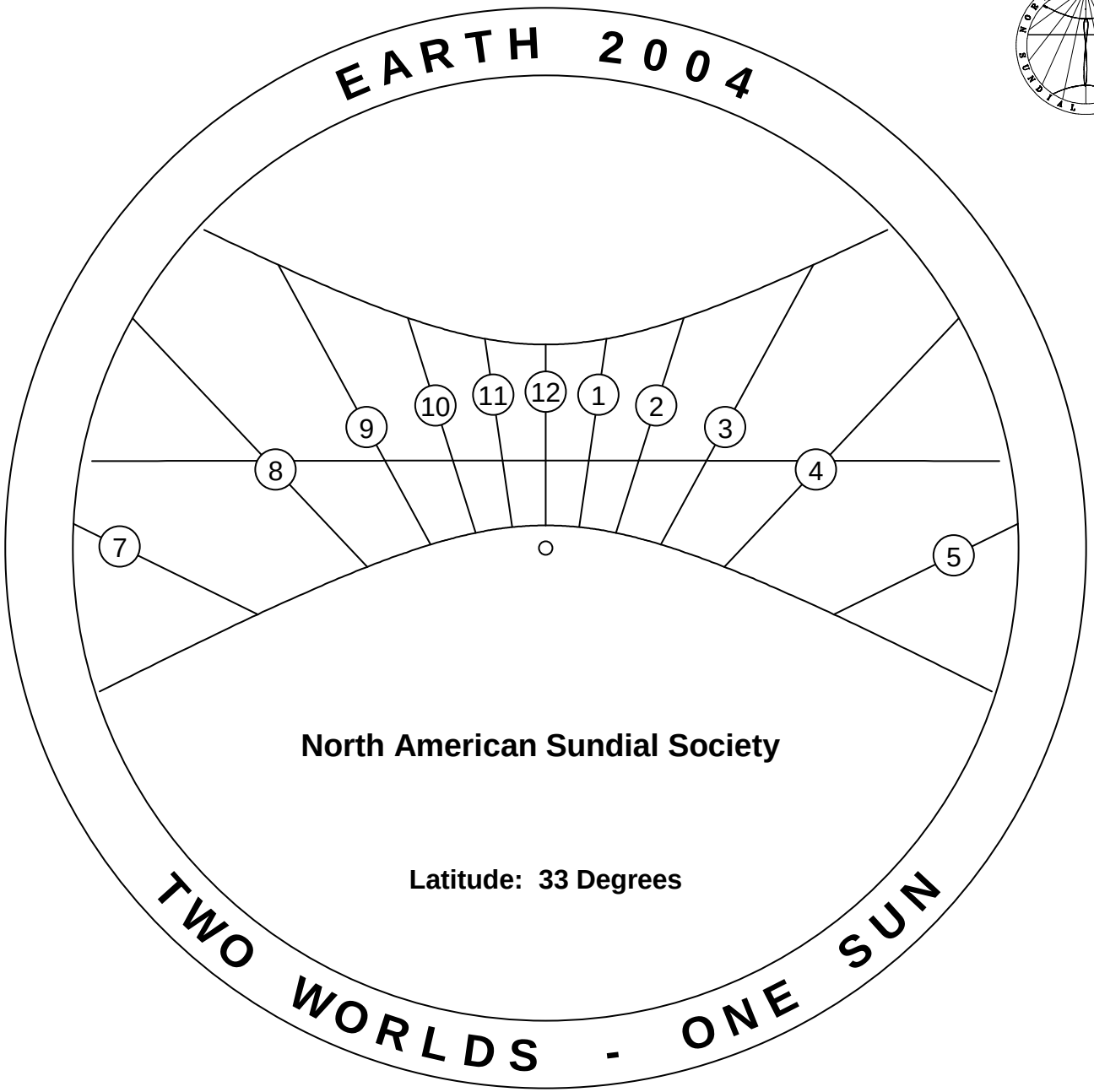

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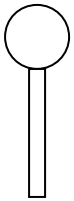

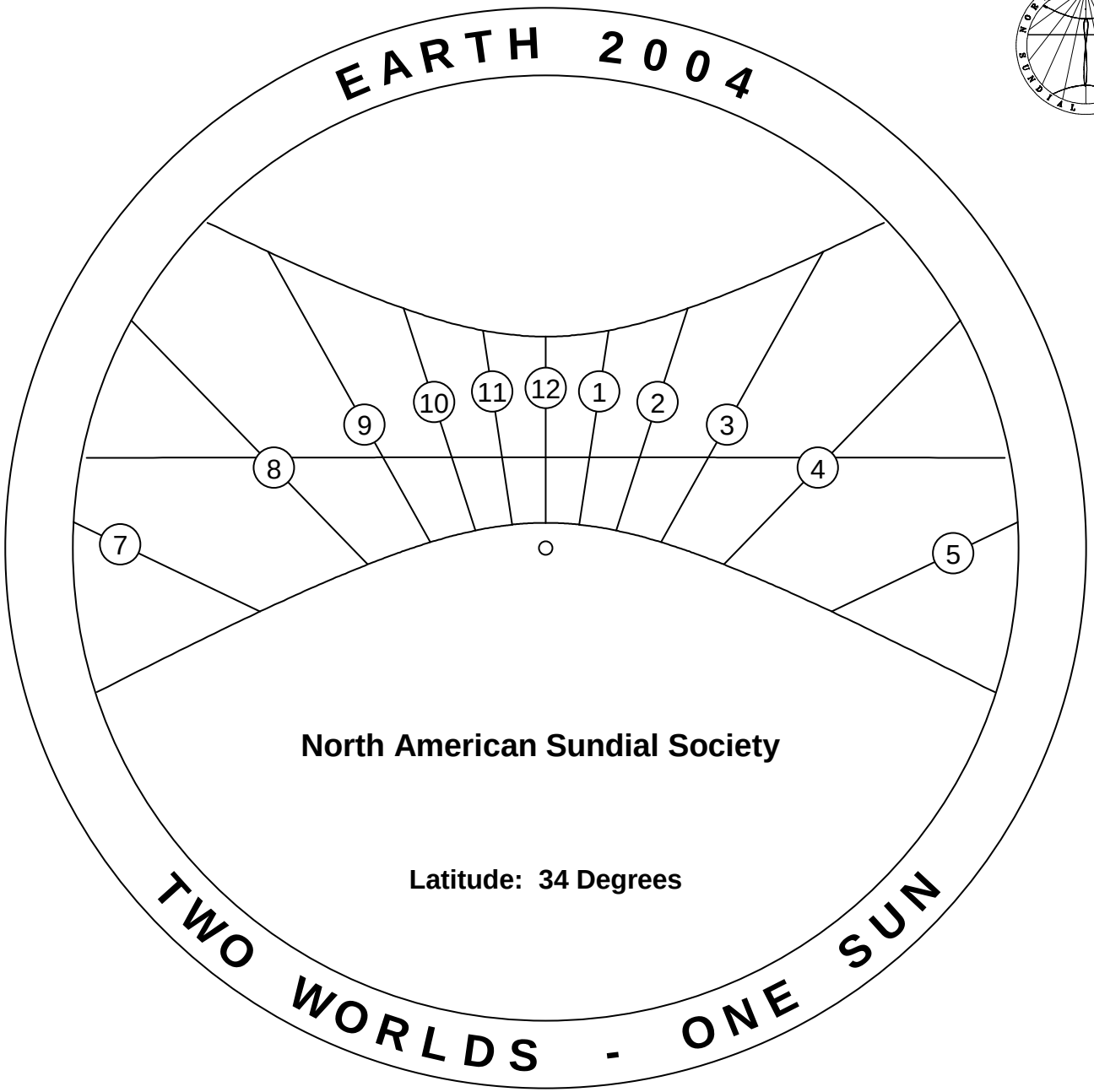

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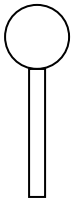

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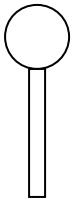

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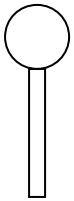

