

Your limited edition badge booster from the Royal Navy

# Starlight navigation



**Amazing! Well done on completing Stage 5 Explore skills builder!**

But what now...? Time to take it further. You've explored and discovered new survival skills that could help you on your next adventure. Now it's time to explore how you can use the night sky to help you navigate.

## Note to leader

This is an extra activity sheet for your girls to complete at home. We hope this will inspire great adventures in the future.

## Your challenge

You're on an adventure. The sun has set, your tech has run out of battery, but you think you know the direction you need to travel.

Do you know which way is north right now? Would you know how to find it in a field in the darkness of night? Could you use the starlight to guide you to your destination?

If you're ever on an adventure it can be useful to know which way's north. For example, if you got lost and had to phone for help – you could say to your rescuers that they can find you to the south of the lake.

## What to do

- 1 Find a way to mark which way you think north, east, south and west is right now, but don't use a compass just yet.
- 2 Tonight, when the Moon rises (if you can see it), use the Navigation using the Moon information on the next page to figure out which way is west.
- 3 Finally, use the Navigation using the stars information on the next page to find the Pole Star (also known as the North Star) in the sky if it's a clear night. The Pole Star will help you find north.

Were your guesses right? You can double check using a compass or compass app on a phone.



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## Navigating using the Moon and the stars

### Navigation using the Moon

In the same way that the Sun rises in the east and sets in the west, so does the Moon. The Moon can help you find both south and west on certain nights in the Northern Hemisphere. When it's a full moon outside, at midnight it will show you which way is south. However, if the Moon rises before midnight and it's not a full moon, the illuminated (bright) side will point west.

### Navigation using the stars

The stars in the night sky can help you find north. There are two constellations to look out for — **The Plough** and **Cassiopeia**.

**The Plough**, shown in figure one, (also known as the Big Dipper, Ursa Major, and Big Bear) is the easiest to use to find north on a clear night. It looks a little like a pot or pan.

If you find the two stars at each end of the line labelled **A** in figure one, and measure about four times the length of **A** away from the top star, you'll find the **Pole Star**. If you're looking at the Pole Star, that's north.

Not sure you've found the Pole Star? See if you can find **Cassiopeia** to check. It looks a little like a W (figure two). The second star (**B**) will point towards the Pole Star.

On a clear night you can see both The Plough and Cassiopeia together with the Pole Star in the middle (figure three).

### Stay safe

If you're going outside at night share your plans with a trusted adult.

Figure 1

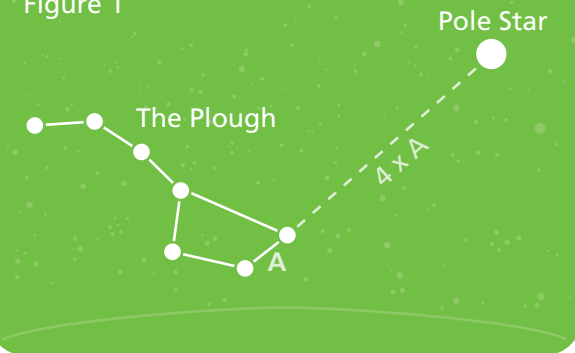


Figure 2

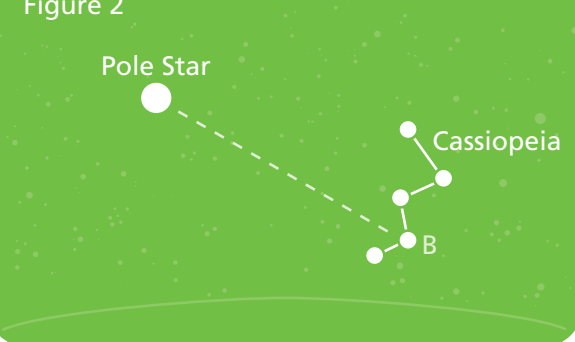


Figure 3

