

Praxis “Making Science Fun”

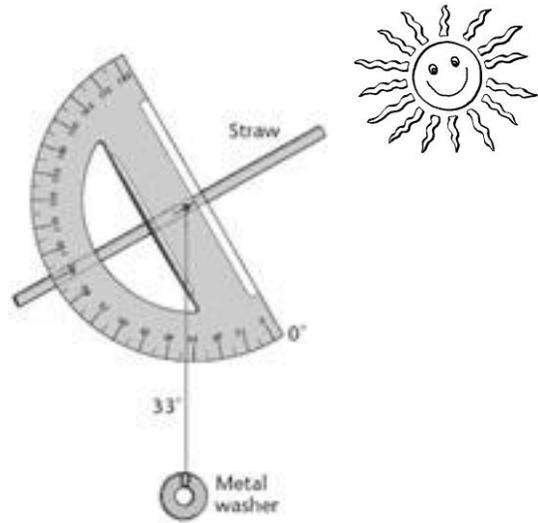
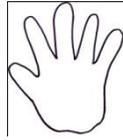
Astrolabe, Part 2

How do we measure the altitude of the Sun in the sky?

Materials:

- astrolabe

Procedure: (Remember to be sure to have your parent’s permission and they have the time to watch and help you.)



- Use the astrolabe that you built from the instructions in last Saturday’s newspaper (you can also find the instructions on our website: <http://www.praxismh.ca/Science%20Smarts%20Articles/2011%20-%20new/2012-01-21%20Astronomy%20and%20Sky%20Science%20-%20Astrolabe%201%20Praxis%20MHNews.pdf>.)
- **Warning:** It is harmful to look directly at the Sun. Hold the astrolabe so that the straw points in the direction of the Sun. Do not look through the straw.
- Aim the straw so that you see the shadow of the straw on your hand. Move the straw slightly until a small circle of light forms on your hand. The straw is now pointing directly at the Sun.
- Ask someone to read the Sun’s altitude (in degrees) where the string crosses the scale. Note the time of day.
- One day a week, same time each day for 3 weeks in a row, measure and record the altitude of the Sun with your astrolabe along with the date.
- Look at your measurements. Is the altitude increasing or decreasing? How can you explain these changes?

What’s Happening:

The changes you notice will be different depending on the time of year. As we are moving towards Spring, the altitude of the Sun increases and in the Fall, it decreases. The cause of the change in altitude (i.e., the location of the Sun) is the tilt of the Earth’s axis, which causes the Earth to face the Sun at an angle of 23 degrees. It’s what causes our cold Winters and hot Summers. Since the Earth’s location around the Sun is changing continuously, so is the Sun’s position in the sky.

This experiment is based on our “Astronomy and Sky Science” Learning Kit. Our teaching kits are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering to speak to a class about any one of our Science learning kits described on our website.



On January 30th, Praxis will be hosting Operation Minerva, a conference for grade 9 girls, that promotes Science, Technology, Engineering and Mathematical (STEM) based careers where students job shadow mentors and attend workshops. Please see our website for more details. If you are a business or organization who wishes to support this conference, please contact us.

Lorne Cooper, Regional Executive Director

PRAXIS, “Making Science Fun”. Contact Praxis at praxis@praxismh.ca, www.praxismh.ca, Tweet or follow us @PraxisMedHat, or friend us on Facebook. Address: c/o 200 7th Street S.W., Medicine Hat, AB, T1A 4K1 Phone: 403-527-5365, Fax: 403-527-6570.