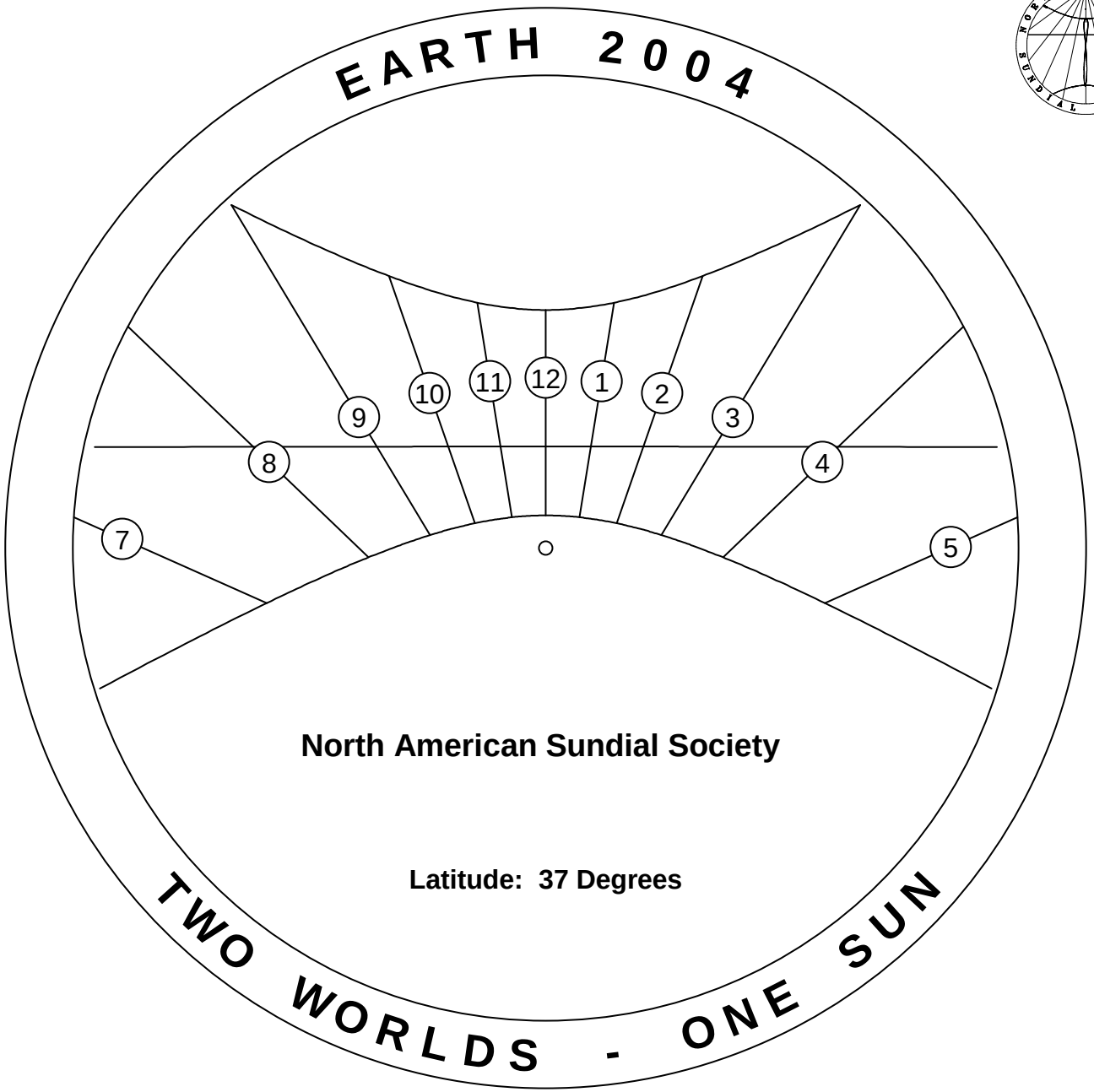

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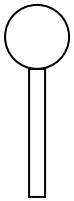

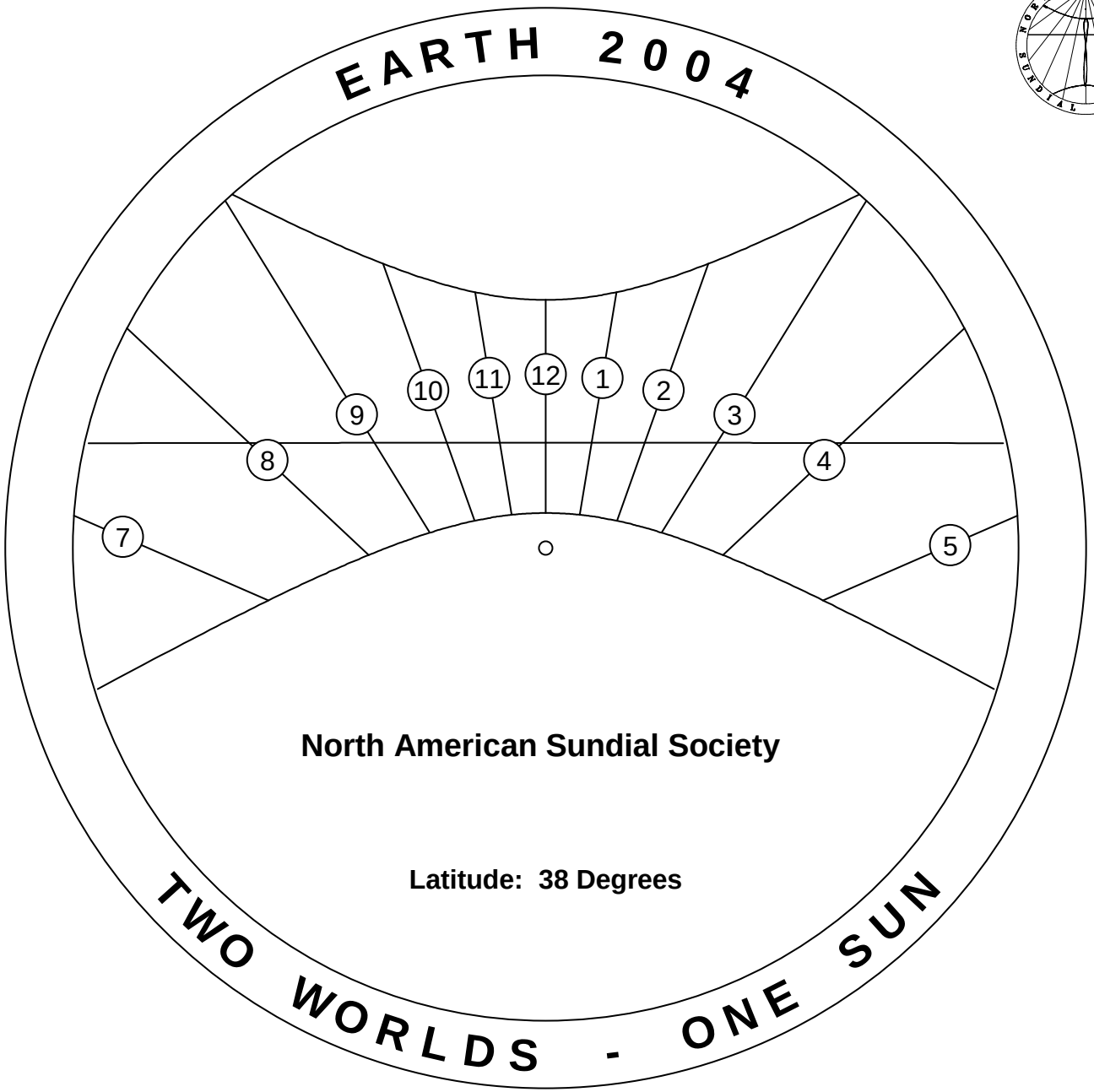

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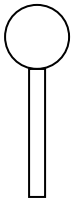

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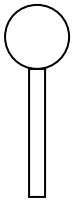

