

Astrolabe Worksheet

1. How is an astrolabe like a protractor?

Look at the top half of the astrolabe plate. The graduated lines are the same as a protractor. This is done for a very logical reason: they both measure angles.

2. Explain how an astrolabe is used.

An astrolabe is used to measure the height of a heavenly body above the horizon. To find the altitude of the north star the mariner's astrolabe is held up at eye level. The north star is sighted through the holes in the alidades. The pointer tells the angle of the star from vertical. This number is subtracted from 90 to find the latitude. When getting a sighting on the sun the astrolabe is held at waist level. The alidade is adjusted until the sun shines through the top vane and onto the center of the bottom one. The pointer tells how far the star is from vertical. This reading was traditionally taken at noon. Knowing the day of the year and the height of the sun at noon would determine the latitude of the ship.

3. What jobs used an astrolabe?

Navigators on board ships have been using astrolabes since about 1400 A.D. Astronomers and astrologers have been using this instrument far longer, some sources say as early as the fifth century B.C. They used it to measure the altitude of heavenly bodies too but they were not so interested in the latitude. Their goal was following a star's path to keep track of the time of year. It was an astronomer's job to know when to plant crops and have festivals. Astrologers used the information for the less accurate science of fortune telling.

4. Did all astrolabes follow the pattern included in this text? Why or why not?

No, astrolabes came in two general forms. A mariner's astrolabe is usually smaller in diameter and heavier, with holes to let the wind pass through. Land astrolabes were often larger than a dinner plate, thin, and consequently light.

5. What kinds of materials were astrolabes made from in the past?

Mariner's astrolabes were generally made of brass and were heavy, about four pounds. Astrolabes which were used on land were often made of iron as they did not need to worry as much about rust.