

2015 Solar Eclipse

Starting at approximately 8:25am on March 20th 2015, there will be a Solar Eclipse which will be visible across large swathes of Northern Europe. The next one after will be in 2026. This is therefore an immensely important date for science departments across the country.

As this is a phenomenon which doesn't happen regularly (the last solar eclipse of any meaningful significance was in 1999), we have already taken numerous helpline requests about how to safely view the eclipse. The CLEAPSS document *PS17: Viewing the Sun* (see the website) covers the various methods. These include:

- Pinhole method. Simply make a small hole (1-3mm) in a piece of card, and allow the light to shine through and project onto another piece of white card at a distance. **DO NOT LOOK DIRECTLY AT THE SUN THROUGH THE PINHOLE.**
- Eclipse spectacles. These consist of a special filter which has been correctly certified as safe for viewing the Sun. If buying these to resell to students, please read document PS17A *Reselling eclipse viewers to students*. Spectacles can be purchased from:

http://www.harrison telescopes.co.uk/acatalog/Solar_Eclipse_Glasses.html

- Telescope projection. Using the lens from a refracting telescope to project an image of the Sun onto a piece of paper or card **DO NOT LOOK DIRECTLY AT THE SUN THROUGH THE TELESCOPE.**

- Using a large solar projector (see photo). These may already be in departments from the 1999 solar eclipse. A solar projector will safely display a 12 cm diameter image of the Sun onto a screen to enable groups of people to safely observe the eclipse together. **DO NOT LOOK DIRECTLY AT THE SUN THROUGH THE PROJECTOR.**

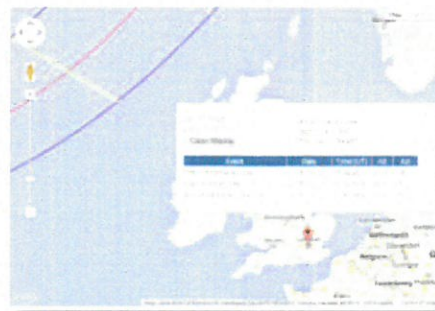


For mainland United Kingdom, this will be a partial eclipse. Most of us can expect to see about 90% of the Sun being obscured by the Moon. In order to view this eclipse in its totality, you will need to travel to the Faroe Islands. The eyes are very sensitive to solar radiation. During an eclipse, it may be tempting to think it is safe to look at the Sun with the naked eye because the overall light intensity is reduced. This is not the case. The fact that the damage done by solar radiation to the eye is painless means looking at a solar eclipse without any eye protection can still cause serious eye damage. Do not use improvised protection - sunglasses, floppy discs, CDs are not suitable. These products will not protect your eyes from the wavelengths outside the visible range (the Infrared and Ultraviolet). Even with a filter specifically designed for the purpose we recommend only observing for a

few seconds at a time and people with diseased eyes or those who have had eye surgery are advised not to view the sun even with filters.

A useful website for this eclipse is <http://eclipse.gsfc.nasa.gov/SEgoogle/SEgoogle2001/SE2015Mar20Tgoogle.html>

This interactive map produced by NASA will give you exact times of the start and end of the eclipse in your location. It will also give you time of the maximum eclipse, which is where most of the Sun will be obscured.



Technicians' tip

This was sent in by Christine Hare, the chemistry technician at Ormiston Sudbury Academy.

If your cobalt chloride paper has gone pink and someone needs it last minute then pop it into the microwave oven for a few seconds and bingo! blue paper. Thought I'd give it a go and it worked! The usual precautions apply, only handle with tweezers, and I placed the paper on a piece of paper towel on top of the glass turntable.