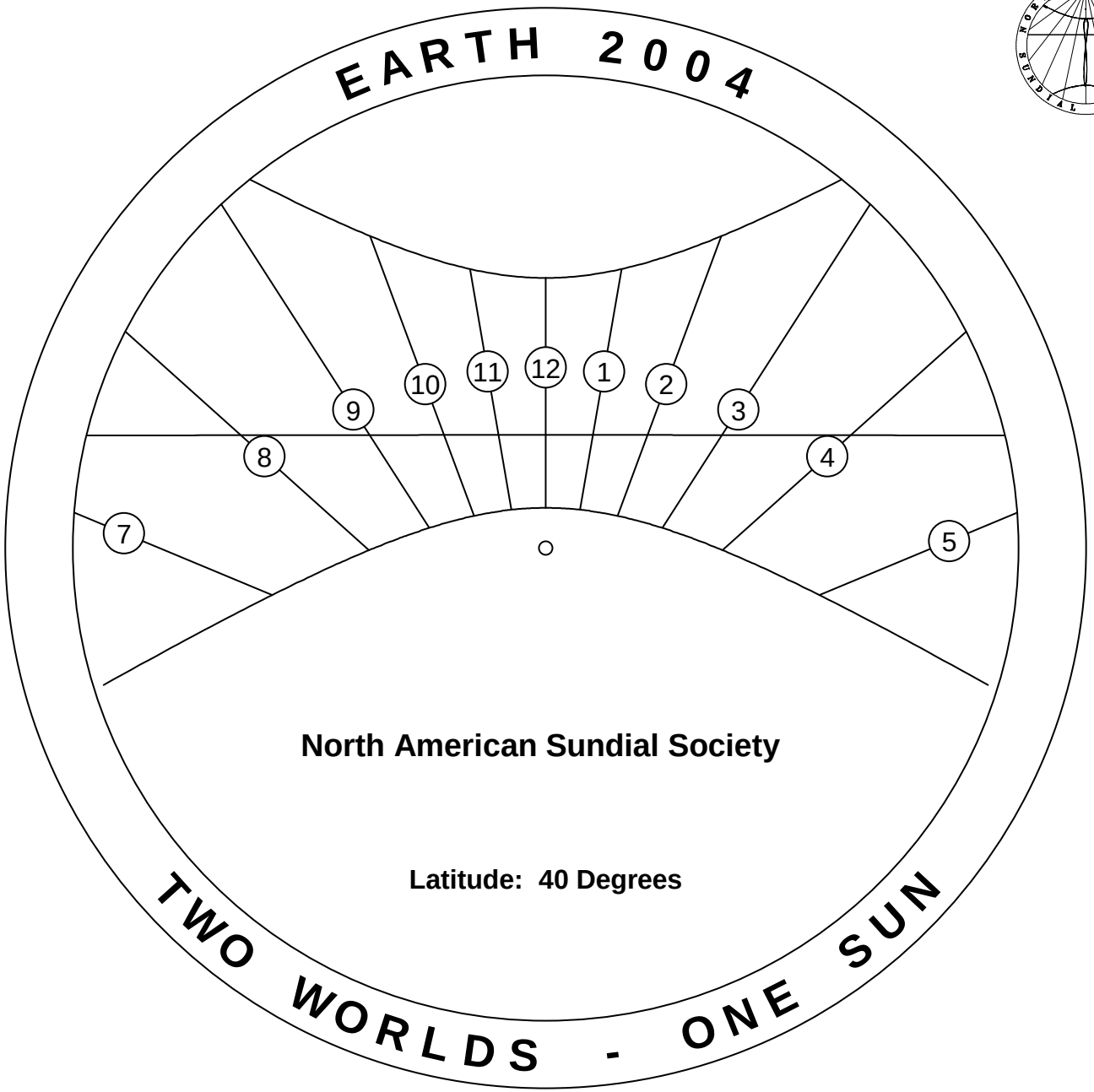

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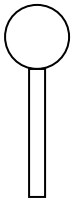

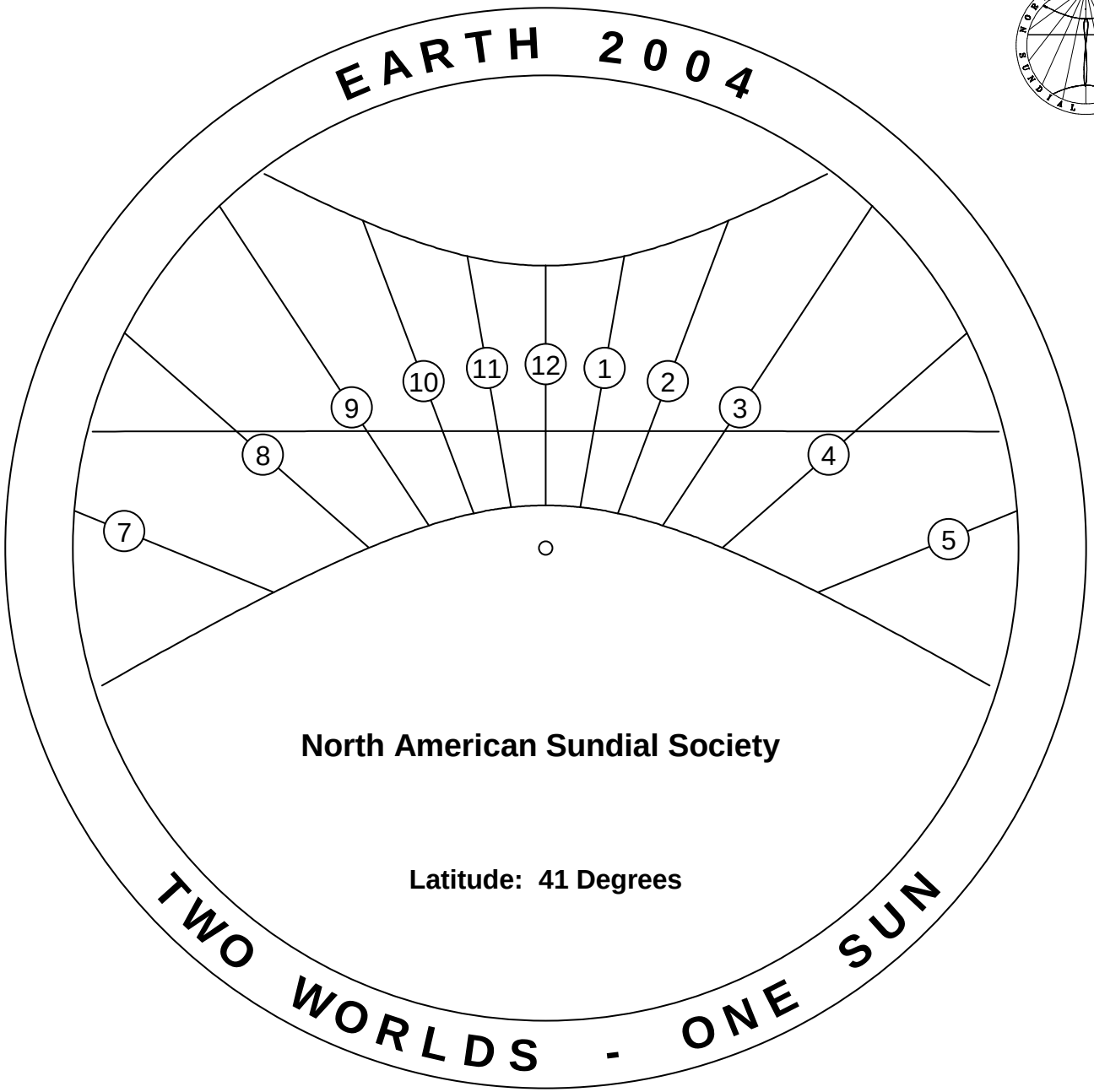

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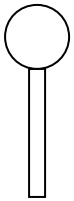

