



TRY THIS OUT!



DISCOVER THE STARS

Time: 15 Minutes
Difficulty: Easy

Star finders, or planispheres, are used by stargazers all over the world to find stars in the night sky. Make your own – and you can explore constellations from your own backyard!

WHAT YOU NEED

- A printable planisphere, according to your latitude:
[For latitudes between 25°N and 40°N](#)
[For latitudes between 40°N and 50°N](#)
[For latitudes between 50°N and 70°N](#)
- Scissors
- Tape



Safety first! Adult supervision may be needed when handling scissors.

MAKE IT

1. Figure out what latitude you're at, by searching online or with a GPS. The capital of Canada and the capitals of each Canadian province and territory are:

Ottawa: (capital of Canada) 45° 24' N , 75° 41' W
 Charlottetown: 46° 14' N , 63° 7' W
 Edmonton: 53° 32' N , 113° 29' W
 Fredericton: 45° 57' N , 66° 38' W
 Halifax: 44° 38' N , 63° 34' W
 Iqaluit: 63° 44' N , 68° 31' W
 Montreal: 45° 30' N , 73° 33' W
 Quebec: 52° 56' N / 73° 32' W
 Regina: 50° 27' N , 104° 36' W
 Toronto: 43° 39' N , 79° 22' W
 Vancouver: 49° 14' N , 123° 6' W
 Whitehorse: 60° 43' N , 135° 3' W
 Winnipeg: 49° 53' N , 97° 9' W
 Yellowknife: 62° 27' N , 114° 22' W

2. Determine which star wheel to use, given your latitude.
3. Cut out the star wheel and the cover along the solid outside lines.
4. Cut out the shaded oval on the outer solid line.
5. Fold the bottom tab backwards, along the dotted lines.
6. Fold the two side tabs backwards over the dotted lines, over top of the bottom flap you just folded in. Tape them to the back flap to keep everything in place, forming a pocket.
7. Cut out your star wheel, and place it into the sleeve, so that the constellations are visible through the hole you made in step 4.





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TEST IT

Head outside after dark with your planisphere, a flashlight, and a compass. Rotate the star wheel so that the date aligns with the time, using the DST scale if you're currently in daylight savings time. Hold the wheel still inside the cover, and rotate the planisphere so that whichever direction you are facing is at the bottom of the cover. The edge of the opening now shows the horizon. Stars toward the eastern side are rising, stars in the western side are setting, and stars near the centre of the opening are overhead.

EXPLAIN IT

Besides the Sun, the stars in our universe are so far away from Earth that they don't noticeably move in relation to each other, within the span of a lifetime. Because of this, a map that is fairly constant can be constructed and used for the stars. There are no planets or satellites (moons) included, as they are close enough to Earth to change rapidly from day to day. The portion of these stars that are seen changes depending on the time of year – as the Earth rotates around the Sun – exposing different parts of the night sky.

OBSERVE IT

Planispheres are mostly used for amateur stargazing. They are a fast, easy, and cost-effective way to orient yourself as you observe the night sky!

GO FURTHER

Many different cultures saw the night sky in different ways. The constellations on the planisphere you just made are Greek in origin, but they are by no means the only set out there.

Try making one of these planispheres developed by [Native Skywatchers](#). What similarities and differences do you notice between them and the Greek constellations planisphere? By doing some research, you can learn about the different mythologies, legends, and stories behind Indigenous and Greek star charts – and how they came to be.