

Activity 2: Which way do winds blow the clouds?

15 minutes

In this Activity we will measure the direction in which clouds are moving, which tells us the wind direction at the height of the clouds. To do this you can make an instrument called a nephoscope (or cloud mirror) from a mirror and a compass.

1 Make the cloud mirror. ~~Included in the pack is a plastic mirror.~~ Mark the four main compass directions on the mirror with a pen as in the pictures opposite (a marker pen works best).

2 Find an outdoor location where you can see the sky clearly and where you can sit still for up to five minutes.

3 Place the cloud mirror and the compass (included in your pack) flat on the floor. Position the compass so that it is pointing north. Twist the mirror so that the 'N' on the mirror is lined up with north on the compass.



Twist the compass to align 'N' with the red half of the needle

~~If you are not familiar with using a compass, see 'How to use a compass' on page 4 of the Workbook.~~

4 Sit down so you can see a cloud in the mirror. It doesn't matter where you sit around the mirror.

5 Find an easily recognisable part of a cloud and mark this on the mirror.

6 Follow this cloud feature and repeatedly mark it on the mirror until you have drawn a track. The track should roughly form a straight line.

7 Try to sit very still during the tracking. If possible, use a stationary object (e.g. the top of a building or a tree) to help you keep your head in the same place.

8 The direction the line came **from** is the wind direction at cloud height.

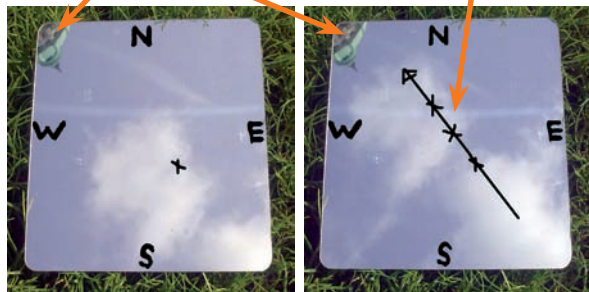


Record this as one of the 8 main directions on the compass (~~on page 6 of the Workbook~~).

In this example the cloud moves from the SE to the NW so the wind direction is **from** the SE.

Cloud has moved towards the NW so wind direction is from the SE

Stationary object in corner of mirror



~~If you haven't already done so, please note the time, date, location and describe your local environment by answering questions 1-5 on page 6 of the Workbook.~~

Tips on cloud tracking

- Clouds change their shape and even break up as they travel so it can be difficult to identify a stable feature. Larger features tend to be more reliable. A couple of practices will help.
- Cumulus clouds (see Cloud Guide in the pack) work best because they have clear features and appear to move quickly, but you can try to track any cloud which has a distinct feature.
- It's important that you keep the mirror still, so place it on a firm surface. You could also tape the mirror down or get a partner to hold it while you write on it so it doesn't move.