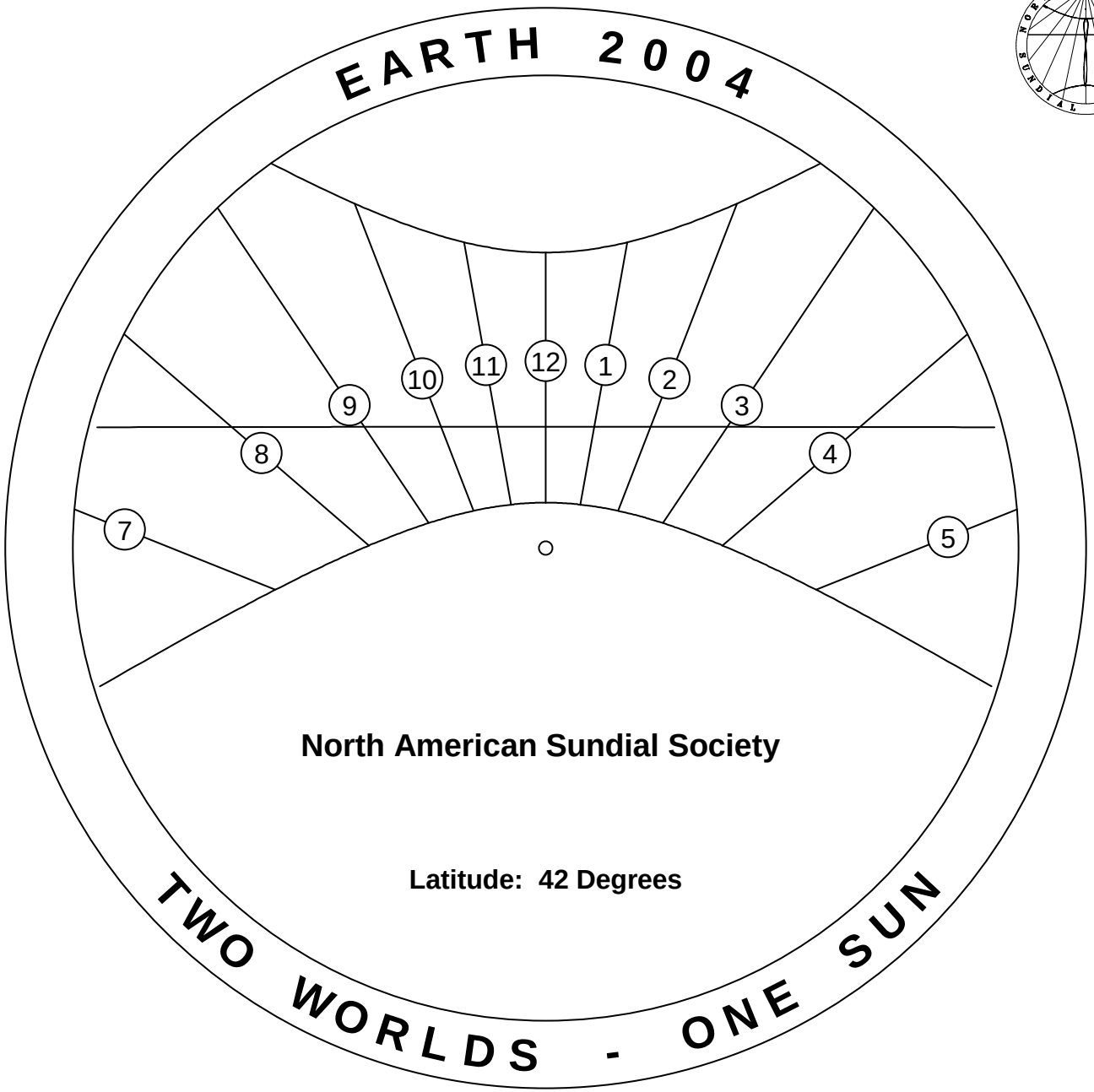

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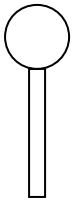

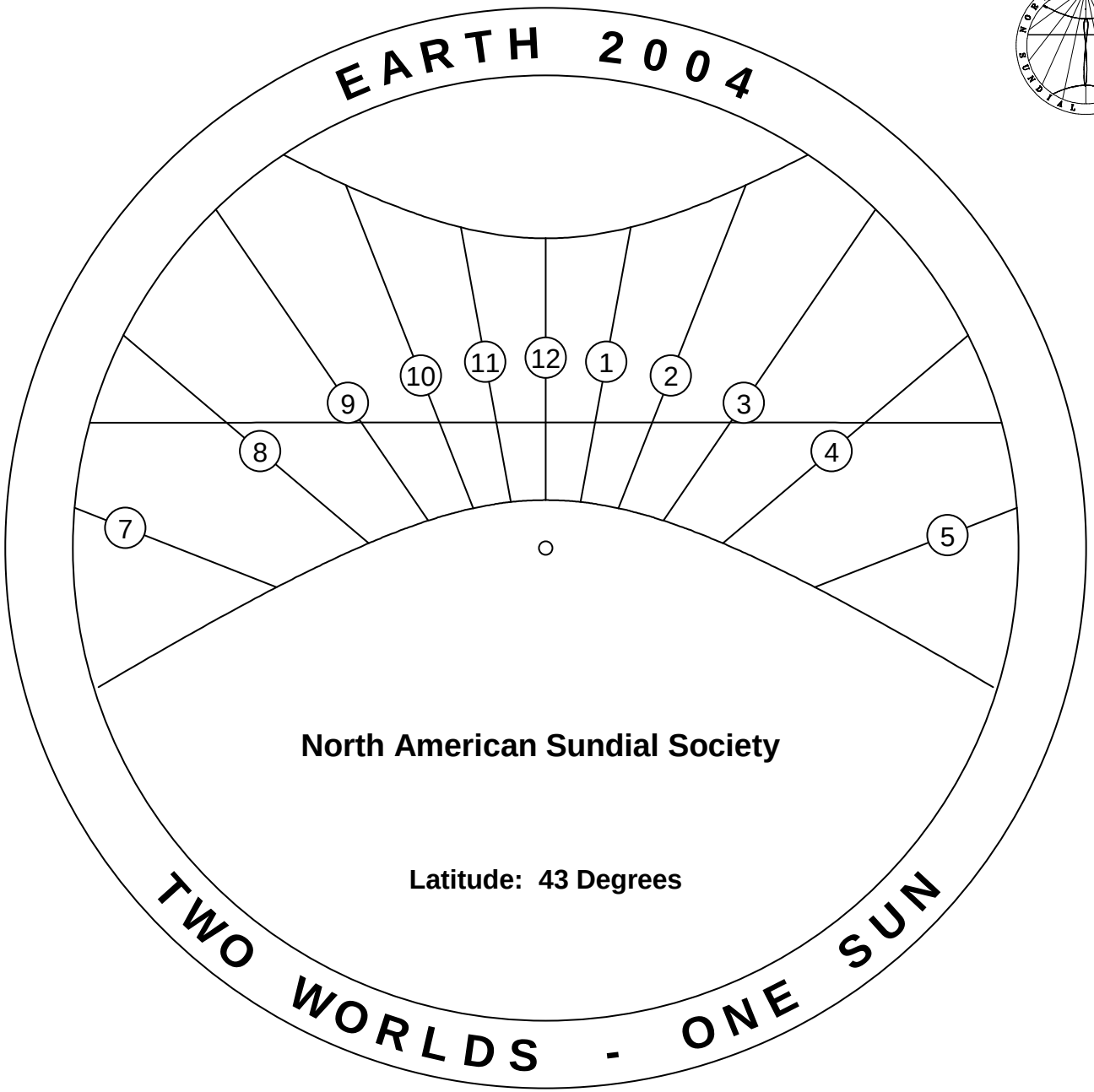

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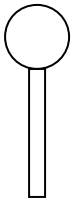

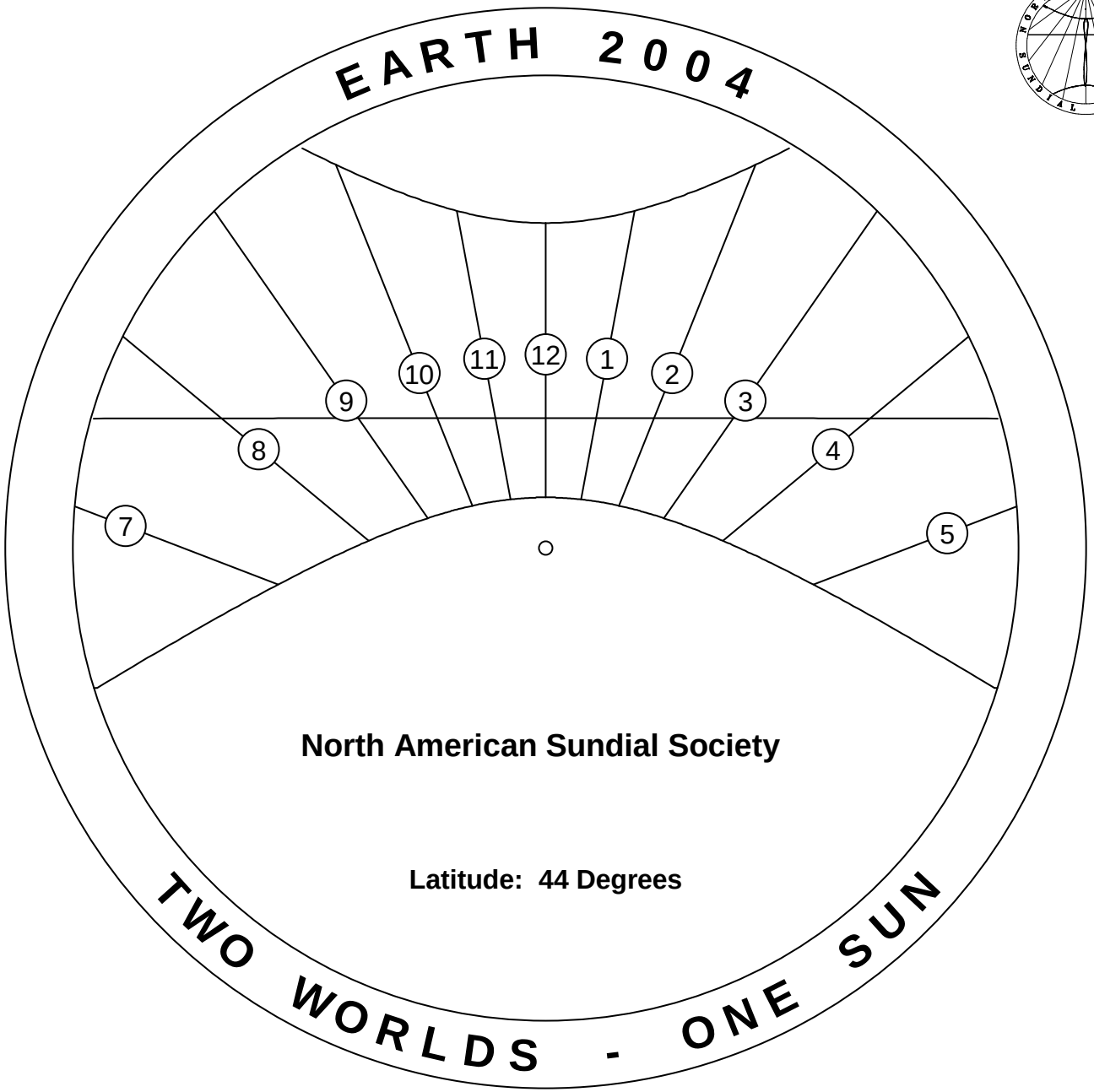

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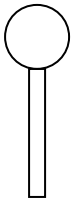

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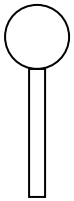

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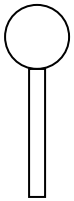

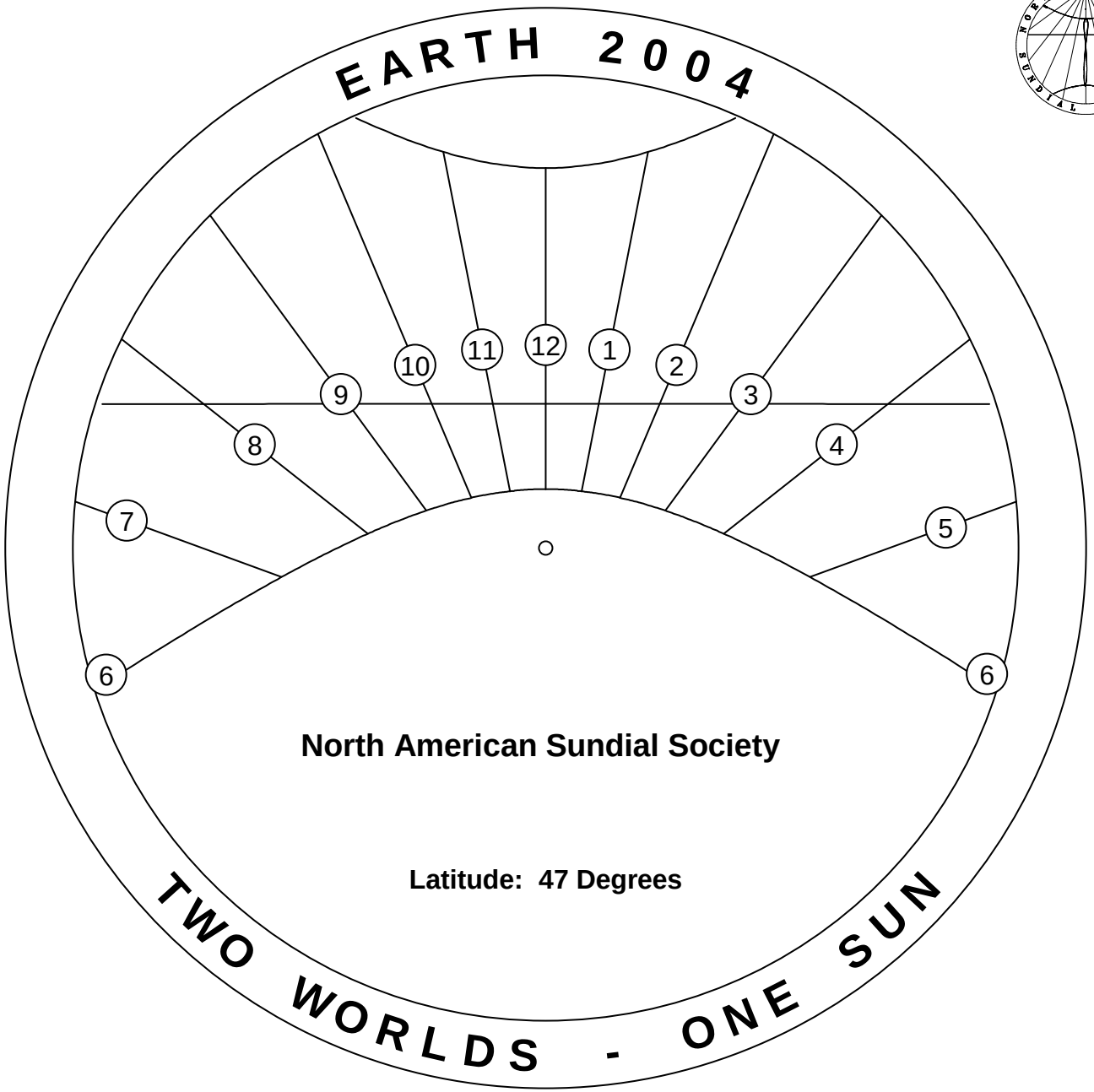

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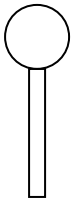

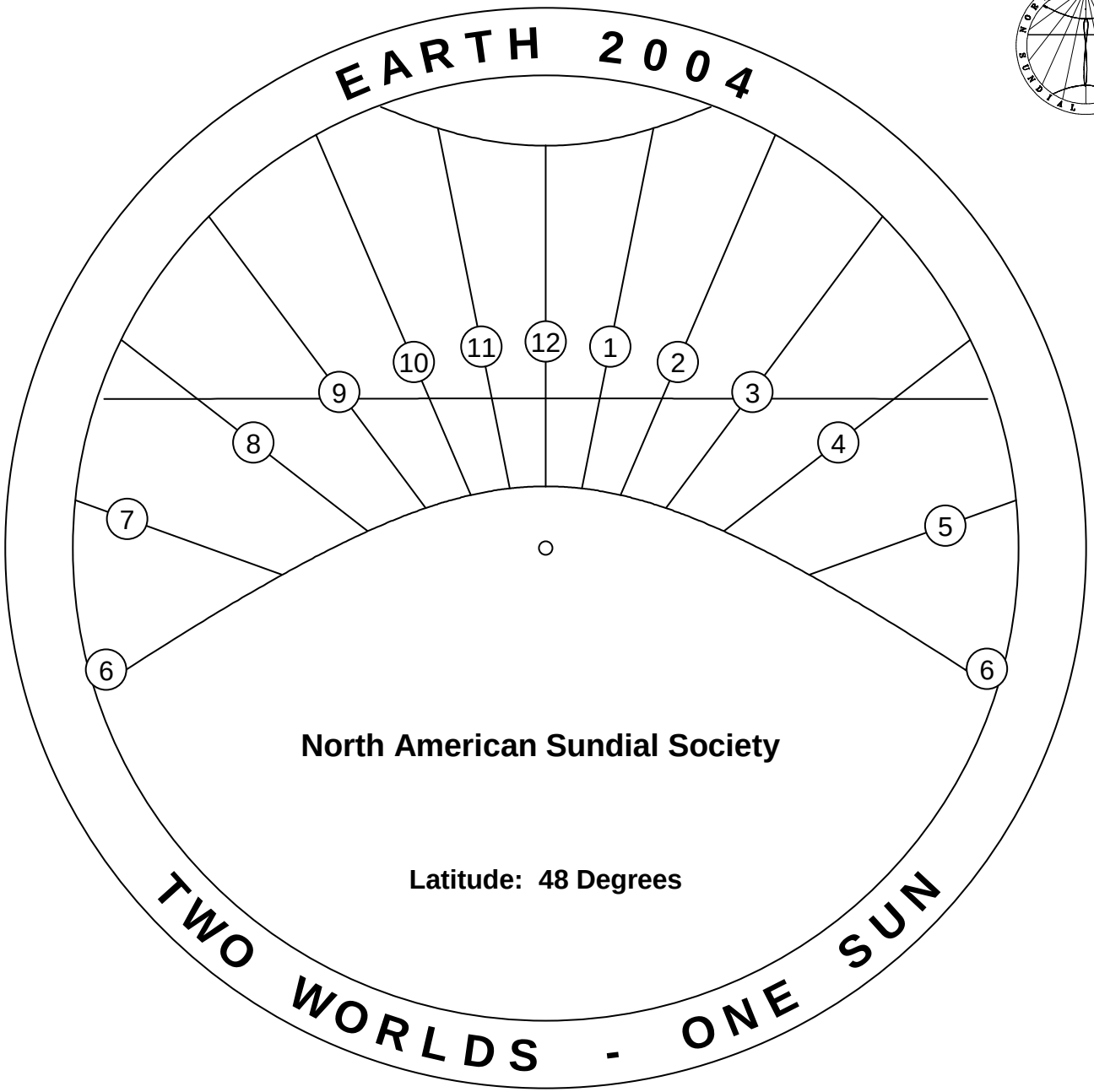

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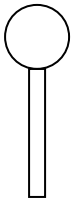

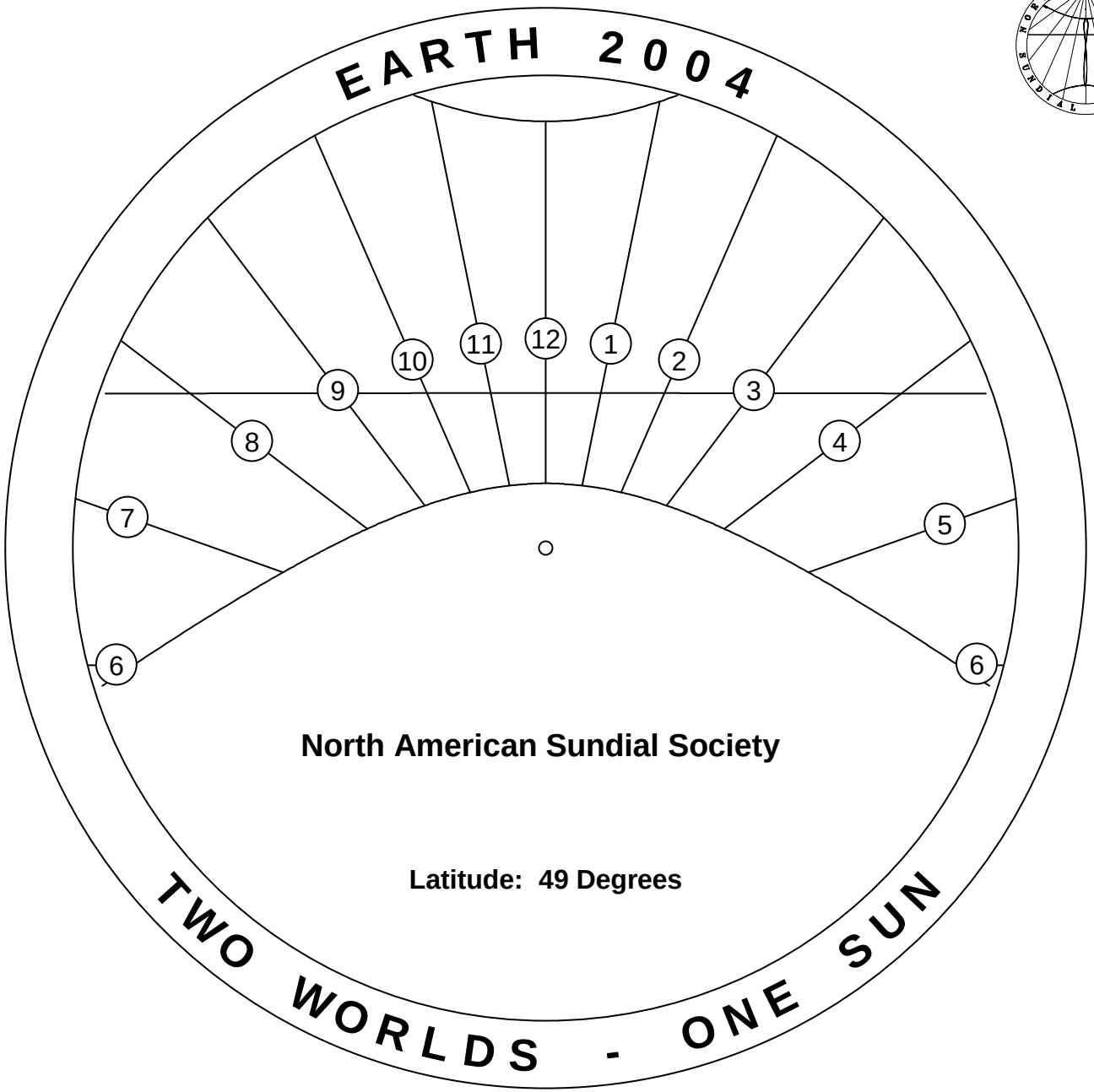

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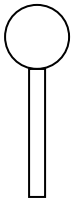

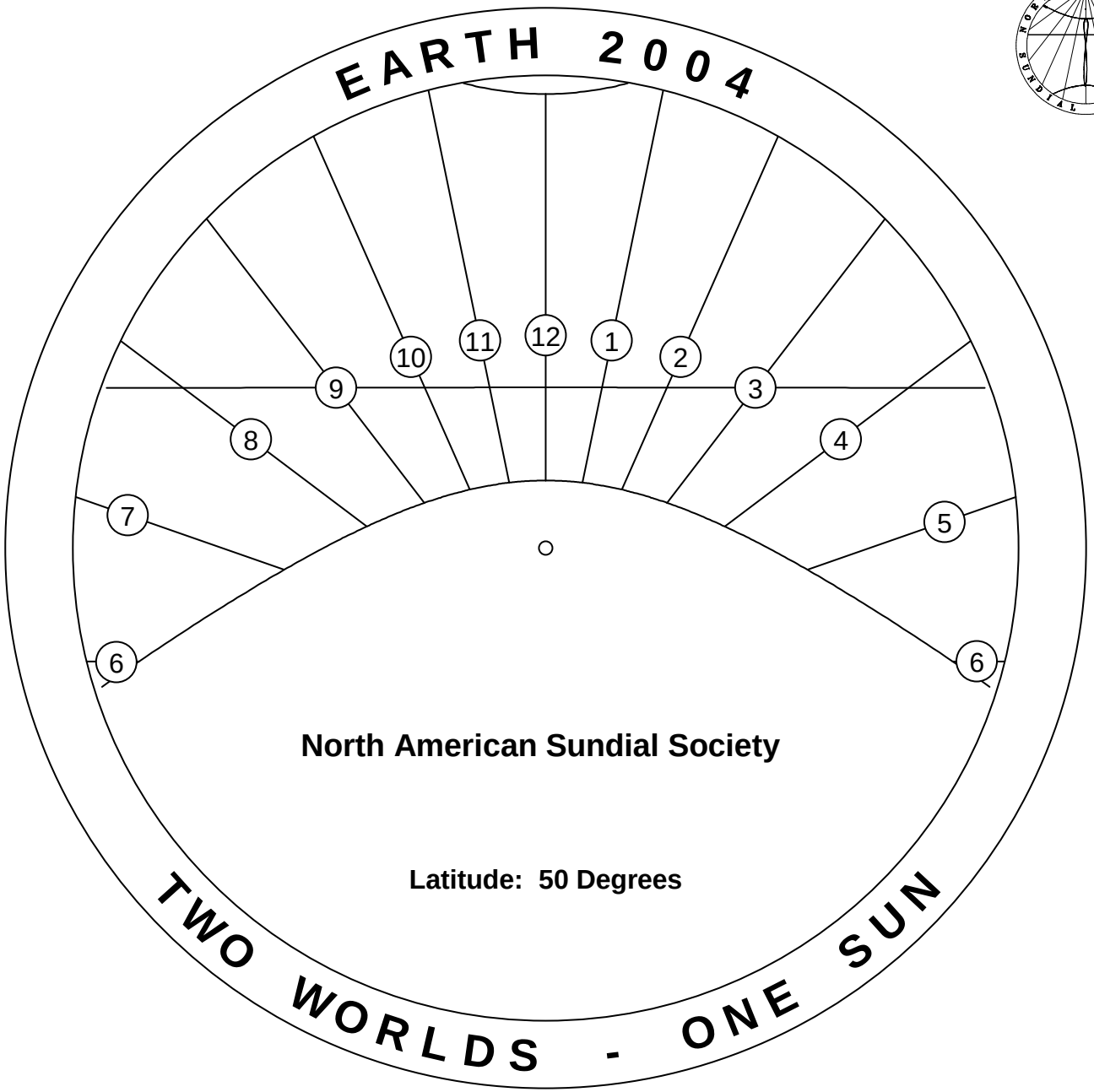

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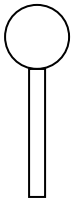

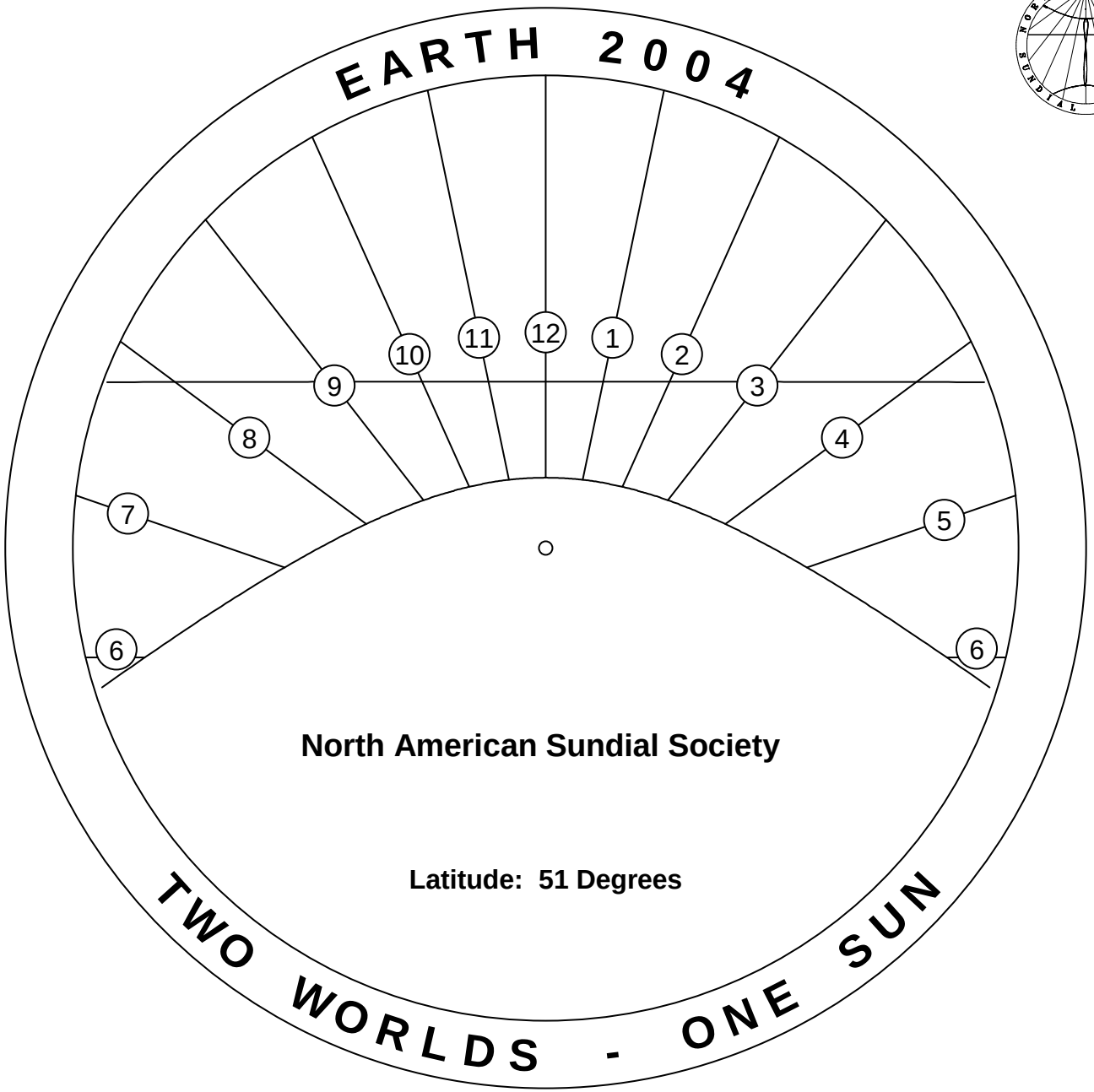

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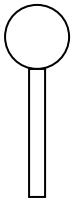

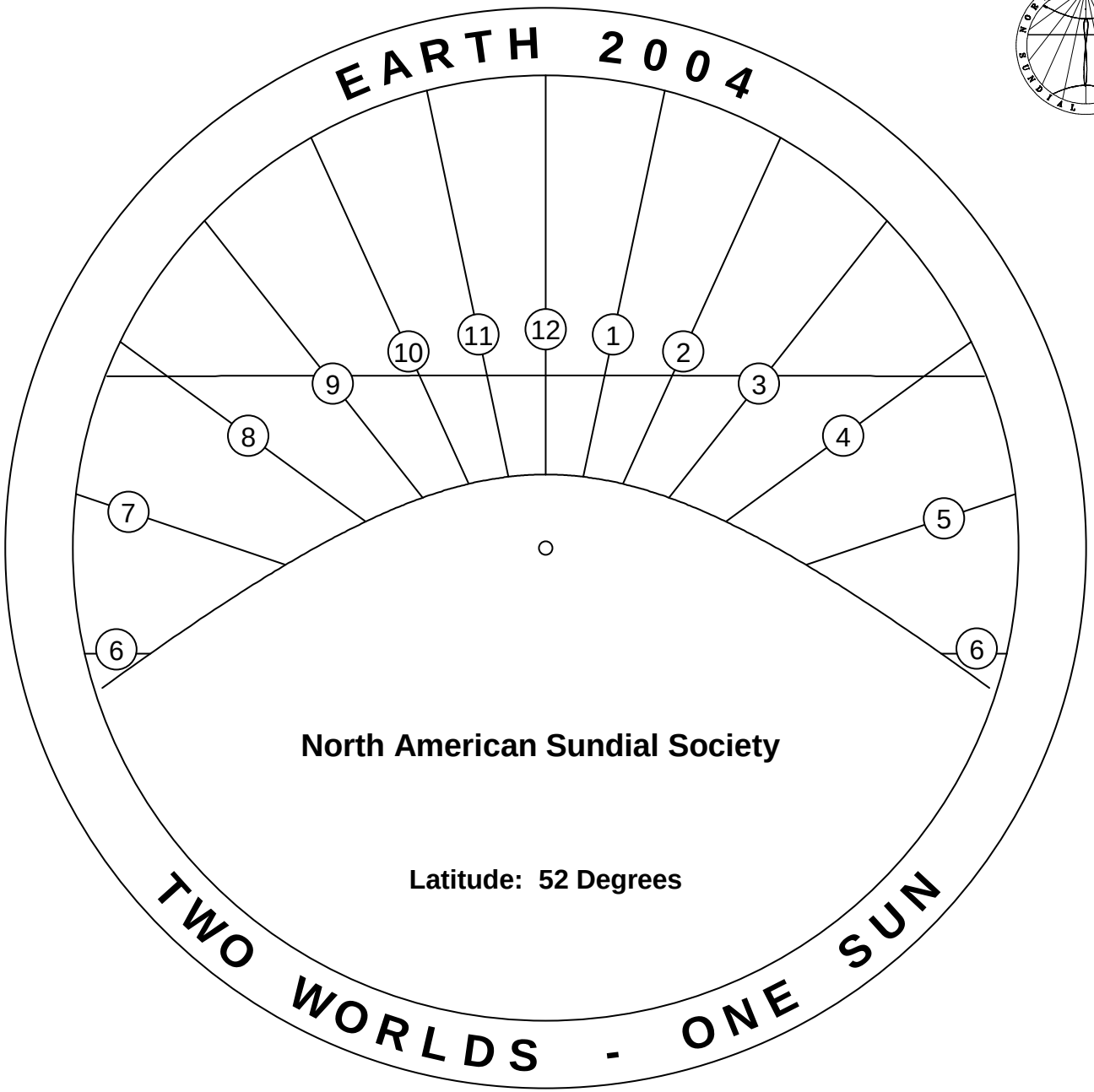

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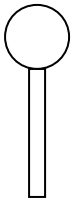

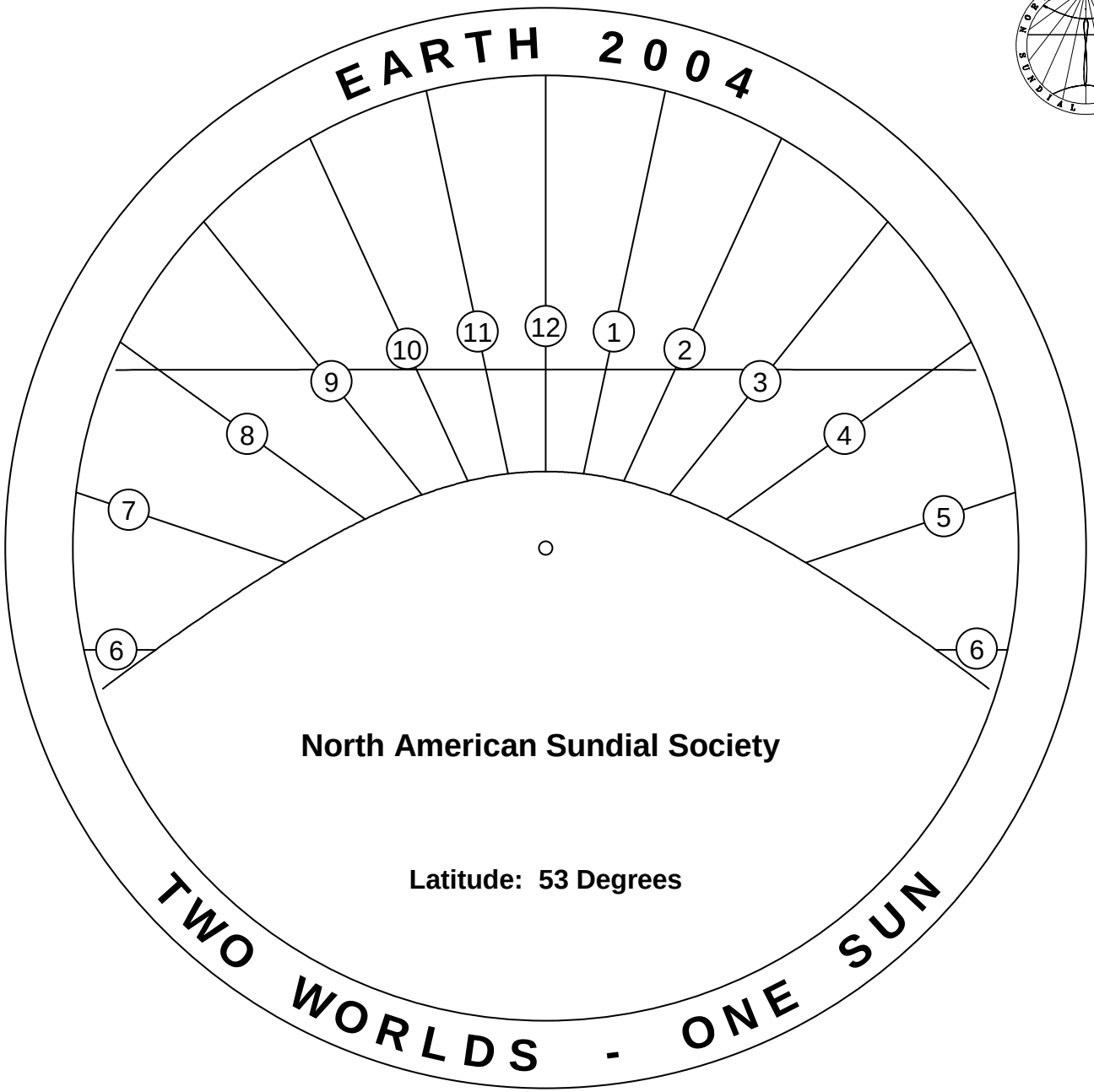

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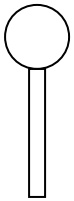

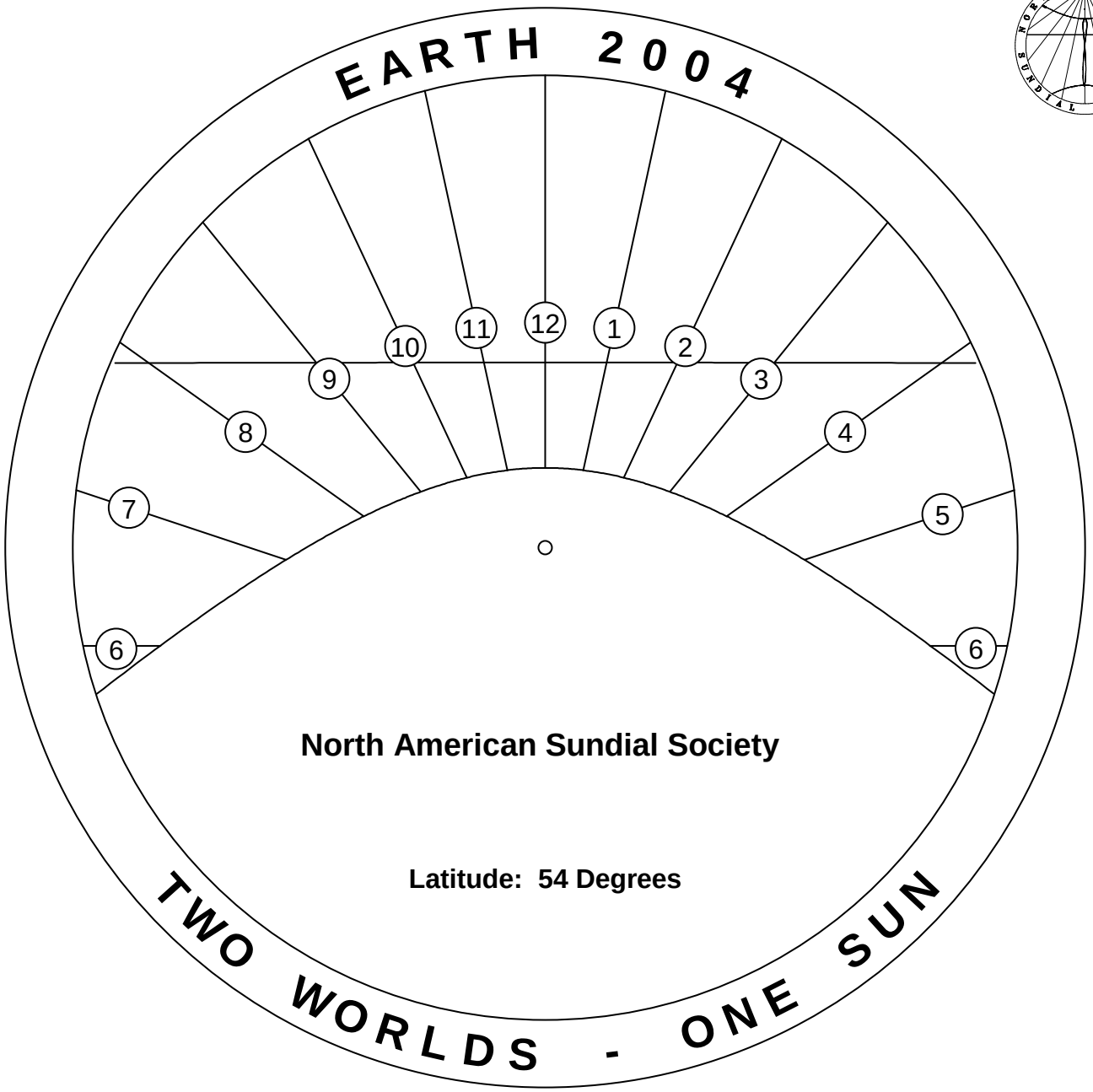

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